



Farmaceutska komora  
Crne Gore  
Pharmaceutical Chamber of Montenegro



UCG  
Univerzitet Crne Gore  
FARMACEUTSKI FAKULTET

U SARADNJI SA AGENCIJOM ZA LIJEKOVE I MEDICINSKA SREDSTVA CRNE GORE



CALIMS

II KONGRES FARMACEUTA CRNE GORE SA MEĐUNARODNIM UČEŠĆEM  
II CONGRESS OF PHARMACISTS OF MONTENEGRO WITH THE INTERNATIONAL PARTICIPATION

# ZBORNIK SAŽETAKA ABSTRACT BOOK

FARMACIJA – NAUKA I PRAKSA VOĐENE HUMANOŠĆU  
PHARMACY - SCIENCE AND PRACTICE GUIDED BY HUMANITY

28-31. MAJ 2015. BUDVA, HOTEL SPLENDID

POD POKROVITELJSTVOM



MINISTARSTVO ZDRAVLJA  
CRNE GORE



**II Kongres farmaceuta Crne Gore sa međunarodnim učešćem  
Zbornik sažetaka**

**Glavni urednik:  
Zorica Potpara**

**Redakcijski odbor:  
Nataša Duborija-Kovačević  
Svetlana Ibrić  
Dragica Bojović  
Tea Dakić  
Snežana Pantović**

**Tiraž: 650  
Dizajn: PRiSMA – korporativne komunikacije  
Štampa: Foto Nikić Digital  
Rukopisi se ne vraćaju**

## PLANERNA PREDAVANJA

SYSTEMS PHARMACOLOGY - TOWARDS PRECISION TREATMENTS .....	18
MAKING BETTER USE OF PHARMACISTS.....	19
SCIENCE BASED PHARMACEUTICAL SERVICES IN HEALTH CARE DELIVERY SETTINGS .....	20

## PREDAVANJA PO POZIVU

INFORMACIONO POVEZIVANJE ALMBIH SA INSTITUCIJAMA SISTEMA I .....	24
ZDRAVSTVENIM USTANOVAMA OSNOV ZA USPJEŠNO OSTVARIVANJE NADLEŽNOSTI	
NOVE PERSPEKTIVE ANTITUMORSKE TERAPIJE - UTIŠAVANJE PROTEINA .....	26
TOPLINSKOG STRESA POMOĆU SIRNA NANOTERAPIJE	
NEW PERSPECTIVES OF ANTITUMOR THERAPY - SILENCING OF HEAT SHOCK PROTEINS BY SIRNA .....	27
NANODELIVERY	
HEMIJSKA ANALIZA ETARSKOG ULJA SATUREJA CUNEIFOLIA TEN., LAMIACEAE .....	28
I MOGUĆNOST NJENE PRIMJENE	
ESSENTIAL OIL OF SATUREJA CUNEIFOLIA TEN., LAMIACEAE – CHEMICAL .....	29
EVALUATION AND POSSIBLE APPLICATION	
COMPETENCIES OF THE “FIRST DAY OF JOB” PHARMACIST .....	31
POLIELEKTROLITNI KOMPLEKSI NA BAZI HITOZANA: KARAKTERISTIKE.....	32
I PRIMJENA U FORMULACIJI MIKRO- I NANOČESTIČNIH NOSAČA LIJEKOVA	
CHITOSAN-BASED POLYELECTROLYTE COMPLEXES: CHARACTERISTICS AND.....	33
APPLICATION IN FORMULATION OF MICRO- AND NANOPARTICULATE DRUG CARRIERS	
DIJETETSKI SUPLEMENTI U PRIMARNOJ I SEKUNDARNOJ PREVENCIJI .....	34
KARDIOVASKULARNIH BOLESTI	
DIETARY SUPPLEMENTS IN PRIMARY AND SECONDARY PREVENTION OF .....	35
CARDIOVASCULAR DISEASES	
VANBOLNIČKA POTROŠNJA ANTIBIOTIKA U CRNOJ GORI – NEOPHODNOST.....	36
EFIKASNIJE INTERVENCIJE FARMACEUTA	
OUTPATIENT ANTIBIOTIC CONSUMPTION IN MONTENEGRO - A NECESSITY OF .....	37
EFFECTIVE INTERVENTION OF PHARMACISTS	
SAVREMENI PRISTUP FORMULACIJI PREPARATA SA MODIFIKOVANIM OSLOBAĐANJEM;.....	38
HONOTERAPIJSKI SISTEMI	
MODERN FORMULATION DEVELOPMENT OF MODIFIED RELEASE PRODUCTS; .....	39
CHRONOPHARMACEUTICS RACIONALNA PRIMENA ANTIMIKROBNIH LEKOVA U BOLNIČKOJ SREDINI	
RACIONALNA PRIMENA ANTIMIKROBNIH LEKOVA U BOLNIČKOJ SREDINI.....	40
RATIONAL USE OF ANTIBIOTICS IN HOSPITALS.....	41
RAZLOZI I UČESTALOST OFF-LABEL PRIMENE LEKOVA .....	42
REASONS FOR AND FREQUENCY OF OFF-LABEL DRUG USE.....	43
SAVREMENI PRISTUP U RAZVOJU PREPARATA SA MODIFIKOVANIM OSLOBAĐANJEM LEKOVITE.....	44
SUPSTANCE: GASTRORETENTIVNI TERAPIJSKI SISTEMI	
ADVANCED APPROACH IN DEVELOPMENT OF MODIFIED RELEASE DRUG DELIVERY: .....	45
GASTRORETENTIVE DRUG DELIVERY SYSTEMS	

FARMACEUTSKA ZDRAVSTVENA ZAŠTITA U SPECIJALNOJ PSIHIJATRIJSKOJ BOLNICI, DOBROTA, KOTOR PHARMACEUTICAL CARE IN A LONG STAY PSYCHIATRIC HOSPITAL.....	46 47
RAZLOZI I UČESTALOST OFF-LABEL PRIMENE LEKOVA ..... PHARMACEUTICAL CARE IN A LONG STAY PSYCHIATRIC HOSPITAL.....	48 49
SAVREMENI PRISTUP U RAZVOJU PREPARATA SA MODIFIKOVANIM OSLOBADANJEM LEKOVITE..... SUPSTANCE: GASTRORETENTIVNI TERAPIJSKI SISTEMI ADVANCED APPROACH IN DEVELOPMENT OF MODIFIED RELEASE DRUG DELIVERY:..... GASTRORETENTIVE DRUG DELIVERY SYSTEMS	50 51
FARMACEUTSKA ZDRAVSTVENA ZAŠTITA U SPECIJALNOJ PSIHIJATRIJSKOJ BOLNICI, DOBROTA, KOTOR . PHARMACEUTICAL CARE IN A LONG STAY PSYCHIATRIC HOSPITAL.....	52 53
ISKUSTVO HALMED-a.....	54
OPTIMIZACIJA PROGRAMSKIH SADRŽINA PREDMETA FARMAKOGNOZIJE..... I POTREBA OD IZUČAVANJA FITOTERAPIJE U DODIPLOMSKOJ EDUKACIJI FARMACEUTA - MODEL FARMACEUTSKOG FAKULTETA IZ SKOPJA, REPUBLIKA MAKEDONIJA OPTIMIZATION OF THE SUBJECT CONTENT OF PHARMACOGNOSY AND NEEDS FOR ..... LEARNINGPHYTOTHERAPY AS SEPARATED SUBJECT IN GRADUATED EDUCATION OF PHARMACIST CURRICULA MODEL OF THE FACULTY OF PHARMACY FROM SKOPJE, REPUBLIC OF MACEDONIA	56 57
RAZVOJ KOMPETENCIJA FARMACEUTA KAO OSNOVA ZA RAZVOJ I NAPREDAK FARMACIJE ..... - ISKUSTVA IZ HRVATSKE COMPETENCY DEVELOPMENT OF PHARMACIST- FOR DEVELOPMENT AND ADVANCEMENT ..... IN PHARMACY – CROATIAN EXPERIENCE	58 59
ZNAČAJ PRETKLINIČKE I KLINIČKE FARMAKOVIGILANCE ZA FARMAKOTERAPIJU ..... THE IMPORTANCE OF PRECLINICAL AND CLINICAL PHARMACOVIGILANCE FOR ..... PHARMACOTHERAPY	60 61
PROCENA PROPISIVANJA LEKOVA U STARIJOJ POPULACIJI U PRIMARNOJ ZDRAVSTVENOJ ZAŠTITI .. ASSESSING PRESCRIBING IN ELDERLY PATIENTS IN PRIMARY CARE SETTING.....	62 63
VREDNOVANJE ZNAČAJA, DOSTUPNOSTI I SAVETODAVNE ULOGE FARMACEUTA U PRIMARNOJ..... ZDRAVSTVENOJ ZAŠTITI ASSESSMENT OF THE ACCESSIBILITY, ADVISORY ROLE AND CONTRIBUTION OF COMMUNITY..... PHARMACIST IN PRIMARY HEALTH CARE	64 65
DA LI JE TERAPIJA DEPRESIJE U DEPRESIJI, MOŽE LI FARMAKOGENOMSKI PRISTUP..... PONUDITI IZLAZ? IS DEPRESSION TREATMENT IN DEPRESSION, COULD PHARMACOGNOMIC APPROACH..... OFFER A WAY OUT?	66 67
FARMACEUTSKI FAKULTET U PODGORICI- SADAŠNJOST I PERSPEKTIVE ..... FACULTY OF PHARMACY IN PODGORICA, PRESENT TIME AND PERSPECTIVES .....	68 69
KONTINUIRANO UNAPREĐENJE SARADNJE SA INSTITUCIJAMA U SISTEMU ZDRAVSTVA - ..... IMPERATIV U RADU CALIMS	70

BIOLOŠKI SLIČNI LIJEKOVI .....	72
BIOSIMILARS.....	73
ISTORIJA I RAZVOJ FARMACEUTSKE PRAKSE.....	74
HISTORY AND EVOLUTION OF PHARMACEUTICAL PRACTICE .....	75
O ČEMU GOVORIMO KADA GOVORIMO O LEKOVIMA I MEDICINSKIM SREDSTVIMA?.....	76

## USMENE PREZENTACIJE

DAVANJE PUNIH I OBAVEZNIH UPUTSTAVA ZA BEZBEDNU UPOTREBU LEKOVA .....	80
GIVING FULL AND NECESSARY INSTRUCTIONS FOR THE SAFE USE OF MEDICATION .....	80
EVALUATING COMMUNITY PHARMACISTS' KNOWLEDGE AND PRACTICE TOWARDS DRUG-DRUG .....	81
INTERACTIONS AND TAKING MEASUREMENTS IN IMPROVING THEIR PROFESSIONAL SKILLS	
POINT OF CARE U APOTEKAMA .....	82
POINT-OF-CARE IN PHARMACIES .....	82
EVALUATION OF THE QUALITY OF BIOLOGICAL/BIOSIMILAR DISEASE-MODIFYING ANTIRHEUMATIC ...	83
DRUGS	
STVARNOST I PERSPEKTIVA SAMOLIJEČENJA .....	84
REALITY AND PROSPECTIVES OF SELF-MEDICATION.....	85
PHARMACOVIGILANCE: MONITORING OF THE ADVERSE DRUG REACTIONS .....	85

## POSTER PREZENTACIJE

NOVEL IZOXAZOLO- AND THIAZOLOHYDRAZINYLDIENE-CHROMAN-2,4-DIONES.....	91
AS POTENTIAL ANTI-BREAST CANCER AGENTS	
ODREĐIVANJE SADRŽAJA ANASTRAZOLA U FARMACEUTSKIM DOZIRANIM OBLICIMA .....	92
PRIMENOM VISOKO EFIKASNE TEČNE HROMATOGRAFIJE	
DETERMINATION OF ANASTROZOLE IN PHARMACEUTICAL DOSAGE FORMS BY HIGH PERFORMANCE ..	92
LIQUID CHROMATOGRAPHY	
MARIJUANA ONCE AND TODAY .....	93
FARMAKOEPIDEMIOLOŠKA ANALIZA VANBOLNIČKE POTROŠNJE ANTIINFektivNIH .....	94
LIJEKOVA ZA SISTEMSKU UPOTREBU U REPUBLICI SRPSKOJ U ODNOSU NA CRNU GORU	
PHARMACOEPIDEMOLOGICAL ANALYSIS OF OUTPATIENT CONSUMPTION OF .....	95
ANTIINFECTIVES FOR SYSTEMIC USE IN THE REPUBLIC OF SRPSKA COMPARED TO MONTENEGRO	
ZNANJE PACIJENATA O RACIONALNOJ UPOTREBI ANTIBIOTIKA U REPUBLICI SRPSKOJ .....	96
KNOWLEDGE OF PATIENTS ABOUT RATIONAL ANTIBIOTIC CONSUMPTION .....	97
IN THE REPUBLIC OF SRPSKA	
BIODEGRADABILNE MIKROEMULZIJE KAO NOSAČI ZA DERMALNU ISPORUKU .....	98
ANTIFUNGALNOG LIJEKA	
BIODEGRADABLE MICROEMULSIONS AS POTENTIAL CARRIERS FOR DERMAL.....	99
DELIVERY OF AN ANTIFUNGAL DRUG	
SADRŽAJ TOKSIČNIH METALA U KOMERCIJALNIM BILJNIM ČAJEVIMA .....	100
THE CONTENT OF HEAVY METALS IN COMMERCIAL HERBAL TEAS IN PODGORICA, MONTENEGRO.....	101

method was validated as per ICH guidelines with respect to specificity, linearity, accuracy, precision and robustness. Method is linear over the range of concentrations 0.1212 mg/ml to 0.2828 mg/ml ( $r \geq 0,9990$ ). It was proved good precision (RSD < 2%), accuracy (Recovery in the range 98-102%) and robustness.

Key words: anastrozole, aromatase inhibitors, validation of RP-HPLC method

.....

## MARIJUANA ONCE AND TODAY

**Bauer Biljana<sup>1</sup>, Vesna Kostik<sup>2</sup>, Zoran Kavrovski<sup>1</sup>**

<sup>1</sup>Faculty of Pharmacy, SS Cyril and Methodius University, Skopje

<sup>2</sup>Institute of Public Health of Republic of Macedonia, Republic of Macedonia

Marijuana is very popular nowadays because of its medical use. This paper gives a short survey and review on the historical development of the ideas associated with marijuana. The aim of this paper is to look inside all faces of marijuana through history. Marijuana represents the dried top parts of female hemp plant in flower, which contains up to 6% tetrahydrocannabinol (THC). Throughout human history hemp has been used for many purposes such as recreation, therapy, art, religion, medicine as a textile. The origin of marijuana dates from six thousands years ago when many different tribes used it for different celebrations and rituals. There are documents that show that marijuana was used even in the time of Chinese Emperor Shen Nung in 2337 BC. They used it in their funeral rituals. Seeds of this plant were found in their funeral urns. This plant was also used for treating insomnia, healing and also as painkiller. Each culture and subculture from prehistory up to now use this plant because it causes selective changes in consciousness of its consumers strictly dosing what is beyond reality, and also for medical reasons. Medicinal use of marijuana arrived in Europe from the East during the 18th century. It was brought to Europe much later, but it was not less popular. It reaches the high society very soon. In Paris, a club was open where many famous people, even Balzac, enjoyed marijuana. The first comprehensive description of the medical use of Indian hemp in Europe was written in 1830 by the German pharmacist Friedrich Ludwig Nees von Esenbeck. Until that point in time, use of marijuana for medical purposes had remained at a low level. Thanks mainly to the work of W.B.O'Shaughnessy in 1839 marijuana became recognized within European – school medicine. He used various hemp compounds in his investigations, partly with great success, against rheumatism, rabies, cholera, tetanus, convulsions and delirium tremens. The prestigious US Institute of Medicine published its report Medical Use of Marijuana in 1999. Recent studies reviewed by Park et al. 2004 that marijuana, THC and other exogenous cannabinoids exert potent effects on the endocannabinoid system in both the gonads and during pregnancy. These reports established the evidence base to support the further examination of cannabis products for medical use. Today marijuana is forbidden in many countries for its narcotic and negative influence to the nerve system. In some cultures marijuana was a protected mark, other cultures were its big admirers and third do not know or do not look on that way about marijuana. The use of marijuana was legalized in the Netherlands in 2003 and extended for a five – year period in 2007.

Key words: marijuana, cannabis, pharmaceutical use, medicinal use, history