

57. KONGRES ANTROPOLOŠKOG
DRUŠTVA SRBIJE

Kopaonik, 27.-30.09.2023.



57th CONGRESS OF ANTHROPOLOGICAL
SOCIETY OF SERBIA

Kopaonik, September 27th-30th 2023

IZVODI SAOPŠTENJA

ABSTRACTS

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ABSTRACTS

Izdavač / Publisher

ANTROPOLOŠKO DRUŠTVO SRBIJE / ANTHROPOLOGICAL SOCIETY OF SERBIA
Niš

Suizdavač / Co-publisher

PRIRODNO-MATEMATIČKI FAKULTET NIŠ

Za izdavača predsednik udruženja / The President of the Society
Marija Nikolić

Tehnička priprema / Prepress

Dragan Radojković

Lektor za srpski jezik / Serbian copy editor

Jelena Četković

Lektor za engleski jezik / English copy editor

Jovana Đurašković

Štampa / Printed by

"UNIGRAF-X-COPY" Niš

Tiraž / Circulation

130

Godina izdanja / Year of Publication

2023

CIP - Каталогизacija у публикацији Народна библиотека Србије, Београд

572(048.3)

ANTROPOLOŠKO društvo Srbije (Niš). Kongres (57 ; 2023 ; Brzeće)

Izvodi saopštenja / 57. Kongres Antropološkog društva Srbije, akreditovan međunarodni kongres, 27-30. septembar 2023. Kopaonik (Brzeće) = Abstracts / 57th Congress of Anthropological Society of Serbia, Accredited International Congress, September 27th-30th 2023. Kopaonik (Brzeće). - Niš : Antropološko društvo Srbije = Anthropological Society of Serbia : Prirodno-matematički Fakultet, 2023 (Niš : Unigraf-X-Copy). - 150 str. ; 24 cm

Uporedo srp. tekst i engl. prevod. - Tiraž 130. - Registar.

ISBN 978-86-6275-152-2 (PMF)

a) Антропологија -- Апстракти

COBISS.SR-ID 125547273



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Upravnog odbora KUU "Kopaonička frula"

Kongres je realizovan uz finansijsku pomoć
Ministarstva nauke, tehnološkog razvoja i inovacija Republike Srbije

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ETHICS IN THE COMMUNICATION OF LITERARY CHARACTERS IN STANKOVIĆ'S PLAY "KOŠTANA" IN THE CONTEXT OF SOCIO-CULTURAL ANTHROPOLOGY (WITH REFERENCE TO PAGAN AND RELIGIOUS ELEMENTS)**

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PROGRAM RADA PROGRAMME

SREDA / WEDNESDAY

27.9.2023.

10:00 -12:00h

Hotel Junior, Brzeće – Sala A / Hotel Junior, Brzeće – Room A

REGISTRACIJA UČESNIKA / REGISTRATION OF PARTICIPANTS

12:00h

SVEČANO OTVARANJE / OPENING CEREMONY

- Himna Republike Srbije / National Anthem of the Republic of Serbia
- Pozdravna reč Predsednika organizacionog odbora Kongresa
- Introductory speech of the president of the Organisational Board of the Congress
- Umetnički program / Artistic programme (Folklor-Igre iz Šumadije, Miloševka kolo na fruli svira Jovan Burgić)
- Pozdravna reč Predsednika Antropološkog društva Srbije / Introductory speech of the president of Anthropological Society of Serbia
- Hronika Kopaoničkog kraja / Chronicle of the Kopaonica region
- In memoriam Prof. dr Ljiljana Tijanić
- Podela povelja i zahvalnica / Distribution of certificates of appreciation
- Pozdravna reč gostiju Kongresa / Introductory speech of the guests of the Congress

Kongres vodi / The conference is led by

doc dr Valentina Zlatanović-Marković- Univerzitet Metropolitan Beograd
Prevodilac na engleski / Translator into English profesor Sanela Kljajić

13:00h

Koktel / Coctail

13:30-14:30h Uvodna predavanja/Introductory lectures

Sala A / Room A

Radno predsedništvo / Chairpersons

Mirjana Janošević, Tatjana Pavlica, Veselin Jovović

1. **THE INFLUENCE OF AGE ON THE IVF TREATMENT OUTCOME IN FEMALE PATIENTS**
Dejan Mitić
2. **A STUDY ON SYNDROME X AND GENE POLYMORPHISM AMONG THE POPULATIONS OF EASTERN AND NORTH EASTERN INDIA**
Duptendu Chatterjee
3. **PHYSICAL DEVELOPMENT OF BELARUSIAN STUDENT YOUTH: SECULAR TREND AND CURRENT STATE**
Volha Marfina

DISKUSIJA / DISCUSSION

PAUZA / BREAK

16:00-17:30h Uvodna predavanja/Introductory lectures
Sala A / Room A

Radno predsedništvo / Chairpersons

Tatjana Pavlica, Jasmin Mušanović, Perica Vasiljević

4. **IMPORTANCE OF DNA ANALYSIS FOR FORENSIC IDENTIFICATION OF HUMAN REMAINS FOLLOWING A FORENSIC AUTOPSY**
Dragana Zgonjanin - Bosić
5. **ASSOCIATION OF HAPTOGLOBIN GROUPS AND MOTHER-CHILD HEALTH: A STUDY FROM EASTERN INDIA**
Arup Ratan Bandyopadhyay
6. **THE IMPORTANCE OF DETERMINING THE POSITION OF THE HYOID BONE IN AN INTERDISCIPLINARY APPROACH TO THE TREATMENT OF ORTHODONTIC PATIENTS**
Gabrijela Chuchkova

DISKUSIJA / DISCUSSION

PAUZA / BREAK

18:00-19:30h Uvodna predavanja/Introductory lectures
Sala A / Room A

Radno predsedništvo / Chairpersons

Mirjana Janošević, Marija Nikolić, Nenad Stojiljković

7. **DENTAL ANTHROPOLOGICAL STATUS OF THE HUMAN POPULATION OF LEPENSKI VIR CULTURE**
Đurica Grga
8. **PHYSICAL ACTIVITY FOR BETTER HEALTH: RECOMMENDATIONS AND ARGUMENTS**
Jasmina Plunčević Gligoroska
9. **EVALUATION OF SKELETAL AND SOFT TISSUE CHANGES IN PATIENTS WITH CLASS II DIVISION 1 MALOCCLUSION AND NORMAL OCCLUSION**
Irena Gavrilovikj

DISKUSIJA / DISCUSSION

ČETVRTAK / THURSDAY
28.9.2023.

8:30 – 11:00h Uvodna predavanja/Introductory lectures
Sala A / Room A

Radno predsedništvo / Chairpersons:

Tatjana Pavlica, Miloš Nikolić, Perica Vasiljević

10. **FREQUENCY OF FOOT ARCH DISORDERS IN YOUNG ADOLESCENT STUDENTS**
Veselin Jovović
11. **ANTHROPOLOGICAL ASPECTS OF IMPLANT-PROSTHETIC REHABILITATION**
Miroslav Vasović
12. **ANALYSIS OF THE EFFECTIVENESS OF STR SEQUENCES APPLICATION IN DETERMINING BLOOD RELATIONSHIPS BETWEEN THE DESCENDANTS OF ONE PARENTAL PAIR WITHIN HETEROGENEOUS AND SMALL LOCAL POPULATION**
Jasmin Mušanović

13. **AGE AT MENARCHE IN BELARUSIAN WOMEN BASED ON THE RESULTS OF 140 YEARS OF OBSERVATION**
Tatjana Hurbo
14. **CURRENT REFLECTIONS REGARDING MEDICAL ANTHROPOLOGY IN ROMANIA**
Adina Bačiu

DISKUSIJA / DISCUSSION**PAUZA / BREAK**

11:30 – 13:30h Humana biologija/Human biology

*Sala A / Room A**Radno predsedništvo / Chairpersons:*

Jasmin Mušanović, Arup Ratan Bandyopadhyay, Biljana Srđić-Galić

1. **DYNAMICS OF MALNUTRITION AMONG PEOPLE OF DIFFERENT CASTES OF SULTANPUR VILLAGE OF HARYANA, INDIA: THE CHANGING NUTRITION REALITY**
Koel Mukherjee
2. **INFERTILITY IN SERBIA**
Jelena Havrljenko, Vesna Kopitović, Aleksandra Trninić Pjević,
Stevan Milatović i Tatjana Pavlica
3. **LIFE WITH DIABETES IN THE COVID-19 ERA**
Višnja Madić, Aleksandra Petrović, Dragana Jugović,
Bojana Maksimović i Perica Vasiljević
4. **FETAL CHROMOSOMAL ABERRATIONS FROM DIAGNOSIS TO PREVENTION**
Radovan Milićević, Ljiljana Branković, Desanka Radulović, Višnja Madić, Hristina
Stamenković, Tatjana Stanković, Aleksandar Milićević i Dragana Jugovića
5. **RISK FACTORS FOR THE COLORECTAL CANCER DEVELOPMENT**
Dragana Jugović, Višnja Madić, Marija Vukelić-Nikolić, Ljiljana Branković,
Radovan Milićević i Perica Vasiljević

DISKUSIJA / DISCUSSION**PAUZA / BREAK**

14:00-19:00h

IZLET / EXCURSION*Poseta Muzeju vina i vinogradarstva / Visit to the Museum of Wine and Viticulture -
Aleksandrovac**Poseta vinarije „Spasić“ sa degustacijom i promocijom vina / Visit to the "Spasić" winery
with wine tasting and promotion***20:00h GODIŠNJA SKUPŠTINA ADS***Sala B / Room B*** Ostali sastanci ADS – dnevni brifing organizacionog odbora i sastanak upravnog odbora
biće realizovani u Sali B a termini će naknado biti ustanovljeni*

PETAK / FRIDAY**29.9.2023.**

8:30 – 10:30h Biomedicinska antropologija/Biomedical anthropology
i/and forenzička antropologija/Forensic anthropology

Sala A / Room A

Radno predsedništvo / Chairpersons:

Radmila Obradović, Mirjana Janošević, Miroslav Vasović

6. **APPLICATION OF THE ORAL ESTHETIC SCALE IN STUDENTS OF DENTISTRY**
Milena Kostić, Nikola Gligorijević, Marija Jovanović, Amar Đerlek i Marko Igić
7. **SMILE CREATION IN THE PRODUCTION OF COMPLETE DENTURES BASED ON ANTHROPOLOGICAL PARAMETERS**
Marija Jovanović, Milena Kostić, Nikola Gligorijević, Rodoljub Jovanović i Ana Igić
8. **A COMPARATIVE STUDY OF THE CONFORMITY OF THE SHAPE OF THE MAXILLARY CENTRAL INCISOR WITH THE SHAPE OF THE FACE AND THE SHAPE OF THE MAXILLARY DENTAL ARCH IN A POPULATION WITH FULL DENTITION**
Nikola Gligorijević, Marko Igić, Marija Jovanović, Amar Đerlek i Milena Kostić
9. **ONE CENTURY TREATMENT OF HAEMOPHILIA - IS THERE A POSSIBILITY FOR COMPLETE RECOVERY?**
Miloš Tijanić, Simona Stojanović i Kristina Burić
10. **THE SIGNIFICANCE OF PRIMARY STABILITY MEASURING ON OSSEointegration OF IMPLANTS AFTER DIFFERENT TECHNIQUES OF IMPLEMENTATION IN LOW DENSITY BONE**
Goran Jovanović, Rodoljub Jovanović i Marija Jovanović
11. **COMBINED SURGICAL-ORTHODONTIC THERAPY FOR ACHIEVING FUNCTIONAL AND AESTHETIC RESULTS IN PATIENTS WITH SEVERE SKELETAL MALOCCLUSIONS**
Nikola Burić, Mirjana Burić, Miloš Tijanić, Simona Stojanović, Kristina Burić, Nina Burić
12. **THE IMPORTANCE OF PRE-INTERVENTION CBCT (CONE BEAM COMPUTER TOMOGRAPHY) RADIOGRAPHY IN REDUCING COMPLICATIONS DURING DENTOALVEOLAR SURGERY**
Kristina Burić, Nina Burić, Miloš Tijanić, Goran Jovanović, Simona Stojanović, Nikola Burić
13. **PREVALENCE OF CANINE IMPACTION IN SERBIAN PEOPLE FROM THE REGION OF NIŠ**
Kosta Todorović, Milan Spasić, Milan Miladinović, Ana Todorović i Vladimir Mitić
14. **CEPHALOMETRIC FEATURES IN PATIENTS WITH MAXILLARY CANINE IMPACTION**
Ana Todorović, Vladimir Mitić, Kosta Todorović, Predrag Janošević, Aleksandra Radojčić i Ana Igić
15. **DETERMINATION OF SOMATOSENSORY SPATIAL DIFFERENTIATION OF THE LOWER LIP**
Simona Stojanović, Miloš Tijanić, Branislava Stojković, Nina Burić, Milica Petrović i Radmila Obradović
16. **THE USE OF ULTRAVIOLET, INFRARED AND X-RAY RADIATION RANGES IN PHYSICAL ANTHROPOLOGY**
Nikita Khokhlov, Stefania Zini

DISKUSIJA / DISCUSSION

PAUZA / BREAK

11:00 – 13:30h Socio-kulturna antropologija/Socio-cultural anthropology
Sala A / Room A

Radno predsedništvo / Chairpersons:

Jelena Opsenica Kostić, Milkica Nešić, Jasmina Pluncevic Gligoroska

17. **DEVELOPMENTAL TASKS OF ADULthood FROM A CULTURAL-HISTORICAL PERSPECTIVE**
Jelena Opsenica Kostić i Tanja Panić
18. **AN EVALUATION OF THE PARAMETERS OF PSYCHOLOGICAL DISTRESS IN MEDICAL STUDENTS**
Sanja Mancevska, Jasmina Pluncevic Gligoroska, Beti Dejanova i Suncica Petrovska
19. **COMPONENTS OF BODY IMAGE AND SOME ASPECTS OF HUMAN FIGURE DRAWINGS IN TEENAGE GIRLS**
Milkica Nešić, Nikola Ćirović, Jelena Kostić i Ana Komlenić
20. **MODERATING ROLE OF GENDER ON SHAPING BODY IMAGE INFLUENCES AND ASPIRED LOOK IN TEENAGES**
Milkica Nešić, Nikola Ćirović, Jelena Kostić i Ana Komlenić
21. **THE IMPACT OF THE COVID-19 PANDEMIC ON THE SCOPE AND FORMS OF DOMESTIC VIOLENCE AS GENDER-BASED VIOLENCE**
Vida Vilić
22. **THE BREAD AND WINE USAGE IN THE LITURGY OF THE ORTHODOX CHURCH**
Boban Stojković
23. **ETHICS IN THE COMMUNICATION OF LITERARY CHARACTERS IN STANKOVIĆ'S PLAY "KOŠTANA" IN THE CONTEXT OF SOCIO-CULTURAL ANTHROPOLOGY (WITH REFERENCE TO PAGAN AND RELIGIOUS ELEMENTS)**
Valentina Zlatanović Marković
24. **REPRODUCTIVE HEALTH AND CAUSES OF INFERTILITY IN THE REPUBLIC OF SRPSKA, USING THE EXAMPLE OF THE CITY OF BIJELJINA**
Rada Golub, Aleksandar Đurić i Branislav Drašković
25. **MORTALITY TRENDS IN THE REPUBLIC OF SERBIA IN THE 21ST CENTURY (2001.-2022.)**
Stevo Pašalić i Momir Lazarević
26. **THE IMPACT OF SMALL MIGRANT FLOWS - A WITNESS BASED ON AN HISTORICAL EXAMPLE**
Stefania Zini, Nikita Khokhlov
27. **TIME & SPACE AND CULTURAL CHANGE: THE KASHIKAPDI NOMADIC COMMUNITY STRUGGLING FOR THEIR IDENTITY AN ANTHROPOLOGICAL ANALYSIS**
Banita Behera
28. **THE STUDY OF BONE REMAINS AND FRAGMENTS OF CLOTHING FROM THE ARCHEOLOGICAL MONUMENTS OF THE RYAZAN-OKA CULTURE USING SPECTROMETRY AND CHROMATOGRAPHY METHODS**
Nikita Khokhlov, Stefania Zini
29. **A NEW STUDY OF THE ANTHROPOMETRIC PARAMETERS OF THE FAYUM PORTRAITS**
Stefania Zini, Ekaterina Prosikova, Sergej Vasilyev, Nikita Khokhlov

DISKUSIJA / DISCUSSION

PAUZA / BREAK

11:00 – 13:30h Sportska i biomedicinska antropologija/ Sport and biomedical anthropology

Sala B / Room B

Radno predsedništvo / Chairpersons:

Veselin Jovović, Miloš Nikolić, Boris Popović

30. **THE EFFECT OF PROGRAMMED PHYSICAL EXERCISING ON DEVELOPMENT OF GENERAL COORDINATION IN PRE-SCHOOL CHILDREN**
Boris Popović, Snežana Damjanović, Manolopoulos Nikola i Draženka Mačak
31. **APPLICATION OF ARTIFICIAL INTELLIGENCE IN SPORTS ANTHROPOLOGY - "UPGRADED SPORTS ANTHROPOLOGY"**
Nenad Stojiljković i Zoran Milanović
32. **MODELS OF INCLUSION AT THE PHYSICAL EDUCATION CLASSES**
Bojan Jorgić
33. **FOSTERING PHYSICAL ACTIVITY: IMPROVING MOTOR ABILITIES IN THEOLOGICAL SCHOOL STUDENTS THROUGH TAILORED EXERCISE PROGRAM**
Mladen Živković, Nikola Stojanović, Marko Đurović, Romina Herodek, Nemanja Stanković, Miloš Paunović
34. **THE IMPORTANCE OF ANTHROPOMETRY IN SPORT MEDICINE**
Betī Dejanova, Suncica Petrovska, Jasmina Pluncevic Gligoroska, Sanja Mancevska, Mihaela Nestorova Brazanska, Biljana Spirkoska Vangelovska i Vangel Ristovski
35. **THE INFLUENCE OF ANTHROPOMETRIC CHARACTERISTICS ON MOTOR SPACE OF FOOTBALL PLAYERS 11-12 YEARS OLD**
Dejan Javorac, Jelena Slankamenac i Slavko Molnar
36. **HAND CHARACTERISTICS IN SCHIZOPHRENIA**
Biljana Srdić Galić, Siniša S. Babović, Bojana Krstonošić, Sonja Petričević, Đendi Silađi, Slađana Ralević, Zoran Gajić i Aleksa Novaković
37. **AN ANTHROPOLOGICAL PERSPECTIVE ON THE ROMANIAN DEMOGRAPHIC PROFILE**
Suzana Turcu, Monica Petrescu, Adina Baciū, Cristiana Glavce
38. **MIGRATION, HEALTH AND CULTURE: CONNECTING THE DOTS OF THE BABARIS OF INDIA**
Abhishikta Ghosh Roy

DISKUSIJA / DISCUSSION

PAUZA / BREAK

16:00 – 18:30h Biomedicinska antropologija/Biomedical anthropology

Sala A / Room A

Radno predsedništvo / Chairpersons:

Marija Igić, Djurica Grga, Milena Kostić

39. **INSTAGRAM, SHOW YOUR TEETH!**
Antonije Stanković, Marija Nikolić, Jelena Popović, Nenad Stošić, Aleksandar Mitić, Radomir Barac i Aleksandra Milovanović
40. **ODONTOPHOBIA- AN ANTHROPOLOGICAL VIEW**
Marija Nikolić, Jelena Popović, Aleksandar Mitić, Nenad Stošić, Radomir Barac, Aleksandra Milovanović i Antonije Stanković

41. **DETERMINATION OF SEXUAL DIMORPHISM BY ANALYSIS OF MESIODISTAL DIAMETERS OF MAXILLARY AND MANDIBULAR FRONTAL TEETH IN THE POPULATION OF SOUTHEASTERN SERBIA**
Ivana Stoiljković, Jelena Popović i Vladimir Mitić
42. **EVALUATION OF ERGONOMIC FACTORS AS CAUSES OF MUSCULOSKELETAL DISORDERS IN DENTISTS**
Jelena Popović, Marija Daković Bjelaković, Marija Nikolić, Aleksandar Mitić,
Nenad Stošić, Radomir Barac, Antonije Stanković i Aleksandra Milovanović
43. **MORPHOLOGICAL VARIATIONS OF THE LOW THIRD MOLAR**
Nenad Stošić, Jelena Popović, Aleksandar Mitić, Marija Nikolić, Radomir Barac,
Antonije Stanković i Aleksandra Milovanović
44. **PREVENTIVE DENTAL EXAMINATIONS AS PART OF THE HEALTH CULTURE OF THE POPULATION OF SOUTHEASTERN SERBIA**
Aleksandra Milovanović, Marija Nikolić, Jelena Popović, Aleksandar Mitić, Nenad Stošić,
Radomir Barac, Antonije Stanković i Ivana Stojiljković
45. **COMPARATIVE ANALYSIS OF CARIES PREVALENCE OF THE FIRST PERMANENT MOLAR AND THE FIRST PREMOLAR ONE YEAR AFTER THEIR COMING THROUGH**
Ana Igić, Branislava Stojković, Olivera Tričković Janjić, Zorana Veličković,
Marija Jovanović, Aleksandra Radojičić i Milica Veličković
46. **MEASUREMENT OF THE SIZE OF INTERDENTAL GINGIVAL TISSUE IN PATIENTS WITH HEALTHY PERIODONTIUM**
Ana Pejčić, Radmila Obradović, Ivana Stanković, Marija Bradić-Vasić,
Džemil Kurtagić i Ivan Minić
47. **REPRESENTATION AND SIZE OF GINGIVAL RECESSIONS IN ADULTS**
Radmila Obradović, Ljiljana Kesić, Ana Pejčić, Marija Bojović, Milica Petrović i Ivana Stanković
48. **THE INFLUENCE OF SMOKING ON PERIODONTAL HEALTH STATUS OF MOLAR TEETH IN PATIENTS WITH CHRONIC PERIODONTITIS**
Ivana Stanković, Radmila Obradović, Ana Pejčić, Ljiljana Kesić, Milica Petrović i Marija Bojović
49. **PERIODONTAL HEALTH IN ORTHODONTIC PATIENTS WITH FIXED APPLIANCES**
Džemil Kurtagić, Erkin Crnišanin, Ana Pejčić, Radmila Obradović,
Ivana Stanković i Marija Bradić-Vasić

DISKUSIJA / DISCUSSION

PAUZA / BREAK

18:30 – 19:30h

POSTER PREZENTACIJE / POSTERS

Sala C / Room C

Radno predsedništvo / Chairpersons:

Tatjana Pavlica, Miloš Nikolić, Perica Vasiljević

20:00h Svečena večera

SUBOTA / SATURDAY

30.9.2023.

IZLET / EXCURSION

11:00- 14:00

Kopaonik- Sunčani vrhovi

PLENARNA PREDAVANJA
PLENARY LECTURES

TRENTNA RAZMATRANJA MEDICINSKE ANTROPOLOGIJE U RUMUNJI

Adina Baciu Brîndușa

Institut Antropologije Fr. I. Rainer Rumunske akademije, Bukurešt

Rumunska medicinska antropologija, koja ima staru tradiciju, nastoji da reši goruće probleme društva u okviru Instituta za antropologiju, Francisc I. Rainer, Rumunske akademije iz Bukurešta. Istraživački tim Departmana biomedicinske antropologije bavi se temama kao što su: bolesti zavisnosti, prevencija i borba hroničnih stanja, bacanje hrane, psihološka procena odraslih i mladih u zatvoru zbog zločina seksualne prirode, efekti migracija. Tim takođe sprovodi populacijske studije gena koji su povezani sa zdravstvenim stanjem i pokušava da napravi genetski atlas Rumunije. Pored toga, sprovodi biomedicinske i kulturološke studije sinteze i komparativne analize. Primenom novih i tradicionalnih pristupa, traže se odgovori na pitanja koja se trenutno postavljaju u biomedicinskoj antropologiji kako bi se proširilo polje istraživanja. Dobijeni rezultati daju se na uvid javnosti kako bi se uvidela njihova praktična primena. Rezultati se koriste u javnom zdravlju, sociologiji, psihologiji, različitim industrijama, visokom obrazovanju i postaju deo akademskog programa. Cilj ovog rada je predstaviti aspekte medicinske antropologije Rumunije kao i trenutne izazove kojima neprestano pokušava da se prilagodi.

CURRENT REFLECTIONS REGARDING MEDICAL ANTHROPOLOGY IN ROMANIA

Adina Baciu Brîndușa

Institut Antropologije Fr. I. Rainer Rumunske akademije, Bukurešt

The Romanian medical anthropology, with an old tradition, tries to address current problems of society at the Institute of Anthropology, Francisc I. Rainer of the Romanian Academy from Bucharest. The research team at the Department of Biomedical Anthropology deals with the topics such as: addiction, prevention and combating of chronic conditions, food waste, psychosocial assessment of some adults and young people in prison for acts of a sexual nature and the effects of migration. It conducts population studies of some genes associated with the state of health and attempts to create a genetic atlas of Romania. In addition to this, it carries out biomedical and cultural anthropological studies of synthesis and comparative analysis. The new approaches, along with the traditional ones, try to answer the questions that are currently being raised in medical anthropology in order to expand the field of fundamental research. The obtained results are made available in order to demonstrate their practical use. The results are used in in public health, sociology, psychology, in various industries, in higher education, and are introduced in the academic curriculum. The purpose of this paper is to present aspects of medical anthropology from Romania and the current challenges to which it is constantly trying to adapt.

VEZA IZMEĐU HAPTOGLOBINA I ZDRAVLJA MAJKE I DETETA: STUDIJA IZ ISTOČNE INDIJE

Arup Ratan Bandyopadhyay

Department of Anthropology, University of Calcutta, Republic of India

Biološka antropologija bavi se komparativnom biogenetikom ljudi. Ljudska varijacija gena može se odrediti na nivou pojedinca i populacije. Polimorfizam osobina genetskih markera kao i niz zanimljivih dinamičkih efekata uočen je kroz selektivne efekte genotipa. Međutim, strukture izvor-ponor za koje je poznato da se javljaju u prostorno-strukturnim modelima, mogu se videti u genetskom modelu ako je jedan od genotipova pod selektivnom eliminacijom. Selektivni efekat genotipa generalno se može uočiti njegovim ispoljavanjem u prezigotskim i postzigotskim stadijumima, što se dalje može proširiti na neonatalni i postnatalni period. Stvarne studije o ishodima začeća, živih ili mrtvih (abortirani materijal), od suštinskog su značaja za razumevanje selektivne eliminacije alela. U ovoj studiji pokušali smo da razmotrimo interakcije haptoglobina-ABO kod hemolizne bolesti novorođenčeta i uticaj haptoglobina kod hemolitičkih poremećaja kao što je HBN usled nekompatibilnosti krvne grupe majke i fetusa. Rezultati ukazuju na značajnu heterogenost ($p < 0,05$) u distribuciji ABO alela kod roditelja novorođenčadi koja boluju od hemolizne bolesti. Utvrđeno je da je nekompatibilnost krvnih grupa fetusa i majke značajno veća ($p < 0,05$) kod novorođenčadi koja boluju od hemolizne bolesti, nego kod zdravih novorođenčadi. Fenotip iz krvi pupčane vrpce kod novorođenčadi sa hemoliznom bolešću i zdrave novorođenčadi, pokazao je značajan ($p < 0,05$) višak haptoglobina nultih alela (HP 0-0), ali i značajan višak ($p < 0,05$) HP* 1 alela kod obolele novorođenčadi sa nekompatibilnošću majka-dete. Pored toga, pronađena je veza između porođajne težine i sinteze haptoglobina u studiji krvi iz pupčane vrpce novorođenčadi. Novorođenčad kod koje su detektovani fenotipovi haptoglobina imala su značajno veću porođajnu težinu od one kod kojih nisu identifikovani fenotipi.

ASSOCIATION OF HAPTOGLOBIN GROUPS AND MOTHER-CHILD HEALTH: A STUDY FROM EASTERN INDIA

Arup Ratan Bandyopadhyay

Department of Anthropology, University of Calcutta, Republic of India

Biological anthropology deals with the comparative biogenetics of humans. Human variation can be measured at both individual and population level. The polymorphism of genetic marker traits, as well as a number of interesting dynamic effects is observed through the selective effects of the genotypes. However, source-sink structures that are known to occur in spatially structured models can be seen in the genetic model if one of the genotypes is under selective elimination. The selective effect on genotypes can generally be perceived by its manifestation in prezygotic and postzygotic stages, which is further extendable to neonatal and postnatal periods in humans. Actual studies on the products of conception, living, or dead (aborted material) of these couples are essential for understanding the process of selective elimination of the alleles. The present study attempted to understand HP -ABO incompatibility interactions in HDN and the implication of haptoglobin (HP) in hemolytic disorders like HDN due to fetus - maternal blood group incompatibilities. The results revealed significant ($p < 0.05$) heterogeneity in the distribution of ABO alleles among the parents of the HDN. Fetus-maternal ABO incompatibility was found to be significantly ($p < 0.05$) higher among the HDN compared to that of the newborns without HDN. Phenotypes from the cord blood of the HDN and Non-HDN revealed significantly ($p < 0.05$) excess of HP null alleles (HP 0-0), but significant ($p < 0.05$) excess of HP*1 allele in the HDN with mother-child incompatibility. In addition to that, a close relationship between birth weight and synthesis of haptoglobin was found in a study of cord blood derived from newborns. Newborn infants with detectable haptoglobin types showed, on average, significantly higher birth weight than those without detectable haptoglobin types under normal circumstances.

UTICAJ GODINA ŽIVOTA PACIJENTKINJA U VANTELESNOM OPLOĐENJU NA ISHOD POSTUPKA

Dejan Mitić

Medicinski Fakultet, Univerzitet u Nišu, Klinika za ginekologiju i akušerstvo, Niš

Vantelesno oplođenje (VTO) kao jedna od metoda Biomedicinski potpomognutog oplođenja (BMPO), dobija sve više na značaju u zadnjim dekadama. Odlaganje rađanja zbog različitih socio-ekonomskih i drugih razloga, dovodi do toga da sve veći broj žena počinje planiranje porodice tek u drugoj polovini četvrte decenije. S obzirom na to da je 5 godina prosečan period od početka lečenja steriliteta do postavljanja indikacije za vantelesno oplođenje, ne mali broj pacijentkinja se nalazi već u petoj deceniji. Smanjena ovarijalna rezerva u tom periodu i ogromna učestalost aneuploidije posle 42. godine života, značajno utiču na smanjenje kako stope trudnoća nakon VTO, tako i stope živorođene dece posle VTO. Povećavanje granice starosti žena za postupak VTO o trošku Fonda za zdravstvo u Republici Srbiji daje možda i neosnovanu nadu za uspešan ishod lečenja ovom metodom. Na Klinici za ginekologiju i akušerstvo u Nišu sprovedli smo istraživanje o efikasnosti postupka VTO u odnosu na godinu života pacijentkinja uzimajući u obzir zadnjih 5 godina. Za razliku od stopa trudnoća od 40% u grupi pacijentkinja do 38 godina života, procenat uspeha pada ispod 1% kod žena u grupi od 42 do 45 godina života.

THE INFLUENCE OF AGE ON THE IVF TREATMENT OUTCOME IN FEMALE PATIENTS

Dejan Mitić

Medicinski Fakultet, Univerzitet u Nišu, Klinika za ginekologiju i akušerstvo, Niš

In vitro fertilization (IVF) as one of the methods of biomedical assisted reproduction is becoming more and more important. Postponing childbirth due to various socio-economic and other reasons leads to an increasing number of women who start planning having a family in the late forties. Given that on average, five years pass between the diagnosis of infertility and the recommendation for in vitro fertilization treatment, a lot of patients are already in their fifties by this time. Diminished ovarian reserve and high percent of oocyte aneuploidy in women older than 42 have a significant impact on the reduction of pregnancy rate after IVF as well as the rate of live births. Increasing the age limit of women who undergo IVF treatment at the expense of the Health Fund of the Republic of Serbia perhaps gives an unfounded hope for a successful outcome of this treatment. We conducted a research on the effectiveness of IVF treatment in relation to the age of the patients at the Clinic of Gynecology and Obstetrics in Nis in the last five years. In the group of patients aged 38 or younger, the pregnancy rate was 40 % while it declined below 1% in the group of women aged between 42 and 45.

STUDIJA SINDROMA X I POLIMORFNOG GENA KOD STANOVNIŠTVA ISTOČNE I SEVEROISTOČNE INDIJE

Diptendu Chatterjee

Departman za antropologiju, Univerzitet u Kalkuti, Republika Indija

Povezanost polimorfizma, gojaznosti i kompozicije tela važna je za procenu zdravstvenog statusa populacije. U Indiji su sprovedene populacijske studije kako bi se ispitala veza između kompozicije tela, gojaznosti i polimorfizma gena. Dijabetes je jedna od vodećih bolesti sindroma x. Kontrola dijabetesa, stil života i kontrola ekspresije proteina, pripadaju vodećim oblastima epigenetskog istraživanja u antropologiji. Studijom je obuhvaćeno 12 etničkih grupa istočne i severoistočne Indije. Genotipizacija FTO, ACE3, PSD3 i A604G i polimorfizam dužine restrikcijskih fragmenata sprovedeni su kako bi se ispitaio polimorfizam jednog nukleotida populacije. Manja beznačajna frakcija polimorfizma gena ACE, FTO zapažena je kod populacije 3. PSD3 i A604G i polimorfizam nisu primećeni u ispitanim grupama. Primena odgovarajućih lekova važna je za kontrolu dijabetesa. Dijabetička retinopatija najbolji je primer uticaja dijabetesa. Kod ljudskog inženjeringa tkiva, istraživanja regeneracije tkiva pomoću matičnih ćelija mogu dati uvid u lečenje pacijenata koji boluju od bolesti sindroma x. Primena biomaterijala kod dizajniranja lekova predstavlja odskočnu dasku u antropološkim istraživanjima.

A STUDY ON SYNDROME X AND GENE POLYMORPHISM AMONG THE POPULATION OF EASTERN AND NORTH EASTERN INDIA

Diptendu Chatterjee

Department of Anthropology, University of Calcutta, Republic of India

The association between genetic polymorphism, obesity and body composition is an important way to assess the health status of a given population. In India, population-based studies have been conducted to examine the relationship between body composition, obesity and gene polymorphism. Diabetes is one of the major syndrome X disease. Diabetes control, lifestyle modification and control of protein expression are one of the major areas of epigenetic study in anthropology. The current study consisted of 12 ethnic groups of East and Northeast India. FTO, ACE3, PSD3 and A604G genotyping by restriction fragment length polymorphism (RFLP) was performed to study specific single nucleotide polymorphism (SNP) of the population. Smaller insignificant fraction of polymorphism for ACE, FTO gene was observed in population 3. PSD3 and A604G and polymorphism were not observed in any of the studied groups. Application of proper medicines is very important in diabetes control. Diabetic retinopathy is the best example of the effects of diabetes. Inhuman tissue engineering, tissue regeneration from stem cell research may give insight for the treatment of the patients suffering from syndrome x diseases. Application of biomaterials in drug design is the major stepping stone in anthropological research.

ZNAČAJ DNK ANALIZE U FORENZIČKIM IDENTIFIKACIJAMA HUMANIH OSTATAKA NAKON OBDUKCIJE

Dragana Zgonjanin-Bosić^{1,2}

¹Centar za sudsku medicinu, toksikologiju i molekularnu genetiku, Klinički centar Vojvodine

²Medicinski fakultet u Novom Sadu

U zavisnosti od okolnosti i stanja ostataka tela, danas se koriste različite forenzičke tehnike za identifikaciju ljudskih ostataka. Kada druge humane forenzičke tehnike identifikacije (npr. daktiloskopija, antropologija, odontologija i sudsko-medicinsko pregledi) pružaju ograničene informacije, DNK analiza može biti izuzetno dragocena. Na nesreću, u oko 30 – 35% slučajeva standardne forenzičke identifikacije nisu bile dovoljne, pa je zahtevana i DNK identifikacija. Otkrili smo da forenzička obdukcija ne daje uvek pouzdane odgovore na važna pitanja: Koliki su vremenski razmaci između trenutka smrti i pronalaska skeletnih ostataka? Koliko godina ima pokojnik? U stvari, to često može uzrokovati pogrešan izbor strategije identifikacije. Ovaj rad opisuje forenzičku primenu trenutne DNK tehnologije za rešavanje slučaja nestale osobe. U avgustu 2017. godine u jednom gradu na severu Srbije prijavljen je nestanak 57-godišnjeg muškarca. U januaru 2018. na tom geografskom području pronađeni su delovi skeletnih ostataka, ostaci tkanine i sata koji su poslani u Institut za sudsku medicinu. Starost osobe procenjena je na 75-80 godina, a procenjeno je da su posmrtni ostaci bili stari više od 10 godina. Ovaj izveštaj obdukcionog zapisnika zbulio je policiju, jer u podacima nije imala nestalu osobu gore navedenog opisa. Međutim, DNK analiza uzorka kostiju pokazala je da posmrtni ostaci upravo pripadaju 57-godišnjoj nestaloj osobi koja je nestala pre 5 meseci i kojoj je sin bio donor referentnog uzorka. Ovo daje sugestiju da je za identifikaciju skeletnih ostataka i rešavanje slučajeva nestalih lica od najveće važnosti forenzička primena najnovije DNK tehnologije.

IMPORTANCE OF DNA ANALYSIS FOR FORENSIC IDENTIFICATION OF HUMAN REMAINS FOLLOWING A FORENSIC AUTOPSY

Dragana Zgonjanin-Bosić^{1,2}

¹Institute of Forensic Medicine, Clinical Center of Vojvodina, Novi Sad, Serbia

²Faculty of Medicine, University of Novi Sad, Novi Sad, Serbia

Various forensic techniques are used to identify a human corpse, depending on the circumstances and the state of the remains. When other human identification forensic techniques (e.g. dactyloscopy, anthropology, odontology and medico-legal examinations) provide limited information, DNA typing can be extremely valuable. Unfortunately, the standard forensic identification methods were not sufficient in 30-35% victims, therefore DNA identification was necessary. We have found that forensic autopsy does not always give reliable answers to important questions: What is the time laps between the moment of death and the skeletal remains discovery? What is the age of the deceased? In fact, it could often cause an erroneous choice of identification strategy. This paper describes forensic application of current DNA technology to solve a missing person's case. The disappearance of 57 year old male was reported in a town in the north of Serbia in August 2017. In January 2018, in the mentioned geographical area skeletal remains, parts of cloth and a watch were found and sent to the Institute of Forensic Medicine. The age of the person was estimated to be 75-80 years, and it was estimated that the remains were over 10 years old. This autopsy report confused the police, because they did not have a missing person of this description on the record. However, the DNA analysis of a bone sample showed that the remains indeed belong to the 57-year-old missing person who had disappeared 5 months before and for whom the son was the reference sample donor. This suggests that for the identification of skeletal remains and solving missing persons cases, the forensic application of the latest DNA technology is of utmost importance.

DENTALNO ANTROPOLOŠKI STATUS HUMANE POPULACIJE KULTURE LEPENSKOG VIRA

Đurica Grga

Stomatološki fakultet Univerziteta u Beogradu, Beograd, Srbija

Kultura Lepenskog vira, koja se razvijala na prostoru Đerdapske klisure tokom mezolita i neolita, ostavila je pored materijalnih dokaza jedinstvenih u svetskim okvirima, i izuzetno značajne podatke o ljudima koji su je stvarali. Broj otkrivenih skeleta, njihova očuvanost, a posebno količina i značaj podataka koji su njihovim istraživanjem prikupljena, pružila su naučnoj javnosti mogućnost za bolje razumevanje načina života ovih drevnih ljudi i perioda u kome se razvijala ova izuzetna civilizacija. Otkriveni skeletni ostaci u stručnoj i naučnoj javnosti poznati su kao Đerdapska antropološka serija, koja je takođe deo svetske kulturne baštine. Istraživanja su obavljena na skeletnom materijalu sa četiri lokaliteta: Lepenski vir, Vlasac, Padina i Hajdučka vodenica. Analizom su obuhvaćene 133 individue, a nalaz se kretao od potpuno očuvanih lobanja i kompletnih vilica sa svim zubima do pojedinačnih zuba sa ili bez fragmenata vilica. Analizom je ukupno obuhvaćeno 1964 zuba. Od tog broja, 87 je pripadalo mlečnoj denticiji. Zupna formula je u potpunosti odgovarala broju zuba savremenog (današnjeg) čoveka. Ni po morfologiji se zubi ljudi kulture Lepenskog vira nisu bitno razlikovali od oblika zuba savremenog čoveka. Istraživanjima je kod praistorijskih ljudi sa prostora Đerdapa ustanovljena polivalentna patološka slika. Abrazija je bila dominantna patološka promena registrovana na gotovo 95% svih zuba. Kod pet individua otkriveno je ukupno 25 karioznih zuba. Ustanovljeno je i prisustvo periapikalnih lezija, zubnog kamenca i znakova parodontopatije. Prisutne su i periapikalne lezije različite etiologije.

DENTAL ANTHROPOLOGICAL STATUS OF THE HUMAN POPULATION OF LEPENSKI VIR CULTURE

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The culture of Lepenski Vir, which developed in the area of the Djepard Gorge during the Mesolithic and Neolithic Age, left behind material evidence unique in the world and significant data about the people who created it. The number of discovered skeletons, their preservation and especially the amount of data collected by the research provided the scientific public with better understanding of these ancient people, their way of life and the period in which their civilization was created. The discovered skeletal remains are known to the professional and scientific public as the Djerdap anthropological series, which is a part of the world's cultural heritage. The research was conducted on the skeletal material from four localities: Lepenski Vir, Vlasac, Padina and Hajdučka Vodenica. The sample comprised 133 individuals, it ranged from fully preserved skulls and complete jaws with all teeth, to individual teeth with or without jaw fragments. The analysis was performed on 1964 teeth, 87 of which were deciduous. The dental formula fully corresponded to the number of teeth of a modern man. The teeth of the people of Lepenski Vir culture did not significantly differ from the shape of the teeth of modern humans in terms of morphology. The research revealed polyvalent pathological picture in ancient people of Djerdap area. Abrasion was the dominant pathological change registered on almost 95% of the teeth. 25 teeth were affected by dental caries in five individuals. The presence of periapical lesions and signs of tartar and periodontitis were detected. There were periapical lesions of different etiology.

ZNAČAJ ODREĐIVANJA POLOŽAJA HIOIDNE KOSTI PRI INTERDISCIPLINARNOM PRISTUPU TRETMANA KOD ORTODONTSKIH PACIJENATA

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Hioidna kost, kao jedinstvena kost u ljudskom telu bez koštane artikulacije, ima veoma važnu ulogu u održavanju adekvatnog kapaciteta faringealnih disajnih puteva i povezana je sa vitalnim funkcijama. Položaj hioidne kosti održava ravnotežu respiratornog puta i pomaže u održavanju prohodnosti disajnih puteva tokom normalnog držanja glave i vrata. Stabilan odnos hio-cervikalnog kompleksa čuva prohodnost gornjih disajnih puteva kod odraslih. Procena položaja, oblika i funkcije hioidne kosti igra važnu ulogu, kao dijagnostičko sredstvo za interdisciplinarni plan lečenja ortodontskih pacijenata. Uključujući i planiranje ortodontskog tretmana miofunkcionalnim aparatima kod pacijenata u aktivnom periodu rasta, pacijenata sa opstruktivnom apneom (OSAS) i veoma je važan za održavanje stabilnih rezultata nakon ortognatske hirurške intervencije kod pacijenata sa teškim formama mandibularnog prognatizma. Ovo predavanje će predstaviti i razmotriti značaj određivanja položaja hioidne kosti kao dobrog dijagnostičkog vodiča kod različitih malokluzija, i njegovu ulogu u interdisciplinarnom planu lečenja ortodontskih pacijenata.

THE IMPORTANCE OF DETERMINING THE POSITION OF THE HYOID BONE IN AN INTERDISCIPLINARY APPROACH TO THE TREATMENT OF ORTHODONTIC PATIENTS

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The Hyoid bone, as a unique bone in the human body without bone articulation, plays an important role in maintaining the adequate capacity of pharyngeal airways and is connected to the vital functions. The position of the hyoid bone keeps airway balance and maintains the respiratory passage open during normal head and neck posture. The stable relationship of hyoid-cervical complex preserves the patency of the upper respiratory tract in adults. Assessment of the position, shape and function of the hyoid bone plays an important role as a diagnostic tool for an interdisciplinary treatment plan for orthodontic patients. Including the planning of orthodontic treatment with myofunctional appliances in patients who are in the process of growing, patients with obstructive sleep apnea (OSA) and is very important for maintaining of stable results after the orthodontic surgical intervention in patients with severe forms of mandibular prognathism. In this lecture, I will present and discuss the importance of determining the position of hyoid bone as a great diagnostic guide in various types of malocclusion and its role in the interdisciplinary treatment plan of orthodontic patients.

PROCENA SKELETNIH I MEKOTKIVNIH PROMENA, KOD PACIJENTA SA MALOKLUZIJOM II KLASSE 1-OG ODELJENJA I PACIJANTA SA NORMALNOM OKLUZIJOM

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Ortodontske nepravilnosti daju skeletne i mekotkivne promene, koje imaju efekt i na estetski izgled pacijenta. Cilj ovog izlaganja je prikazati promene na telerendgenskim snimcima kod pacijenata sa malokluzijom II klase 1 odeljenja (60 pacijenata) i pacijenata sa normalnom okluzijom (30 pacijenata). U toj analizi određena je i potpora koštanog tkiva (apikalnog i bazalnog), na maksili i mandibuli, kao osnova za podršku ortodontskog pomeranje zuba. Određena je i pozicija gornje i donje usne u odnosu na "Estetske linije" po Ricketts-u. Rezultati ukazuju na normalnu poziciju maksile u odnosu na kranijalnu bazu, sa proklinacijom maksilarnih inciziva i distalnu poziciju mandibule, kod pacijenta sa Klasom II/1. Kod ovih pacijenata apikalna koska na maksili je znatno tanja u odnosu na apikalnu kost kod pacijenata sa normalnom okluzijom. Gornja i donja usna dodiruju "Estetsku liniju" kod ispitanika sa Malokluzijom II Klase 1-og odeljenja. Kod iste ispitivane grupe vidljivost inciziva je 1.93 mm, što nije slučaj kod ispitanika sa normalnom okluzijom. Ovi podaci daju nam značajne informacije za plan tretmana kod ovih pacijenata.

EVALUATION OF SKELETAL AND SOFT TISSUE CHANGES IN PATIENTS WITH CLASS II DIVISION 1 MALOCCLUSION AND NORMAL OCCLUSION

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Malocclusions that are present in patients are not only a dental problem, but their changes are related to changes in the skeletal and soft tissue structure of the face. The aim of this paper is to determine the skeletal and soft tissue changes on x-rays of patients with class II malocclusion Division 1 (60 patients) and patients with normal occlusion (30 patients). The support of bone tissue (apical and basal) on maxilla and mandible was determined as a basis for the support of tooth movement. The position of the upper and lower lip in relation to the Esthetic plane was determined according to Ricketts. Based on the obtained results, we see the normal position of maxilla and proclination of the maxillary incisors, while mandible is in a distal position according to the cranial base (Class II/1 patients). The support of the apical bone of the maxilla is thinner in patients with Class II/1 Malocclusion. Both lips (upper and lower) touch the Esthetic line in patients with Class II/1. In the same investigated group, there is also exposure of the incisions of 1.93 mm, which is not presented in the group with normal occlusion. These parameters can give us information about the treatment plan in patients with malocclusions.

ANALIZA UČINKOVITOSTI PRIMJENE STR SEKVENCI U UTVRĐIVANJU SRODSTVA MEĐU POTOMCIMA JEDNOG RODITELJSKOG PARA UNUTAR HETEROGENIH I MALIH LOKALNIH POPULACIJA

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U ovom istraživanju ispitivana je efikasnost kratkih repetitivnih sekvenci - STR lokusa (eng. Short Tandem Repeat) u dokazivanju srodstva među potomcima jednog roditeljskog para u heterogenim i izolovanim, malim lokalnim populacijama. Istraživanje je obuhvatilo parove srodnika i parove nesrodnika kod kojih je metodom skarifikacije uzet uzorak bukalne sluznice iz kojeg je po protokolu po Milleru i Qiagenu izvršena ekstrakcija DNK. Na osnovu dobijenih rezultata izračunate su vrijednosti kombinovanog indeksa srodstva - CSI (eng. Cumulative / Combined Sibship Index) koji je upotrebljen kao jedna od metoda dokazivanja srodstva, i analizirana je distribucija podjeljenih alela između parova i srodnika i nesrodnika uzeta kao druga metoda u dokazivanju srodstva. Kao granične vrijednosti CSI za razdvajanje srodnika od nesrodnika, ispitivane su 0.05, 0.067, 1, 3, 10, 10.3 i 63. Formiranjem trozonalne raspodjele vrijednosti CSI, dobijena je siva zona koja za razliku od prethodnih striktnih graničnih vrijednosti daje veću tačnost u dobijanju rezultata što je u forenzičkom smislu i cilj ovakvih analiza. Najtačnije rezultate u smislu potvrđivanja pravog srodstva, odnosno nesrodstva, pokazala je granična vrijednost CSI 0.067 nakon kreiranja sive zone. Pri toj graničnoj vrijednosti, formiranjem sive zone procenat netačnih rezultata u smislu lažnog srodstva odnosno nesrodstva smanjio se za 2.586% za mješovite populacije.

ANALYSIS OF THE EFFECTIVENESS OF STR SEQUENCES APPLICATION IN DETERMINING BLOOD RELATIONSHIPS BETWEEN THE DESCENDANTS OF ONE PARENTAL PAIR WITHIN HETEROGENEOUS AND SMALL LOCAL POPULATION

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The aim of the research was to examine the effectiveness of short repetitive sequences - STR (Short Tandem Repeat) in proving kinship among the offspring of one parental pair in heterogeneous, isolated small populations. The sample comprised pairs of blood related and unrelated individuals from whom a sample of the buccal mucosa was taken. The DNA was extracted from the sample according to the protocol of Miller and Quiagen. Based on the obtained results the values of the Combined Sibship Index were calculated and later used as one of the methods for proving kinship. In addition to this, the analysis of the distribution of certain alleles between the pairs of blood related and unrelated individuals was used as another method for proving kinship. 0.05, 0.067, 1, 3, 10, 10.3 and 63 were used as limit values of CSI for separating relatives from nonrelatives. By forming three zones of CSI value distribution, a gray zone was obtained, which, unlike the previous strict limit values, provides greater accuracy in obtaining results, and in a forensic sense is the goal of such analysis. The most accurate results in terms of confirming kinship or non-kinship were provided by the threshold value CSI 0.067 after the creation of the gray zone. At the given threshold value, by creating the gray zone, the percentage of incorrect results in terms of false kinship was lowered by 2.586% for mixed populations.

FIZIČKA AKTIVNOST ZA BOLJE ZDRAVLJE: PREPORUKE I DOKAZI

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Fizička aktivnost je svaka aktivnost lokomotornog aparata koja troši više energije u odnosu na stanje mirovanja. Očigledno je da fizička aktivnost doprinosi poboljšanju fizičke kondicije, osobito razvitku mišića i sve tri komponente fizičkog fitnesa: snagu, izdržljivost i fleksibilnost. Pokraj lokomotornog aparata, redovna i kontinuirana fizička aktivnost povećava kardiorespiratorne parametre: aerobni kapacitet, potrošnju kiseonika, vitalni kapacitet i dr. Fizička aktivnost je izuzetno efikasna i u prevenciji i u lečenju brojnih bolesti. Brojni su naučni dokazi koji dokazuju pozitivne efekte aerobnog vežbanja na somatsko i mentalno zdravlje. Opsežna istraživanja tokom proteklih decenija pružila su novi uvid u molekularne mehanizme koji upravljaju korisnim zdravstvenim efektima fizičke aktivnosti. Fizička aktivnost je veoma korisna kao deo higijeno-dijetetskog režima kod mnogih hroničnih oboljenja, no ona se ne može zameniti farmaceutskim produktima. Da bi fizička aktivnost (vežbanje) dala optimalne rezultate u poboljšanju zdravlja kod određene individue, potrebno je da bude dobro dozirana. Pravilno doziranje volumena fizičke aktivnosti bazira se na opšte prihvaćenim preporukama od strane velikih međunarodnih zdravstvenih organizacija i zavisi od zdravstvenog i kondicionog statusa pojedinca.

PHYSICAL ACTIVITY FOR BETTER HEALTH: RECOMMENDATIONS AND ARGUMENTS

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Physical activity is any activity of skeletal muscles that consumes more energy compared to a state of rest. It is obvious that physical activity contributes to the improvement of physical condition, especially the building of muscles and all three components of physical fitness: strength, endurance and flexibility. In addition to the development of skeletal muscles, regular and continuous physical activity increases cardiorespiratory parameters: aerobic capacity, oxygen consumption, vital capacity, etc. There is a lot of scientific evidence that proves the positive effects of aerobic exercise on physical and mental health. Physical activity is extremely effective in the prevention and treatment of numerous diseases. Extensive research over the past decades has provided new insight into the molecular mechanisms that govern the beneficial health effects of physical activity. Physical activity is very useful as part of a hygienic-dietary regimen for many chronic diseases, but it cannot be replaced by pharmaceutical products. In order for physical activity (exercise) to give optimal results in improving health of a certain individual, it needs to be properly dosed. The correct volume of physical activity is based on generally accepted recommendations by major international health organizations and depends on health and fitness status of a person.

ANTROPOLOŠKI ASPEKTI IMPLANTO-PROTETSKE REHABILITACIJE

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Dentalna antropologija može imati značajnu ulogu u proceni patoloških stanja stomatognatskog sistema. Ova oblast obuhvata genetska i klinička istraživanja usmerena na razvojne defekte krunica, posteruptivne promene, kulturološke promene, ali i obrasce gubitka zuba i alveolarne kosti. Implantno-protetska rehabilitacija danas predstavlja uobičajenu proceduru za zbrinjavanje parcijalno i totalno bezubih pacijenata. Ova procedura ima veoma visok stepen uspešnosti u terapiji poremećaja stomatognatnog sistema. Antropološki elementi koji se odnose na optimizaciju implanto-protetske rehabilitacije stomatognatnog sistema, odnose se na anatomske i morfološke karakteristike viličnih kostiju, dimenzije alveolarne kosti, obrasce i faktore koji utiču na resorpciju alveolarne kosti nakon gubitka zuba, dimenzije protetskog polja, povoljne i nepovoljne oblasti protetskog polja, karakteristike okluzije, pritisak mastikatornih sila, ali i kulturološke i estetske zahteve. Dentalna antropologija zajedno sa ostalim granama dentalne medicine u implantno-protetskoj terapiji pacijanata ima za cilj rehabilitaciju kako biološko-funkcionalnih, tako i psihosocijalnih funkcija stomatognatnog sistema.

ANTHROPOLOGICAL ASPECTS OF IMPLANT PROSTHETIC REHABILITATION

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Dental anthropology can play a significant role in the assessment of pathological conditions of stomatognathic system. This field includes genetic and clinical research focused on the crown defects, posteruptive changes, cultural changes, as well as the patterns of tooth and alveolar bone loss. Implant-prosthetic rehabilitation today represents a standard procedure for treating partially or completely edentulous patients. This procedure has a high percentage of success in the treatment of somatognathic system disorders. The anthropological elements related to the optimization of the implant-prosthetic rehabilitation of the stomatognathic system refer to the anatomical and morphological characteristics of the jawbones, the dimensions of the alveolar bone, the patterns and factors that influence the resorption of the alveolar bone after tooth loss. They also include the dimensions of the prosthetic field, favorable and unfavorable areas of the prosthetic field, characteristics of occlusion, pressure of masticatory forces, and cultural and aesthetic requirements. Dental anthropology, together with other branches of dental medicine aims to rehabilitate biological, functional and psychosocial functions of stomatognathic system in the implant-prosthetic treatment of patients.

POJAVA MENARHE KOD ŽENA U BELORUSIJI ZASNOVANA NA REZULTATIMA PRIKUPLJANI 140 GODINA

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Podaci o menarhi kod devojčica koje žive na teritoriji Belorusije, dostupni su od kraja devetnaestog veka. Osamdesetih godina, prosečna starost kada se javlja menarha bila je 15.6 godina. U dvadesetom veku i na početku dvadeset prvog veka, u nekoliko studija zapažen je raniji početak puberteta kod devojčica u Belorusiji. Prosečne godine starosti kada se javlja menarha kod devojčica u Belorusiji u proteklih 140 godina smanjile su se za 2.7 godina: sa 15.6 do 12.9 godina ($p < 0.001$). Uzrast na kome se javlja menarha najviše se smanjivao u prvoj polovini i sredini dvadesetog veka. Međutim, ovaj trend se nastavio i kasnije, iako ne u toj meri, prosečan uzrast kada se javlja prva menstruacija kod devojčica rođenih u periodu između 1940. i 1970. i devojčica rođenih kasnije (1980 - 2000) smanjio se za jednu godinu: sa 14.0 na 13.0 godina. Na uzrastu od 15 godina, 96.6% devojčica u Belorusiji, koje su rođene u periodu između devedesetih i ranih dvehiljaditih, već su dobile menstruaciju. Značajan faktor koji utiče na početak puberteta kod devojčica predstavlja stepen razvijenosti određene oblasti: u urbanim oblastima devojčice ranije dobijaju prvu menstruaciju nego u ruralnim. Ranija pojava menarhe zapažena je u južnim delovima Belorusije.

AGE AT MENARCHE IN BELARUSIAN WOMEN BASED ON THE RESULTS OF 140 YEARS OF OBSERVATION

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Data on the age at menarche in girls living in Belarus are available from the end of the 19th century. In the 1880s, the mean age at menarche was 15.6 years. In the 20th century and the beginning of the 21st century, a number of studies reported the earlier onset of puberty in Belarusian girls. The mean age at menarche in Belarusian girls in the past 140 years has decreased by 2.7 years: from 15.6 to 12.9 years ($p < 0.001$). The age at menarche decreased most actively in the first half and the middle of the 20th century. However, the downward trend continued later, though it was not so intense, the median age at menarche for the girls born from the 1940s to the 1970s and the girls born later (in the 1980s–2000s) decreased by 1 year: from 14.0 to 13.0 years. At the age of 15, 96.6% of Belarusian girls born in the late 1990s and early 2000s had already begun to menstruate. The important factor influencing the puberty of girls was the degree of urbanization of the locality: in urban areas, girls began to menstruate earlier than in rural ones. Earlier menarche was noted in southern parts of Belarus.

FREKVENCIJA POREMEĆAJA SVODOVA STOPALA KOD UČENIKA/GA MLAĐEG ADOLESCENTNOG DOBA

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Istraživanje je realizovano na uzorku od 120 ispitanika oba pola sa ciljem da se dođe do informacija o učestalosti i strukturi poremećaja svodova stopala kod mlađih adolescenata, kao i razlika u odnosu na pol ispitanika. Predmetom istraživanja obuhvaćeni su učenici/ce osmog razreda osnovne škole, prosječne starosti 13,6 godina. Prema načinu izbora, uzorak je definisan slučajnim izborom sa teritorije Podgorice i Nikšića. Procjena statusa svodova stopala izvršena je metodom plantograma, dok je veličina indeksa poremećaja utvrđena na osnovu Čizinove metode. Rezultati istraživanja pokazali su da je status svodova stopala kod učenika u središnjem dijelu Crne Gore u znatnoj mjeri narušen. Najveći procenat poremećaja čine funkcionalne promjene, čiji je uzrok nastanka najčešće zamor i insuficijencija medijalne strane stopala i potkoljenice. Ako se pravovremeno ne pristupi korekciji funkcionalnog stanja, zapušteno stopalo vremenom može da progredira do konačnog deformiteta. Takođe, rezultati ukazuju da je frekvencija poremećaja svodova stopala danas značajno izraženija u odnosu na rezultate nekih sličnih istraživanja iz prethodnog perioda. Imajući u vidu frekvenciju i stepen poremećaja svodova stopala, neophodno je ukazati i na važnost stručno planiranog i kontinuiranog preventivno-korektivnog vježbanja, prvenstveno kroz nastavu fizičkog vaspitanja.

FREQUENCY OF FOOT ARCH DISORDERS IN YOUNG ADOLESCENT STUDENTS

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The research was carried out on a sample of 120 subjects of both sexes with the aim of obtaining information about the frequency and structure of foot arch disorders in younger adolescents, as well as the difference in relation to the sex of the subjects. The research included students of the eighth grade of elementary school, average age 13.6 years. According to the selection method, the sample was collected by random selection from the territory of Podgorica and Nikšić. The assessment of the status of the arches of the feet was carried out using the plantogram method, while the size of the disorder index was determined based on the Chizin method. The results of the research showed that the status of the arches of the feet among students in the central part of Montenegro was significantly impaired. The largest percentage of disorders are functional changes, the cause of which is usually fatigue and insufficiency of the medial side of the foot and lower leg. If the correction of the functional condition is not carried out in a timely manner, the neglected foot can progress to the final deformity over time. Also, the results indicate that the frequency of foot arch disorders is significantly higher today compared to the results of some similar studies from the previous period. Bearing in mind the frequency and degree of disorders of the arches of the feet, it is necessary to point out the importance of professionally planned and continuous preventive-corrective exercise, primarily through physical education classes.

FIZIČKI RAZVOJ STUDENTSKE OMLADINE U BELORUSIJI: SVETSKI TRENDovi I TRENUTNO STANJE

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Nivo somatskog razvoja mladih generacija bitan je pokazatelj blagostanja u zemlji, jer reflektuje uticaje različitih faktora. Materijal za studiju somatskog statusa mladih u Belorusiji na početku dvadesetog veka, služio je kao baza podataka kompleksnih antropoloških karakteristika studenata ispitivanih u dvehiljaditim godinama. Sve studije sprovedene su u skladu sa pravilima biotehnike. Ukupan broj ispitanih studenata bio je 818 (372 mladih muškaraca i 446 mladih žena). Prosečna starost muškaraca bila je 19.7 godina, žena 20.0 godina. Rezultati antropometrijskog istraživanja beloruskih studenata pokazali su da je prosečna visina savremenih mladih žena 166.0 cm, mladih muškaraca 178.6 cm, telesna težina 57.3 i 73.7 kg, obim grudnog koša 82.8 i 92.2 cm, BMI 20.8 i 23.1 kg/m², navedenim redosledom. Leptosomni tip sa slabije razvijenim mišićima i potkožnim masnim tkivom, prevladava kod beloruskih studentkinja, njegov procenat znatno je veći nego ($p < 0.01$) pre 40 godina. Nesklad u odnosu visine i težine zabeležen je kod više od četvrtine savremenih žena, što je rezultat nedostatka telesne mase. Mezomorfní tip prevladava kod studenata, sa razvijenim skeletom i dobro razvijenim mišićima. Međutim, učestalost mezomorfnog tipa značajno je opala ($p < 0.05$) u proteklih 40 godina, uglavnom zbog povećanog broja osoba sa povišenim masnim naslagama. Prema kriterijumu za procenu harmonije fizičkog razvoja, primećeno je da postoji tendencija za češćim disharmoničnim razvojem kod savremenog mladog čoveka.

PHYSICAL DEVELOPMENT OF BELARUSIAN STUDENT YOUTH: SECULAR TRENDS AND CURRENT STATE

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The level of somatic development of the young generation is an important indicator of the country's well-being, as it reflects the influence of various factors. Material for the study of the somatic status of the youth of Belarus at the beginning of the XXI century served as the database of the complex anthropological characteristics of students studied in the 2000s. All studies were carried out taking into account the rules of bioethics. The total number of examined students was 818 (372 young men and 446 young women). The average age of young men was 19.7 years, young women 20.0 years. The results of the anthropometric survey of Belarusian students showed that the mean body height of modern young women was 166.0 cm, young men 178.6 cm, body weight 57.3 and 73.7 kg, chest circumference 82.8 and 92.2 cm, BMI - 20.8 and 23.1 kg/m², respectively. Leptosomal body type with poor development of muscles and subcutaneous fat deposition prevails among modern Belarusian female students, its percentage is significantly higher ($p < 0.01$) than 40 years ago. The discrepancy in the height to weight ratio is observed in more than a quarter of modern females, which is mainly due to a lack of mass. Mesomorph body type prevails among modern male students, with a stronger development of the skeleton and well-developed muscles. However, the frequency of mesomorph body type has significantly decreased ($p < 0.05$) over the past 40 years, mainly due to the increase in individuals with increased fat deposition. According to most of the criteria used to assess the harmony of physical development, there is a tendency towards a greater occurrence of disharmonious development in modern young men.

HUMANA BIOLOGIJA
HUMAN BIOLOGY

OPTIMIZACIJA METODE IZUZIMANJA UZORAKA SA ČVOROVA PAKOVANJA DROGE

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Pregled dokaznog materijala i izuzimanje uzoraka su ključni koraci u forenzičkoj DNK analizi. Ipak su, preporuke za izuzimanje uzoraka, kada se ciljano prikuplja kontaktna DNK, štire ili nepostojeće, pri čemu se forenzičar tokom pregleda rukovodi odlukama u trenutku, koje se baziraju na okolnostima slučaja, ukoliko su poznate. U slučajevima ilegalnih droga, često se u laboratorijama pregledaju slični predmeti, pri čemu se gotovo tokom svakog pregleda uzorci izuzimaju sa istih površina, na određeni način, što otvara mogućnost za standardizaciju i tog dela procesa forenzičke analize. Aktuelnom studijom predstavljamo različite načine izuzimanja materijala sa čvorova plastičnih kesa, koji se često ispituju DNK analizom, i rezultujuću distribuciju biološkog materijala osobe koja je pakovala drogu (paker) i osobe koje je naknadno držala pakovanje u rukama (držalac). Optimizacija metode izuzimanja uzoraka imala je za cilj eliminaciju ili minimiziranu detekciju biološkog materijala držaoca u unutrašnjosti čvora, a detekciju u uzorku sa spoljašnje površine čvora. Optimizovanom metodom se, pored navedenog, obezbeđuje vidljivost pakera na spoljašnjoj i unutrašnjoj površini čvora.

Ključne reči: pakovanje droga, izuzimanje, DNK analiza.

OPTIMIZED METHOD TO COLLECT SAMPLES FROM KNOTS OF DRUG PACKAGES

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Evidence examination and sample collection are crucial for the subsequent forensic DNA analysis. Nevertheless, there are few or no guidelines on how samples should be collected from objects where we expect to find touch DNA, while an examiner is making ad hoc decisions based on the case circumstances, if known. However, in drug crime cases, similar objects are often examined, samples being collected from the same surfaces on each occasion, hence the opportunity for standardization of certain evidence type treatment. Here, we present how different sampling methods of the knots of plastic bags represent the distributions of biological materials of the person who packed the package (paker) and the person who held it afterwards (holder). We optimized the sample collection method to eliminate or minimize the holder's contribution in the sample collected from the inside surface of the knot, while preserving him / her in the sample from the exposed surface of the knot. The same method provides visibility of the paker in the sample from the inside of the knot, as well as in the sample from the exposed surface of the knot.

Keywords: drug packages; DNA collection; DNA profiling.

DISTRIBUCIJA RECESIVNOG ALELA U ODABRANIM KVALITATIVNIM KARAKTERISTIKAMA OPSERVIRANOG UZORKA RADNO SPOSOBNOG STANOVNIŠTVA

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Genetička struktura svake populacije može se objasniti prema učestalosti gena i njihovih alelnih varijanti. Cilj rada bio je analizirati genetičku heterogenost radno sposobnog stanovništva sa područja Kantona Sarajevo na osnovu klasičnih genetičkih markera. Proučavani parametri genetičke heterogenosti procijenjeni su relativnom učestalošću recesivnog alela za odabrana statička i dinamička morfološka svojstva. Rezultati t-testa pokazali su značajnu razliku u manifestaciji recesivnog homozigota za promatrane parametre kvalitativne varijacije u poduzorcima muškaraca i žena. Analizom cjelovitih rezultata pomoću fenotipskih genetičkih markera, uočeno je da nema razlike u genetičkoj strukturi muških i ženskih ispitanika, samo za dva svojstva (prirasla ušna resica i hiperekstenzibilnost distalnog zgloba palca). Odabrani uzorak predstavlja relativno genetički homogenu populaciju. Ova studija služi kao vrijedan izvor podataka za buduća istraživanja i formiranje genetičke baze podataka u Bosni i Hercegovini.

Gljučne reči: populacija; heterogenost; osobine.

DISTRIBUTION OF THE RECESSIVE ALLELE IN SELECTED QUALITATIVE CHARACTERISTICS OF SELECTED WORKING-AGE POPULATION SAMPLE

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The genetic structure of each population can be explained according to the frequency of genes and their allelic variants. Aim: To analyze the genetic heterogeneity of the working-age population from the area of Sarajevo Canton based on classical genetic markers. The studied parameters of genetic heterogeneity were assessed by the relative frequency of the recessive allele for selected static and dynamic morphological traits. Results and discussion: The results of the t-test showed a significant difference in the manifestation of the recessive homozygote for the observed parameters of qualitative variation in the subsamples of men and women. Based on the analysis of the complete results using phenotypic genetic markers, it was observed that there is no difference between the genetic structure of male and female subjects, only for two traits (attached earlobe and hyperextensibility of the distal knuckle of the thumb). The selected sample represent a relatively genetically homogenous population. Conclusion: This study serves as a valuable source of data for future research and the formation of a genetic database in Bosnia and Herzegovina.

Keywords: population; heterogeneity; traits

FAKTORI RIZIKA ZA NASTANAK KOLOREKTALNOG KARCINOMA

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Kolorektalni karcinom (KRK) drugi je najčešće dijagnostikovani karcinom i drugi najčešći uzrok smrti usled karcinoma u Srbiji. Faktori koji mogu povećati rizik za nastanak ovog karcinoma su mnogobrojni, stoga je cilj ovog rada bio ispitivanje povezanosti načina života i genetske predispozicije sa učestalošću nastanka KRK-a kod pacijenata u Južnoj i istočnoj Srbiji. Ispitano je 87 pacijenata sa metastatskim KRK-om upućenih na dijagnostiku u Laboratoriju za imunologiju i genetiku, Centra za medicinsku i kliničku biohemiju, Univerzitetskog kliničkog centra Niš. 36 pacijenata bilo je ženskog, a 51 muškog pola. Rezultati ovog istraživanja pokazali su da ni konzumacija cigareta ni alkohola nisu faktori rizika za nastanak KRK-a, dok je ishrana bogata crvenim mesom i mesnim prerađevinama značajno uticala na stopu razvoja metastatskog KRK-a, naročito kod muškaraca ($p < 0.01$). Najčešće pridružene bolesti ispitanika bile su hipertenzija (46,51%) i dijabetes (27,91%). Iako porodična istorija maligniteta nije prepoznata kao faktor rizika razvoja KRK-a, pogotovo kod žena ($p < 0.01$), primetili smo da je najčešći malignitet kod užih članova porodice ispitanika bio upravo KRK ($p < 0.01$).

Ključne reči: kolorektalni karcinom, endogeni faktori, egzogeni faktori.

Zahvalnica: Ovaj rad je finansiran od strane Ministarstva prosvete, nauke i tehnološkog razvoja Republike Srbije, Ugovor br. 451-03-47/2023-01/200124.

RISK FACTORS FOR THE COLORECTAL CANCER DEVELOPMENT

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Colorectal cancer (CRC) is the second most frequently diagnosed cancer and the second leading cause of cancer-related deaths in Serbia. There are many factors that may increase the risk of developing this cancer, and the aim of this study was to evaluate the possible correlation between lifestyle and genetic predisposition with the frequency of developing CRC in patients in Southern and Eastern Serbia. The survey included 87 CRC patients with developed metastases referred for diagnosis to the Laboratory for Immunology and Genetics, Centre for Medical and Clinical Biochemistry, University Clinical Center Niš. 36 of the patients were female and 51 were male. The results of the study showed that neither cigarette nor alcohol consumption were identified as risk factors for the development of CRC, while a diet high in red and processed meat products significantly increased the rate of development of CRC with distant metastases, especially in men ($p < 0.01$). The most common comorbidities were hypertension (46.51%) and diabetes (27.91%). Interestingly, although a family history of malignancy was not a recognized risk factor for the development of CRC, especially in female patients ($p < 0.01$), we found that in the group of patients in which some of the close family members had malignancy, the most frequent positive family history was CRC ($p < 0.01$).

Keywords: colorectal cancer; endogenous factors; exogenous factors.

Funding: This work was supported by the Ministry of Education, Science and Technological Development of the Republic of Serbia, Grant No. 451-03-47/2023-01/200124.

15 STR LOKUSI U MALOJ LOKALNOJ POPULCIJI IZ CENTRALNE BOSNE I HERCEGOVINE

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Genetička raznolikost i srodnost unutar male lokalne populacije u centralnoj Bosni i Hercegovini istraživana je na uzorku od 38 jedinki iz sela Vukotići. Uzorak je obuhvatio 21 muškarca i 17 žena. Odnos srodstva je procijenjen izračunavanjem omjera vjerovatnoće za svaki od 15 STR lokusa upotrebom Powerplex 16 kita i kod srodnika i kod nesrodnika. Rezultati su pokazali veću homogenost analiziranog genetičkog materijala malog lokalnog stanovništva u odnosu na genetički materijal uzorka dobijenog analizom veće mješovite populacije sa kojom je poređen analizirani uzorak. Utvrđeno je da je vjerovatnoća srodstva među analiziranim uzorcim bez obzira na sredinsku izolovanost u selu Vukotići niska. Mjere centralne tendencije i varijabilnosti otkrile su vrijedne uvide u distribuciju i varijaciju uzorka. Studija zaključuje da se $CSI=1$ i $CSI=3$ mogu koristiti kao pouzdani alati za određivanje srodstva u malim lokalnim populacijama bez upotrebe "sive zone" prethodno vrlo bitne kod razdvajanja srodnika od nesrodnika u velikim heterogenim populacijama.

Keywords: srodstvo, STR lokus, CSI

15 STR LOCI IN A SMALL LOCAL POPULATION FROM CENTRAL BOSNIA AND HERZEGOVINA

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Genetic diversity and relatedness within a small local population in central Bosnia and Herzegovina was analyzed on a sample of 38 individuals from the village of Vukotici. The sample comprised 21 men and 17 women. Consanguinity was assessed by calculating the likelihood ratio for each of the 15 STR loci using the PowerPlex 16 system in both consanguineous and non-consanguineous individuals. The results showed greater homogeneity of the analyzed genetic material of a small local population compared to the genetic material of a sample obtained by analyzing a larger mixed population with which the analyzed sample was compared. It was determined that the probability of sibship among the analyzed samples, regardless of environmental isolation in the village of Vukotici, is low. Measures of central tendency and variability revealed valuable insights into the distribution and variation of the sample. The study concludes that $CSI=1$ and $CSI=3$ can be used as reliable tools for determining sibship in a small local populations without using the "gray zone" previously very important when separating relatives from non-relatives in large heterogeneous populations.

Keywords: sibship, STR loci, CSI

INFERTILITET U SRBIJI

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U 2019. godini stopa fertiliteta u Republici Srbiji iznosila je 1,52 što je 28% ispod evropskog proseka od 1,6 po ženi. Infertilitet predstavlja jedan od ključnih uzroka smanjenja stope fertiliteta. Procenjuje se da je trenutna prevalencija infertiliteta 8-12% među ženama 20-44 godine. U Srbiji, svesnost o ovom rastućem fenomenu u ovom trenutku jedino je ostvarena kroz rezultate manjih kliničkih istraživanja ili zapažanja stručnjaka koji se bave infertilitetom. Retrospektivna analiza podataka sprovedena je u privatnom IVF centru sa ciljem da se ispita učestalost različitih uzroka infertiliteta kao i reproduktivni ishodi, kod žena podvrgnutih procesu asistiranog reprodukcije. Nasuprot trenutnim svetskim podacima koji ukazuju na jednaku zastupljenost muškog i ženskog uzroka infertiliteta, ova studija je pokazala da je u ovom slučaju glavni uzrok infertiliteta ženski faktor, koji je zatim praćen kombinovanim uzrokom, nepoznatim uzrokom i na kraju muškim faktorom. Infertilitet je postao globalni problem koji stoga mora biti pažljivo sagledan. Vlada Republike Srbije kroz Republički fond za zdravstveno osiguranje traga za efikasnim intervencijama i solucijama u tretiranju ovog problema, te je dublje razumevanje uzroka i rizika neophodno za rešavanje ove kompleksne materije.

Ključne reči: infertilitet, IVF, Srbija.

INFERTILITY IN SERBIA

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In 2019, the total fertility rate in the Republic of Serbia was 1,52 or 28% below the European average of 1,6 children per woman. Infertility is one of the crucial reasons for below-replacement fertility. The current prevalence of infertility lasting for at least 12 months is estimated to affect between 8-12% of women between the ages of 20 to 40 worldwide. In Serbia awareness about this increasing phenomenon could only be achieved through small-scale clinical studies or interviews with infertility experts. Retrospective research was conducted at a private IVF center with the aim of investigating the prevalence of different causes of infertility and reproductive outcome among women undergone IVF treatment. In contrast to the current worldwide data which implicate an equal proportions of female and male causes of infertility, this study showed that female factor is the main cause of infertility, followed by combined male and female reasons, unexplained cause of infertility and then male cause individually. Infertility has become a global problem and thus it should be considered carefully. Serbian government made efforts to find effective interventions and solutions through the National Health Insurance Fund, but further understanding of the causes and risks is necessary in solving this complex issue.

Keywords: Infertility; IVF, Serbia

DINAMIKA LOŠE ISHRANE LJUDI KOJI PRIPADAJU RAZLIČITIM KASTAMA IZ SELA SULTANPUR U HARAJANI: REALNOST ISHRANE KOJA SE MENJA

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Ova studija sprovedena je na ljudima koji pripadaju različitim kastama i žive u selu Sultanpur u oblasti Karnal, Harajana, Indija i koji prolaze kroz proces tranzicije životnog stila. Izvršena je procena antropometričkog i metaboličkog statusa: visina, indeks telesne mase, obim struka, krvni pritisak (sistolni i dijastolni). Prilikom uzimanja mera praćene su standardne procedure i korišćene kalibrisane mašine. U studiji je učestvovalo 325 muškaraca i 425 žena starosti od 18 do 60 godina. Raspon visine bio je od 140.2 cm do 187.5 cm (muškarci) i od 114.7 cm do 177.0 cm (žene). U studiji je zabeleženo 32.34% neuhranjenih, 40.86% normalno uhranjenih i 20.63 % gojaznih osoba nezavisno od pola. Što se tiče sistolnog pritiska, povišen pritisak zabeležen je češće kod muškaraca (55.9%) nego žena, dok je pred hipertenzija prisutnija kod žena (55.0%). Kada je u pitanju dijastolni pritisak, više je muškaraca sa hipertenzijom (54.7%) dok je kod većeg broja žena (70.6%) zabeležen normalan pritisak. Očigledno je da ova populacija pati od umerene neuhranjenosti i povećanog broja gojaznih osoba. Potrebno je sprovesti dalje studije koje bi obuhvatile i muškarce i žene i koje bi se fokusirale na probleme koegzistencije između neuhranjenosti i gojaznosti.

Ključne reči: kaste, neuhranjenost, gojaznost, Sultanpur, harajana.

DYNAMICS OF MALNUTRITION AMONG PEOPLE OF DIFFERENT CASTES OF SULTANPUR VILLAGE OF HARYANA, INDIA: THE CHANGING NUTRITION REALITY

Koel Mukherjee

Anthropological survey of India, North East Regional Centre

This study was conducted on the people of different castes of Sultanpur village of Karnal district, Haryana, India under the life-style transition. Anthropometric and metabolic markers included in the study were height, body mass index (BMI), waist circumference (WC), blood pressure (systolic and diastolic). The measurements were taken following standard procedure and calibrated machines. The sample comprised 325 men and 425 women 18 to 60 years of age. The height range was 140.2 cm to 187.5 cm (males) and 114.7 cm to 177.0 cm (females). 32.34% of undernourished, 40.86% of normal and 20.63 % of overweight individuals were reported irrespective of gender. In case of systolic blood pressure, hypertension was more common in males (55.9%) than females, pre-hypertension was more common in females (55.0%) than males. In respect to diastolic blood pressure, more males were hypertensive (54.7%) whereas a greater number of females (70.6%) was within the normal range. Apparently, this population seems to suffer from moderate undernourishment and emerging obesity. Further, community based studies (both men and women) should also be undertaken in this geographical area to focus on problems associated with the coexistence of undernutrition and obesity.

Keywords: caste; undernutrition; overweight; Sultanpur; Haryana.

EFEKAT ETARSKOG ULJA LIMETE (CITRUS AURANTIFOLIA(CHRISM.) SWINGLE) NA HUMANE IZOLATE RODA CANDIDA

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Biljke su se od davnina koristile u tradicionalnoj medicini za lečenje različitih bolesti. Sa pojavom multirezistencije na već poznate lekove koji se upotrebljavaju u terapiji kandidoza, istraživači sve više sprovode istraživanja o efektima sekundarnih biljnih metabolita. U ovom radu ispitivana je antifungalna aktivnost etarskog ulja limete (*Citrus aurantifolia* (Christm.) Swingle) metodom mikrodilucije, kao i efekat na smanjenje rasta humanih izolata kandida tokom vremena („time-kill assay“). Dobijeni rezultati su pokazali dobar antimikrobni potencijal ulja na testirane izolate kandida, gde su se minimalne inhibitivne koncentracije (MIK) kretale u rasponu od 0,156 do 10,0 mg/ml. Kinetika krive rasta pokazala je značajno manji porast dejstvom MIK-a od MIK/2 koncentracije testiranog ulja. Etarsko ulje limete pokazalo je najjači efekat na izolate vrste *C. krusei* (br.13 i 15), a najslabiji efekat zabeležen je kod izolata vrste *C. albicans* (br.9). Na osnovu dobijenih rezultata moglo bi se reći da je ispitivano etarsko ulje dobar inhibitor rasta izolata iz roda *Candida* i da se daljim istraživanjima može ispitati da li ulje limete može biti dobra zamena ili dodatak antifungalnoj terapiji za lečenje različitih vrsta kandidoza.

Ključne reči: *Candida albicans*; *Candida krusei*; limeta; antimikrobna aktivnost; etarska ulja

Zahvalnica: Ovo istraživanje podržalo je Ministarstvo nauke, tehnološkog razvoja i inovacija Republike Srbije (Ugovor br. 451-03-47/2023-01/ 200124).

EFFECT OF THE CITRUS AURANTIFOLIA ESSENTIAL OIL AGAINST HUMAN ISOLATES OF THE GENUS CANDIDA

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Plants have been used in traditional medicine for the treatment of various diseases since ancient times. With the emergence of multi-resistance to already known drugs used in the treatment of candidiasis, scientists are increasingly conducting research on the effects of secondary plant metabolites. In this paper, the antifungal activity of lime essential oil was investigated using the microdilution method, as well as the effect on reducing the growth of human candida isolates over time. The results showed the medium potential of oil on the isolates of the candida, where minimal inhibitory values ranged from 0.156 to 10.0 mg/ml. The time-lapse kinetics showed a significantly smaller increase under the effect of MIC (minimal inhibitory concentration) than the MIC of half the concentration of the tested oil. The essential oil showed the strongest effect on the growth of isolates of *C. krusei* (No. 13 and 15), whereas the weakest effect of the essential oil was recorded in the case of isolate of *C. albicans* (No. 9). Based on the obtained results, it can be concluded that the tested essential oil is a good inhibitor of the growth of *Candida* yeast and that further research can lead to the conclusion that the essential oil can be a good substitute or be used as an addition to antifungal therapy for the treatment of various types of candidiasis.

Keywords: *Candida albicans*; *Candida krusei*; lime, antimicrobial effect; essential oil.

Acknowledgements: The work was supported by the Ministry of Education, Science and Technological Development of Serbia (contact number:451-03-47/2023-01/ 200124).

EFEKAT SELEKTOVANIH BILJNIH VRSTA IZ RODA CITRUS NA HUMANE IZOLATE RODA CANDIDA: ANTIMIKROBNI I SINERGISTIČKI POTENCIJAL

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U ovom radu ispitivan je efekat etarskih ulja Citrus limon (L.) Burm. f., Citrus aurantium (L.), Citrus aurantifolia (Christm.) Swingle i Citrus paradisi Macf. na sojeve humanih vaginalnih i cervikalnih izolata vrste Candida albicans i Candida krusei. Antimikrobna aktivnost testiranih ulja ispitivana je određivanjem minimalne inhibitorne koncentracije (MIK) metodom mikrodilucije. Metodom „šahovnice“ korišćena su dva ulja koja su pokazala najbolji antimikrobni efekat i ispitivano je sinergističko dejstvo navedenih ulja međusobno, kao i u kombinaciji sa nistatinom. Etarsko ulje pomorandže (Citrus aurantium) pokazalo je najznačajniju inhibitornu aktivnost u opsegu od 0,009 do 0,156 mg/ml za C. albicans, i 0,039 do 0,156 mg/ml za C. krusei. Utvrđeno je da ispitivana ulja pokazuju sinergistički i aditivni efekat, odnosno, da ni u kom slučaju ne deluju antagonistički. Svi navedeni rezultati ukazuju na veoma visok potencijal ulja da se koristi kao pomoćno sredstvo za kontrolu infekcija kandidom kod ljudi.

Cljučne reči: Candida albicans, Candida krusei, citrusi, antimikrobni efekat, etarska ulja.

Zahvalnica: Ovo istraživanje podržalo je Ministarstvo nauke, tehnološkog razvoja i inovacija Republike Srbije (Ugovor br. 451-03-47/2023-01/ 200124).

EFFECT OF THE SELECTED SPECIES OF GENUS CITRUS ON THE HUMAN ISOLATES OF THE GENUS CANDIDA: ANTIMICROBIAL AND SYNERGISTIC POTENTIAL

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The aim of this paper was to investigate the effect of the essential oils of Citrus Limon(L.) Burm. f., Citrus aurantium(L.), Citrus aurantifolia(Christm.) Swingle, and Citrus paradisi Macf. on the strains of human vaginal and cervical isolates of the yeast Candida albicans and Candida krusei. The antimicrobial activity of essential oils was tested by determining the minimum inhibitory concentration (MIC) using the microdilution method. The checkerboard method was used to estimate the synergistic effect of two types of oil that showed the best antimicrobial effect, as well as the effect they produced in combination with nystatin. Citrus aurantium oil showed the most significant inhibitory activity in the range of 0.0097- 0.156 mg/ml for C. albicans and 0.039-0.156 mg/ml for C. krusei. It was established that the oils showed a synergistic and additive effect, in other words, they did not act antagonistically in any case. All mentioned results point to a very high potential of the oil to be used as an adjuvant agent to control human Candida infections.

Keywords: Candida albicans, Candida krusei, citrus, antimicrobial effect, essential oil

Acknowledgements: The Ministry of Education, Science and Technological Development of Serbia supported the work (contact number:451-03-47/2023-01/ 200124).

ETNOBOTANIČKA STUDIJA: UPOTREBA BILJNE KOZMETIKE U NEZI KOŽE I KOSE MEĐU SREDOVEČNOM POPULACIJOM

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Mnoge biljne vrste imaju širok spektar primena u nezi kože, kose, i to u slučaju kada se koriste samostalno ili u kombinaciji sa drugim biljnim vrstama, ali i u obliku biljne kozmetike. U današnje vreme, biljna kozmetika ima sve veću primenu pružajući zdravije i ekološki prihvatljivije opcije za negu i očuvanje lepote. Cilj ovog istraživanja bio je da se ispita koje biljne vrste se koriste u svrhu nege kože i kose, odnosno da se istraži zastupljenost upotrebe biljne kozmetike među sredovečnom populacijom. Anketirana su 92 ispitanika oba pola, starosti od 20 do 31 godine. Registrovano je 468 izjava. Rezultati pokazuju da među sredovečnom populacijom 69,57% ispitanika koristi biljnu kozmetiku. Od ukupnog broja ispitanika ženskog pola, 81,82% upotrebljava biljnu kozmetiku, dok među ispitanicima muškog pola taj udeo iznosi 38,46%. Prijavljena je upotreba 25 biljnih vrsta po kategorijama za negu kože lica, tela i kose. Najveći broj biljaka pomenut je za negu kose (43,04%), zatim za negu kože lica (30,84%) i negu tela (23,98%). Najčešće pomenute vrste su: Aloe vera (L.) Burm.f. (16,49%), Cocos nucifera L. (13,70%), Urtica dioica L. (8,57%), Calendula officinalis L. (7,49%), Cucumis sativus L. (6,64%), Matricaria chamomilla L. (6,64) i Ricinus communis L. (5,57%). Za negu kože lica najčešće pomenute vrste su: Aloe vera (L.) Burm.f. i Cocos nucifera L., za negu tela: Cocos nucifera L., Calendula officinalis L. i Aloe vera (L.) Burm.f., za negu kose: Urtica dioica L. i Cocos nucifera L. Pomenute biljne vrste se najčešće primenjuju u formi etarskih ulja.

Ključne reči: biljna kozmetika, nega kože, nega kose, biljne vrste, mlada populacija.

ETHNOBOTANICAL STUDY: THE USE OF HERBAL COSMETICS IN SKIN AND HAIR CARE AMONG THE MIDDLE-AGED POPULATION

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Various plant species have a wide range of applications in skin and hair care, whether we use them individually or in combination with other plant species, as well as in the form of herbal cosmetics. Nowadays, herbal cosmetics are increasingly used, providing healthier and more environmentally friendly options for beauty care and preservation. The aim of this research was to investigate which plant species are used for skin and hair care and to determine the prevalence of herbal cosmetic usage among the middle-ages population. A total of 92 respondents, 20 to 31 years of age, were surveyed. The results showed that 69.57% of the respondents use herbal cosmetics. Out of the total number of female respondents, 81.82% use herbal cosmetics, while among male respondents 38.46%. Twenty-five plant species were reported by category for facial skin care, body care, and hair care. The most frequently mentioned species are Aloe vera (L.) Burm.f. (16.49%), Cocos nucifera L. (13.70%), Urtica dioica L. (8.57%), Calendula officinalis L. (7.49%), Cucumis sativus L. (6.64%), Matricaria chamomilla L. (6.64%), and Ricinus communis L. (5.57%). The commonly mentioned species for facial skin care were Aloe vera (L.) Burm. f. and Cocos nucifera L.; for body care, Cocos nucifera L., Calendula officinalis L., and Aloe vera (L.) Burm. f.; and for hair care, Urtica dioica L. and Cocos nucifera L. The previously mentioned plant species are the most frequently used in the form of essential oils.

Keywords: herbal cosmetics; skin care; hair care; plant species; young population.

UPOTREBA DIVLJEG VOĆA, ČAJNIH BILJAKA I SAMONIKLOG JESTIVOG BILJA U PIROTSKOM OKRUGU (JUGOISTOČNA SRBIJA)

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Anketirano je seosko stanovništvo (633 osoba) Pirotskog okruga o korišćenju divljeg voća, čajnih biljaka i samoniklog jestivog bilja u 144 sela. Registrovano je ukupno 7212 izjava. Prijavljeno je 26 vrsta divljeg voća (2225 izjava), a najčešće korišćene vrste su *Pyrus pyraeaster* (L.) Burgsd. (14,8%) i *Malus sylvestris* (L.) Mill. (14,2%). Evidentirano je 49 čajnih vrsta (1609 izjava), gde su *Mentha piperita* L. (16,4%) i *Matricaria chamomilla* L. (15,3%) najčešće korišćene vrste. Za variva se upotrebljava 11 vrsta (1163 izjava), najčešće *Urtica dioica* L. (50,3%) i *Rumex patientia* L. (47,8%). Za začine se koriste 33 vrste (585 izjava) od kojih su najčešće *Thymus* spp. (30,4%) i *Mentha piperita* L. (21,3%). Za salate se upotrebljavaju 23 vrste (503 izjava), najčešće *Taraxacum officinale* (L.) Weber ex F.H.Wigg (46,5%) i *Allium ursinum* L. (38,5%). Za zamenu crnog i belog luka (449 izjava) koriste se *Allium ursinum* L. (96,3%) i *Allium schoenoprasum* L. (3,7%). Za izvor masnoća služi 7 vrsta, najčešće seme *Coryllus avellana* L. (57,6%) i *Juglans regia* L. (32,2%). Kao zamena za kafu koristi se 17 vrsta (314 izjava), a najčešće su *Cicer arietinum* L. (28,5%) i *Secale cereale* L. (18,6%). Kao hlebne biljke (177 izjava) koristi se 15 vrsta, najčešće *Helianthus tuberosus* L. (43,5%) i *Carlina acaulis* L. (24,8%). Sirup (39 izjava) se dobija iz 9 vrsta, uglavnom zasecanjem kore drveta *Acer platanoides* L. (38,4%) i *Betula pendula* Roth (33,3%). Pomenuti resursi, koji se koriste tradicionalno u Pirotskom okrugu, dobijaju na značaju u današnjem društvu zahvaljujući sadržaju hranljivih materija koje unapređuju zdravlje.

Cljučne reči: Pirotski okrug, divlje voće, čajne biljke, samoniklo jestivo bilje.

THE USE OF WILD FRUIT, TEA PLANTS AND WILD EDIBLE PLANTS IN THE PIROT DISTRICT (SOUTHEASTERN SERBIA)

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The rural population of 144 villages (633 respondents) in Pirot District was surveyed regarding the utilization of wild fruits, tea, and wild edible plants. Altogether, 7212 statements are registered. Twenty-six wild fruit species were reported (2225 reports), and the most frequently used species were *Pyrus pyraeaster* (L.) Burgsd. (14.8%) and *Malus sylvestris* (L.) Mill. (14.2%). There were 49 tea plants recorded (1609 reports), where *Mentha piperita* L. (16.4%) and *Matricaria chamomilla* L. (15.3%) were the most commonly used. For stews, 11 species were used (1163 reports), and the most common were *Urtica dioica* L. (50.3%) and *Rumex patientia* L. (47.8%). Thirty-three spice species were reported (585 reports), of which *Thymus* spp. (30.4%) and *Mentha piperita* L. (21.3%) were the most frequently used. For salads, 23 species were used (503 reports), and the most regular was *Taraxacum officinale* (L.) Weber ex F.H.Wigg (46.5%) and *Allium ursinum* L. (38.5%). For onion and garlic replacements, *Allium ursinum* L. (96.3%) and *Allium schoenoprasum* L. (3.7%) were used (449 reports). Seven species serve as the fat source, the most used being the seeds of *Coryllus avellana* L. (57.6%) and *Juglans regia* L. (32.2%). As a coffee substitute, 17 species were used (314 reports), and the most common were *Cicer arietinum* L. (28.5%) and *Secale cereale* L. (18.6%). As bread plants, 15 species (177 reports), prevailing *Helianthus tuberosus* L. (43.5%) and *Carlina acaulis* L. (24.8%), were used. Syrup (39 reports) was obtained from 9 species, most often by cutting the bark of *Acer platanoides* L. (38.4%) and *Betula pendula* Roth (33.3%). The mentioned resources consumed traditionally in Pirot District can gain relevance today, thanks to the health-promoting nutrient content.

Keywords: Pirot District; wild fruit; tea plants; wild edible plants.

KOMPARACIJA DVE METODE UZORKOVANJA I EKSTRAKCIJE DNK IZ KRVI I BUKALNE SLUZNICE

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Na osnovu jedinstvenog, nespornog DNK profila, koji se najčeće utvrđuje iz uzoraka krvi ili bukalne sluznice, forenzički genetičari mogu da osumnjičenog ili oštećenog povežu sa mestom zločina. Da bi utvrđeni nesporni profili bili adekvatni, neophodno je izabrati optimalnu metodu ekstrakcije DNK, koja omogućuje dalju analizu i laboratorijsku obradu izolovanog uzorka. Cena, vreme i tehnički zahtevi su neki od uslova koje treba imati u vidu prilikom odabira optimalne metode za ekstrakciju DNK. U skorašnje vreme, dostupni su mnogi komercijalni kompleti hemikalija za uzorkovanje i ekstrakciju DNK iz krvi i bukalne sluznice. Najčešći način za prikupljanje uzoraka bukalne sluznice i krvi je upotrebom briseva i FTA kartica. Metode ekstrakcije bazirane su na primeni silikatnih membrana, helirajućih agenasa, magnetnih kuglica i paramagnetskih čestica. Efikasna obrada uzoraka i direktan PCR (Promega), preskačući standardnu ekstrakciju, omogućeni su primenom SwabSolution kompleta hemikalija. U ovoj studiji upoređivana je standardna metoda ekstrakcije sa progresivnijom metodom, upotrebom SwabSolution-a. Standardna metoda ekstrakcije bazirana je na silikanoj membrani, dok su uzorci krvi i bukalne sluznice formirani korišćenjem briseva. Druga grupa uzoraka je formirana brisanjem standardnih briseva mini brisevima, nakon čega je usledila direktna amplifikacija, preskačući kvantifikaciju.

Cljučne reči: direktan PCR; ekstrakcija DNK; mini brisevi.

COMPARISON OF TWO DNA SAMPLING AND EXTRACTION METHODS, FROM WHOLE BLOOD AND BUCCAL SAMPLES

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Obtaining single/unique DNA profile from whole blood samples or buccal swabs is one of the most frequent ways for forensic experts to establish or refute a link between a suspect, victim and a crime scene. Choosing an optimal extraction method is necessary in order to obtain adequate quality and quantity of DNA for downstream laboratory methods, applications and successful DNA analyses. Cost and time efficiency, technical requirements are some of the parameters that should be considered in the interest of finding optimal DNA extraction method. Lately, many commercially available kits have been made for collecting and extracting DNA from buccal cells and whole blood. Conventional methods for sampling blood and buccal cells are flocked swabs together with the FTA cards. Extraction kits are usually based on silica membranes, chelating resin, paramagnetic resin or magnetic beads. In addition, the SwabSolution Kits which allow fast and simple processing of swabs have been made, skipping the standard DNA extraction, followed by direct PCR. In this study, DNAs from buccal swabs and whole blood samples have been collected with flocked swabs, extracted using method based on silica membrane, and compared to SwabSolution Kit (Promega), followed by quantification, direct PCR and electrophoresis. New approach has also been tested, using mini swabs for sampling standard flocked swabs succeeded by extraction with SwabSolution (Promega), followed by direct amplification, without previous quantification.

Keywords: direct PCR; DNA extraction; mini swabs.

POVEZANOST GODINA MENARHE SA OPŠTOM I ABDOMINALNOM GOJAZNOŠĆU KOD MLADIH ŽENA

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Godine pojave menarhe povezane su sa različitim biološkim i socioekonomskim faktorima tokom detinjstva. Cilj istraživanja bio je da se ispita povezanost između godina menarhe i opšte i abdominalne gojaznosti kod mladih žena. Transferzalno antropometrijsko ispitivanje obuhvatilo je 102 žene starosti 21-25 godina. Izmerena je visina tela, masa tela, obim struka (OS) i obim kukova (OK). Opšta gojaznost je procenjena pomoću indeksa telesne mase (ITM), a abdominalna pomoću OS, odnosa obima struka i kukova (WHR) i odnosa obima struka i visine tela (WHtR). Uzeti su podaci o menarhi status quo metodom. Prosečna starosti ispitanica je $22,51 \pm 0,76$ godina. Prosečna vrednost ITM iznosila je $22,67 \pm 3,59$ kg/m². Pothranjenih je bilo 8,8%, normalno uhranjenih 70,6%, prekomerno uhranjenih 15,7% i gojaznih 4,9%. Abdominalno gojaznih bilo je ocenjenih preko OS 20,6%, WHR 6,9% i WHtR 14,7%. Prosečno vreme pojave menarhe je $12,79 \pm 1,49$, a medijana $12,62 \pm 0,15$ godina. Godine menarhe su u značajno negativnoj korelaciji sa OS ($r = -0,321$; $p = 0,003$), OK ($r = -0,283$; $p = 0,010$), ITM ($r = -0,233$; $p = 0,029$) i WHtR ($r = -0,308$; $p = 0,005$). Rana menarha povezana je sa ITM ≥ 25 kg/m² kod 34,6% ispitanica, OS > 80 cm kod 42,3%, WHR $> 0,85$ kod 15,4% i WHtR $\geq 0,5$ kod 26,9%. Godine menarhe su u negativnoj korelaciji sa opštom i abdominalnom gojaznošću. Ispitanice koje su ranije dobile menarhu imaju statistički značajno veće vrednosti ITM, OS i WHtR.

Ključne reči: godine menarhe, opšta gojaznost, abdominalna gojaznost, mlade žene.

ASSOCIATION BETWEEN THE AGE AT MENARCHE AND GENERAL AND ABDOMINAL OBESITY IN YOUNG WOMEN

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Age at menarche is related to various biological and socio-economic factors in childhood. The aim of the study was to examine the association between the age at menarche and general and abdominal obesity in young women. Material and method: A transversal anthropometric survey was conducted with 102 females from 21 to 25 years of age. The surveyed traits included height, weight, waist circumference (WC) and hip circumference (HC). General obesity was assessed using the body mass index (BMI), and abdominal obesity by WC, waist to hip ratio (WHR) and waist to height ratio (WHtR). Status quo method was used for collecting data age at menarche data. Results: The mean age of participants was $22,51 \pm 0,76$ years and the mean BMI was $22,67 \pm 3,59$ kg/m². Out of the total number of participants, 8.8% were underweight, 70.6% were with normal weight, 15.7% were overweight and 4.9% were obese. Abdominal obesity in relation to WC, WHR and WHtR was recorded in 20.6%, 6.9% and 14.7% cases, respectively. The average age at menarche was $12,79 \pm 1,49$, and the median was $12,62 \pm 0,15$ years. Age at menarche was in significantly negative correlation with WC ($r = -0,321$; $p = 0,003$), HC ($r = -0,283$; $p = 0,010$), BMI ($r = -0,233$; $p = 0,029$) and WHtR ($r = -0,308$; $p = 0,005$). Early menarche was associated with BMI ≥ 25 kg/m² in 34.6% of females, WC > 80 cm in 42.3% of cases, and WHR $> 0,85$ and WHtR $\geq 0,5$ in 15.4% and 26.9% of participants, respectively. Conclusion: Age at menarche is negatively associated with general and abdominal obesity. The participants with younger age at menarche have higher BMI, WC and WHtR values.

Keywords: age at menarche; general obesity; abdominal obesity; young women.

FETALNE HROMOZOMSKE ABERACIJE OD DIJAGNOSTIKE DO PREVENCIJE

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Kongenitalne anomalije uzrok su prenatalne smrti u 20-25% slučajeva, dok se 3% dece rodi sa nekom malformacijom. Mnoge od njih mogu biti otkrivene pre rođenja primenom neinvazivnih i invazivnih metoda prenatalne dijagnostike. Cilj ovog rada je utvrđivanje distribucije genopatija u odnosu na godine starosti trudnica, učestalost aberacija i ispitivanje važnosti prenatalne dijagnostike na području Istočne i Južne Srbije. Prenatalna dijagnostika rađena je u Laboratoriji za imunologiju i genetiku, Centra za medicinsku i kliničku biohemiju, Univerzitetskog Kliničkog centra Niš. Ovom retrospektivnom studijom obuhvaćeno je 9000 trudnica, starosti od 19 do 46 godina u periodu od 2005. do 2018. godine. Amniocenteza je rađena između 16. i 18. nedelje trudnoće i uključivala je aspiraciju 20 ml amniotske tečnosti. Izdvojene ćelije kultivisane su u medijumu koji stimuliše rast ćelija u trajanju od 10 do 12 dana. Nakon citogenetske obrade dobijeni kariotip analiziran je primenom tehnike G-traka. U uzorku od 9000 plodovih voda utvrđeno je prisustvo 212 aberantnih kariotipova -184 sa numeričkim i 28 sa strukturnim aberacijama, uglavnom translokacije i inverzije. Najčešća autozomalna numerička aberacija a bila je trizomija 21 (109 slučajeva). Najveći broj autozomalnih numeričkih aberacija (83,5%) uočen je kod trudnica starijih od 32 godine. Preventivno delovanje i mogućnost da se prenatalna dijagnostika učini dostupnom svakom pojedincu može dovesti do značajnog smanjenja rađanja dece sa različitim malformacijama.

Ključne reči: prenatalna dijagnostika, amniocenteza, hromozomske aberacije.

FETAL CHROMOSOMAL ABERRATIONS FROM DIAGNOSIS TO PREVENTION

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Congenital anomalies are the cause of prenatal death in 20-25% of the cases, while 3% of children are born with some malformation. Many of these anomalies can be detected before birth using different non-invasive and invasive methods of prenatal diagnostics. The aim of this study was to determine the distribution of genetic disorders in relation to the age of the mother, the frequency of aberrations and to investigate the effects and importance of prenatal diagnosis in Eastern and South Serbia. Prenatal diagnostic testing was performed at the Laboratory for Immunology and Genetics, Centre for Medical and Clinical Biochemistry, University Clinical Center Niš. This retrospective study included a group of 9000 pregnant women, between the ages of 19 and 46 during the period from 2005 to 2018. Amniocentesis was performed between the 16th and 18th week of pregnancy and involved the aspiration of 20 ml of amniotic fluid. Isolated cells were cultured in a medium that stimulates cell growth for 10 to 12 days. After cytogenetic processing, the obtained karyotype was analyzed using G-banding techniques. In 9000 samples of amniotic fluid, 212 karyotypes with chromosomal aberrations were found -184 with numerical aberrations and 28 with structural aberrations, usually translocations and inversions. The most frequent autosomal numerical aberration was trisomy 21 (109 cases). The highest number of autosomal numerical aberrations, 83, 5%, was found in pregnancies where maternal age was above 32 years. Preventive action, advice, education and availability of prenatal diagnosis can lead to a significant reduction in the number of children born with various malformations.

Keywords: prenatal diagnostics, amniocentesis, chromosomal aberration.

NEKE MORFOLOŠKE KARAKTERISTIKE I TJELESNA KOMPOZICIJA ADOLESCENATA U PODGORICI

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Svjetska zdravstvena organizacija definiše adolescenciju kao razdoblje između 10. i 19. godine. Početak adolescencije karakteriše se naglim rastom i razvojem koji utiču na fiziološke i psihosocijalne aspekte zdravlja. Stoga je ispitivanje tjelesne kompozicije u doba adolescencije, izazov i motivacija za sve vrste antropoloških istraživanja. Cilj rada bio je na osnovu određenih antropoloških parametara utvrditi karakteristike tjelesnog statusa adolescenata. U istraživanju je učestvovalo ukupno 326 ispitanika uzrasta od 15 do 18 godina iz Podgorice. Mjereni su im sledeći antropometrijski parametri: tjelesna visina, tjelesna masa, obim struka, kao i kožni nabor nad tricepsom i subskapularni kožni nabor. U uzorku dječaka uočena je pozitivna i statistički značajna korelacija između indeksa tjelesne mase sa jedne strane i obima struka i kožnih nabora sa druge strane, kao i između obima struka i kožnih nabora. U uzorku djevojčica uočena je pozitivna i statistički značajna korelacija između indeksa tjelesne mase sa jedne strane i obima struka i kožnih nabora sa druge strane, između obima struka i kožnih nabora, kao i između kožnog nabora nad tricepsom i subskapularnog kožnog nabora. U svim uzrasnim kategorijama dječaci su imali veće vrijednosti obima struka i odnosa subskapularnog i kožnog nabora nad tricepsom, kao i odnosa subskapularnog i zbira subskapularnog i kožnog nabora nad tricepsom. U svim uzrasnim kategorijama djevojčice su imale veće vrijednosti debljine kožnih nabora u odnosu na dječake.

Gljučne riječi: adolescent; antropometrijski parametri; kožni nabori.

SOME MORPHOLOGICAL CHARACTERISTICS AND BODY COMPOSITION OF ADOLESCENTS IN PODGORICA

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The World Health Organization defines adolescence as the period between the ages of 10 and 19. The onset of adolescence is characterized by rapid growth and development that affect physiological and psychosocial aspects of health. Therefore, examining body composition during adolescence is a challenge and a motivation for all kinds of anthropological research. The aim of the work was to determine the characteristics of the physical status of adolescents based on certain anthropological parameters. A total of 326 respondents aged 15 to 18 from Podgorica participated in the research. The following anthropometric parameters were measured: body height, body mass, waist circumference, as well as skinfold over the triceps and subscapular skinfold. In the sample of boys, a positive and statistically significant correlation was observed between body mass index on the one hand and waist circumference and skin folds on the other hand, as well as between waist circumference and skin folds. In the sample of girls, a positive and statistically significant correlation was observed between body mass index on the one hand and waist circumference and skinfolds on the other, between waist circumference and skinfolds, as well as between the triceps skinfold and the subscapular skinfold. In all age categories, boys had higher values of waist circumference and the ratio of the subscapular and skinfold over the triceps, as well as the ratio of the subscapular and the sum of the subscapular and skinfold over the triceps. In all age categories, girls had higher skinfold thickness values compared to boys

Keywords: adolescents; anthropometric parameters; skin folds.

ŽIVOT SA DIJABETESOM U DOBA KOVID-19

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Pandemija COVID-19 promenila je živote milijardi ljudi, posebno onih s hroničnim bolestima poput dijabetesa. Cilj ovog istraživanja bio je procena uticaja pandemije na fizičko i mentalno zdravlje dijabetičara koji žive na Balkanu. Ispitivanje je vršeno anketiranjem putem interneta, u aprilu 2023. godine. U ispitivanju je učestvovalo 129 osoba. Njih 76 imalo je dijagnostikovano tip 1, a 53 tip 2 dijabetes. 6,97% svih ispitanika imalo je bliskog člana porodice koji je preminuo od posledica infekcije SARS-CoV-2, a čak 77,78% tih smrtnih slučajeva imalo je dijabetes i/ili kardiovaskularne bolesti. Većina ispitanika takođe je bila zaražena SARS-CoV-2 virusom. Većini ispitanika dijabetes je dijagnostikovano pre infekcije, a dijabetes uzrokovan SARS-CoV-2 uglavnom je bio tipa 2. Iako su redovno uzimali propisanu farmakoterapiju i dodatke prehrani, polovina ispitanika imala je povišen nivo šećera u krvi, dok je nivo D-dimera bio povišen uglavnom kod dijabetičara tipa 2. Takođe, hospitalizacija u akutnoj fazi bila je češća kod dijabetičara tipa 2. Većina dijabetičara patila je od poremećaja spavanja ($p < 0,01$), a dijabetičari tipa 2 takođe su patili i od noćnih mora ($p < 0,05$). Shodno tome, upotreba anksiolitika i antidepresiva bila je češća kod ljudi sa tipom 2 dijabetesa. Oporavak je bio znatno brži kod dijabetičara tipa 1, zbog manjeg broja pratećih bolesti poput hipertenzije, kardiovaskularnih bolesti i bolesti jetre, koje su bile češće kod pacijenata sa tip 2 dijabetesom.

Cljučne reči: COVID-19, dijabetes, sekundarne komplikacije dijabetesa, farmakoterapija, suplementi.

Zahvalnica: Ovaj rad je finansiran od strane Ministarstva prosvete, nauke i tehnološkog razvoja Republike Srbije, Ugovor br. 451-03-47/2023-01/200124.

LIFE WITH DIABETES IN THE COVID-19 ERA

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The outbreak of the COVID-19 pandemic has changed the lives of billions of people, especially those with chronic diseases such as diabetes. The aim of this study was to evaluate the impact of the pandemic on the physical and mental health of diabetics living in the Balkans. The study was conducted as an online survey in April 2023. 129 people participated in the survey. 76 of them were diagnosed with type 1 and 53 with type 2 diabetes. 6.97% of all the respondents had a close family member who died from the consequences of SARS-CoV-2 infection, and as many as 77.78% of these decedents suffered from diabetes and/or cardiovascular disease. The majority of the respondents were also infected with SARS-CoV-2. Most of them were diagnosed with diabetes before infection, and SARS-CoV-2-induced diabetes was mainly type 2. Although they regularly took prescribed pharmacotherapy and nutritional supplements, blood glucose was elevated in half of them, while D-dimer levels were elevated mainly in type 2 diabetics. In addition, hospitalization during the acute phase was more frequent in type 2 diabetic patients. Most diabetics suffered from sleep disorders ($p < 0.01$), and type 2 diabetics suffered from nightmares ($p < 0.05$). Consequently, the use of anxiolytics and antidepressants was more frequent in type 2 diabetic patients. Recovery was significantly faster in type 1 diabetics, due to less comorbidities such as hypertension, cardiovascular and liver diseases, which were more common in type 2 patients.

Keywords: COVID-19; diabetes; secondary diabetic complications; pharmacotherapy; supplements.

Funding: This work was supported by the Ministry of Education, Science and Technological Development of the Republic of Serbia, Grant No. 451-03-47/2023-01/200124.

**BIOMEDICINSKA I FORENZIČKA
ANTROPOLOGIJA
BIOMEDICAL AND FORENSIC
ANTHROPOLOGY**

MIGRACIJA, ZDRAVLJE I KULTURA: POVEZIVANJE TAČKA PLEMENA RABARI U INDIJI

Abhishikta Ghosh Roy

Antropološko istraživanje Indije

Migracija i zdravlje postepeno postaju globalni zdravstveni prioritet. Ciljevi održivog razvoja (COR) identifikuju migraciju kao katalizator i pokretač održivog razvoja. Pogled na zdravstvenu perspektivu u istraživanju migracije često privlači našu pažnju na načine na koji su povezani različiti tipovi migracije. Nomadski narodi Indije povremeno se suočavaju sa ozbiljnim reproduktivnim poteškoćama koje se odražavaju na celokupni zdravstveni sistem Indije. Rabari iz Gudžarata i Radžastana cele godine putuju sa svojom porodicom i stokom, što se odražava na njihovo zdravlje. Žene iz plemena Rabari imaju neredovne menstrualne cikluse, a mnoge se suočavaju sa problemima steriliteta, međutim, nisu sigurne na koga da svale odgovornost neplodnosti. Kod žena se menarha javlja veoma kasno. Zabeleženi su česti slučajevi rane menopauze. Ciklus im traje maksimalno 2-3 dana, a one su srećne zbog ređe menstruacije jer im predstavlja teret prilikom seljenja. Često su im neredovni ciklusi, ali one ne smatraju da je to razlog za brigu dok su u pokretu, takođe često zaboravljaju datume ciklusa i smatraju se blagoslovenim zbog njihovog manjeg broja. Za njih menstrualni ciklus predstavlja teret. Reproductivno zdravlje cele populacije predstavlja razlog za zabrinutost. Smanjenjem populacije opada tradicionalni sistem znanja, stoga antropolozi imaju zadatak da osmisle metode za kontrolu tog tereta i da smanje faktore koji utiču na njega.

Ključne reči: migracija; zdravlje; nomadi; Rabari;

HEALTH AND CULTURE: CONNECTING THE DOTS OF THE RABARIS OF INDIA

Abhishikta Ghosh Roy

Anthropological Survey of India

Migration and health are increasingly recognized as a global public health priority. The Sustainable Development Goals (SDGs) identify migration as both a catalyst and a driver for sustainable development. Looking at migration from the perspective of health often calls our attention to the ways in which the types of migration are interconnected. The nomadic population of India at times faces severe reproductive health problems that reflect the overall health of India. The Rabari people of Gujrat and Rajasthan, travel all year round along with their families and livestock, which has a negative effect on their health. Rabari women experience menstrual irregularities and many have reported infertility issues. However, they are not sure on whom to put the onus of Menarche occurring later in the lives of the Rabari women, there are also reports of early menopause. They reported a maximum 2-3 days of menstrual flow, though they are happy with the light period as it imposes a burden on them while moving from one place to another. They often have irregular menstrual cycles and do not take it as a matter of concern as they opined that while in motion, they often forget their menstrual dates and feel blessed to miss their periods. They take menstrual periods as a burden. The reproductive kinetics of the overall population offers a subject of concern for the overall population. With the decline of population the traditional knowledge system also declines, thus anthropologists are needed to devise methods to control such burdens and minimize the factors affecting population growth.

Keywords: Migration; Health; Nomadic; Rabari.

PREVENTIVNI STOMATOLOŠKI PREGLEDI KAO DEO ZDRAVSTVENE KULTURE STANOVNIŠTVA JUGOISTOČNE SRBIJE

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Preventivni pregledi uz način života predstavljaju osnov zdravlja. Razvoj savremene medicine ide u pravcu lečenja bolesti, i svet je svakodnevno impresioniran savremenim dostignućima poput mogućnosti transplantacije, ponovnog povezivanja odvojenog ekstremiteta ili promene pola. To u senku baca preventivu zbog lažnog ubeđenja ljudi da je savremena medicina gotovo svemoćna. Značaj preventivnih pregleda nije dovoljno ugraviran u kolektivnu svest savremenih ljudi. Razlozi izbegavanja preventivnih pregleda jesu: strah od lekara, od ishoda pregleda, i socioekonomski status, ali i izgovori pacijenata poput nedostatka vremena, nemogućnosti zakazivanja, udaljenosti zdravstvene ustanove itd. Ginekologija i stomatologija su najneomiljenije grane medicine među pacijentima kada su u pitanju preventivni pregledi, pa se stomatološki pacijenti pojavljuju tek sa komplikacijama, kada su potrebni opsežniji i skuplji tretmani. Cilj istraživanja bio je da se utvrdi procenat pacijenata koji dolazi na preventivne preglede na Kliniku za dentalnu medicinu Niš. U istraživanju je učestvovalo 200 pacijenata Službe za bolesti zuba i endodonciju Klinike za dentalnu medicinu u Nišu koji nisu imali zakazan tretman, a nakon uzete anamneze i urađenog statusa podaci su statistički obrađeni. Istraživanje je pokazalo - glavni razlog dolaska, nije preventivni pregled, već bol (oko 40 %), zatim dolazak zbog ispalog ispuna ili zbog preprotetske ili prehirurške pripreme, dok na preventivne preglede dolazi 28 % pacijenata, a na redovne preventivne preglede 4% pacijenata. Zaključeno je da nedovoljan broj pacijenata ima naviku preventivnih stomatoloških pregleda. Zbog toga je zadatak stomatološkog tima da utiče na pacijente da uvide da je zdravstvena kultura mnogo više od uspešnog lečenja i da preventivni pregledi čine njen osnov.

Ključne reči: preventivni pregledi; zdravstvena kultura; bol.

PREVENTIVE DENTAL EXAMINATIONS AS PART OF THE HEALTH CULTURE OF THE POPULATION OF SOUTHEASTERN SERBIA

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Preventive examinations along with a healthy lifestyle are the basis of health. The development of modern medicine goes in the direction of curing diseases, and the world is daily impressed by modern achievements such as the transplantation, reattachment of a detached limb or the change of sex. It casts a shadow over prevention due to people's false conviction that modern medicine is perfect. The importance of preventive examinations is not sufficiently engraved in the collective consciousness of modern people. The reasons for avoiding preventive examinations are: fear of the doctor or the outcome of the examination, and socioeconomic status, but also patient excuses such as no time, impossibility of scheduling, distance from the health facility, etc. Gynecology and dentistry are the least favourite branches of medicine among patients when it comes to preventive examinations, so dental patients only appear with complications, when more extensive and expensive treatments are needed. The goal of the research was to determine the percentage of patients who come for preventive examinations at the Clinic of Dental Medicine in Niš. The sample comprised 200 patients of the Department of Dental Diseases and Endodontics of the Clinic of Dental Medicine in Niš who did not have scheduled treatment. After the anamnesis and health status assessment the obtained data were statistically processed. The research showed - the main reason for coming is not preventive examination but pain (about 40%), coming due to a filling falling out or pre-prosthetic preparation, while 28% of the patients come for preventive examinations, and 4% of the patients come for regular preventive examinations. It was concluded that an insufficient number of patients have the habit of preventive dental examinations. Therefore, it is the task of the dental team to influence patients to see that health culture is much more than a successful treatment and that preventive examinations form its basis.

Keywords: preventive examinations; health culture; the pain.

KOMPARATIVNA ANALIZA PREVALENCIJE KARIJESA PRVOG STALNOG MOLARA I PRVOG PREMOLARA GODINU DANA NAKON NJIHOVOG NICANJA

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Karijes spada u jedno od najučestalijih oboljenja današnjice koje se javlja još u dečjem uzrastu. Cilj rada bio je da se upoređi prevalencija karijesa prvog stalnog molara i prvog premolara godinu dana nakon njihovog nicanja. Ispitivanjem je obuhvaćeno 150 dece (75 devojčica i 75 dečaka) približno jednake polne zastupljenosti. Svim ispitanicima urađen je stomatološki sistematski pregled uz pomoć ogledala i sonde pri veštačkom osvetljenju. Stanje zdravlja zuba registrovano je Klein Palmerovim – KEP sistemom (KIP (karijes indeks prosek), KIO (karijes indeks osoba), KIZ (karijes indeks zuba) i struktura KEP-a). Nakon analize i statističke obrade podataka, utvrđeno je da je struktura KEP-a prvog stalnog molara nepovoljna. Takođe je u ovom istraživanju dobijena i statistički značajna razlika vrednosti KIP, KIO, KIZ prvog stalnog molara u odnosu na prvi premolar. Na osnovu dobijenih rezultata može se zaključiti da je prevalencija karijesa prvog stalnog molara veća u odnosu na prevalenciju karijesa prvog premolara, godinu dana nakon nicanja. U cilju očuvanja integriteta, bioloških i funkcionalnih karakteristika ovih izuzetno važnih zuba, neophodno je preduzeti sve dostupne preventivno profilaktičke mere kako bi se izbegla pojava karijesa na ovim zubima.

Cljučne reči: prevalencija karijesa; prvi premolar; prvi stalni molar.

COMPARATIVE ANALYSIS OF CARIES PREVALENCE OF THE FIRST PERMANENT MOLAR AND THE FIRST PREMOLAR ONE YEAR AFTER THEIR COMING THROUGH

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Caries is one of the most common diseases today, which occurs even in childhood. The aim of this paper was to compare caries prevalence of the first permanent molar and the first premolar one year after their coming through. The sample comprised 150 children (75 girls and 75 boys). The participant underwent a dental examination with the mirror and a probe under the artificial light. Their dental status was registered via Klein Palmer's DMF system (ACI (average caries index), PCI (caries index of a person), TCI (teeth caries index) and the structure of DMF). Statistical data analysis showed that the DMF structure of the first molar was unfavorable. Furthermore, we have observed that there was a statistically significant difference in the values of ACI, PCI and TCI of the first permanent molar in comparison with the first premolar. Based on the received data it can be concluded that the caries prevalence of the first permanent molar is higher in comparison with the caries prevalence of the first premolar one year after their coming through. In order to preserve the integrity, biological and functional characteristics of these very important teeth it is necessary to take all the available preventive measures to avoid caries.

Keywords: caries prevalence; the first premolar; the first permanent molar.

MERENJE VELIČINE INTERDENTALNOG GINGIVALNOG TKIVA KOD PACIJENATA SA ZDRAVIM PARODONTOM

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Interdentalna papila (IP), koja zauzima interdentalni prostor, ne samo da deluje kao barijera u zaštiti parodontalnih struktura, već igra i ključnu ulogu u estetsici lica. Cilj rada bio je merenje dimenzija gingivalnog tkiva iznad vrha interdentalnog septuma kod osoba sa zdravim parodontom. U ovoj studiji 30 studenata stomatologije sa klinički zdravim parodontijumom pregledano je sulkularnim sondiranjem, od gingivalne ivice do vrha alveolarnog grebena, pomoću UNC-15 sonde, na maksilarnim i mandibularnim sekutićima, očnjacima, premolarima i prvim molarima jednostrano. Nije otkrivena statistička razlika ($p>0,05$) u poređenju srednjih merenja interdentalnog gingivalnog tkiva (IGT) kod muškaraca i žena u maksilarnom i mandibularnom luku. Međutim, poređenje srednjeg IGT pojedinih tipova zuba u maksilarnom i mandibularnom luku pokazalo je značajnu razliku sa $p>0,001$. Postoji značajna razlika u dimenzijama IGT u različitim zubima u istom luku, dok muška i ženska populacija nisu pokazale statističku razliku u merenju IGT. Maksilarne i mandibularne IGT dimenzije bile su manje za centralne sekutiće u odnosu na ostale zube u luku koji su mereni, što ukazuje na činjenicu da se rastojanje gingivalnog tkiva od vrha interdentalnog septum povećava prema premolarima i molarima kod osoba sa zdravim parodontom.

Ključne reči: interdentalna gingiva; dimenzije; merenje; zdrav parodont.

MEASUREMENT OF THE SIZE OF INTERDENTAL GINGIVAL TISSUE IN PATIENTS WITH HEALTHY PERIODONTIUM

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The interdental papilla (IP), which occupies the interdental space, not only acts as a barrier to protect periodontal structures, but also plays a key role in facial aesthetics. The aim of the study was to measure the dimensions of the gingival tissue above the tip of the interdental ridge in persons with healthy periodontium. In this study, 30 dental students with clinically healthy periodontium were examined by sulcular probing, from the gingival margin to the top of the alveolar ridge, using a UNC-15 probe, on maxillary and mandibular incisors, canines, premolars and first molars unilaterally. No statistical difference ($p>0.05$) was detected when mean measurements of interdental gingival tissue (IGT) in the maxillary and mandibular arches of men and women were compared. However, the comparison of the mean IGT of certain types of teeth in the maxillary and mandibular arches showed a significant difference with $p>0.001$. There is a significant difference in IGT dimensions in different teeth of the same arch, while male and female population did not show a statistical difference in IGT measurement. Maxillary and mandibular IGT dimensions were smaller for the central incisors compared to the other teeth in the arch that were measured, which indicates the fact that the distance of the gingival tissue from the top of the interdental ridge increases towards the premolars and molars in individuals with a healthy periodontium.

Keywords: interdental gingiva; dimensions; measurement; healthy periodontium.

KEFALOMETRIJSKE KARAKTERISTIKE PACIJENATA SA IMPAKCIJOM MAKSILARNIH OČNJAKA

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Posle trećih molara, maksilarni stalni očnjaci nalaze se među najčešće impaktiranim zubima sa prevalencom do preko 3% među pripadnicima bele rase. Postoji veliki broj teorija koji se bavi etiologijom ektopičnih i impaktiranih očnjaka (teorija vođenja, genetska teorija, raspoloživi prostor u gornjoj vilici). Cilj ovog istraživanja je da se analizom profilnih snimaka bliže odrede kefalometrijske karakteristike pacijenta sa impakcijom očnjaka u gornjoj vilici. Ovom studijom analizirane su sagitalne, vertikalne i linearne komponente profilnih telerendgen snimaka 53 ispitanika sa potvrđenom dijagnozom impakcije maksilarnog očnjaka. Rezultati su analizirani i opisani metodom deskriptivne statistike. Rezultati ovog istraživanja pokazuju da je najmanji procent ispitanika sa karakteristikama skeletne III klase (10%), dok je približno jednak procent ispitanika sa skeletnom I (44%) i II (46%) klasom. Maksilarni i mandibularni normognatizam najčešće je zastupljen. Analizom FMA ugla 46% ispitanika je sa normalnim obrascem rasta, dok je kod 10% uočen vertikalni tip rasta. Dužina korpusa maksile kod ispitanika sa impakcijom očnjaka je u proseku 1,6mm kraća. Kod pacijenta sa impakcijom maksilarnog očnjaka najčešće je zastupljena II klasa, normalni obrazac tipa rasta i kraći korpus gornje vilice.

Ključne reči: impakcija očnjaka; kefalometrija; skeletne karakteristike.

CEPHALOMETRIC FEATURES IN PATIENTS WITH MAXILLARY CANINE IMPACTION

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After third molars, maxillary permanent canines are the second most frequently impacted tooth with the prevalence from 0.8 to over 3.0 percent among Caucasians. There are many theories about the ectopic eruption and impaction of the maxillary canines (guiding theory, genetic theory, spatial conditions in the upper jaw etc.) The aim of this study was to analyze cephalometric characteristics of patients with maxillary canine impaction. Pre-treatment lateral cephalograms of fifty-three subjects with maxillary canine impaction were retrospectively selected and analyzed. Sagittal, vertical and linear cephalometric variables were measured (SNA, SNB, FMA, maxillary body length). Results were analyzed and summarized by descriptive statistics. The results of this study show that the percentage of patients with skeletal Class III (10%) was the lowest, while the percentage of patients with skeletal Class I (44%) and skeletal Class II (46%) was pretty similar. Maxillary(49%) and mandibular(56%) normognathism was most common. Analysis of FMA angle showed a normal growth pattern in 46%, while vertical growth was present in 14% of patients. Maxillary body length was approximately 1,6mm shorter in patients with canine impactions. Patients affected with maxillary canine impactions had skeletal Class II, normal growth pattern and shorter maxillary body length.

Keywords: canine impaction; cephalometry; skeletal features.

EMPATIJA STUDENATA MEDICINE PRVE I DRUGE GODINE STUDIJA

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Procena stepena empatije budućih lekara najvažniji je deo medicinskog obrazovanja. Dobro poznato sredstvo za merenje empatije je Toronto upitnik o empatiji (TEQ). Cilj ove studije bio je da proceni nivo empatije studenata medicine u prvoj i drugoj godini na Medicinskom fakultetu u Skoplju koristeći TEQ. Ova online studija sprovedena je oktobra 2022. godine kod studenata prve i druge godine na Medicinskom fakultetu u Skoplju. Koristili samo anonimni online upitnik za samoprocenu preko Google Forms-a. Jedan deo upitnika odnosio se na društveno – demografske podatke, godinu studija i pol. Drugi deo uključio je Toronto upitnik o empatiji (TEQ). Postojala je podudarnost u odgovorima studenata na 16 pitanja TEQ-a (Cronbach's Alfa = 0.55). Ukupan rezultat varirao je u intervalu (35.42±5.80; ±95.00CI:34.79-36.05). Ukupni nivo empatije bio je beznačajno veći kod studentkinja nego li kod studenata; $Z = -0,35$ и $p > 0,05$ ($p = 0,072$), a ukupni rezultat empatije kod studenata druge godine bio je znatno veći nego li kod studenata prve godine; $Z = -5,17$ и $p < 0,05$ ($p = 0,000$). Razumevanje i procena nivoa empatije studenata medicine tokom studiranja bitan je faktor u medicinskom obrazovanju.

Кljučне речи: empatija; Toronto upitnik o empatiji; student medicine.

EMPHATY AMONG FIRST AND SECOND YEAR MEDICAL STUDENTS

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Evaluating the empathy level of future physicians is of paramount importance for illuminating this subject in medical education. The well-known tool for measuring empathy is Toronto Empathy Questionnaire (TEQ). The aim of this study was to evaluate the level of empathy of medical students in the first and second year of medical training at the Medical Faculty in Skopje using the TEQ. This cross-sectional descriptive study was conducted during October 2022, as an online survey among first- and second-year medical students at the Faculty of Medicine in Skopje. An anonymous online self-report questionnaire, distributed via Google Forms was used. One section of questionnaire pertained to the socio-demographics data, year of study and gender. The second section included the Toronto Empathy Questionnaire (TEQ). There was a moderately strong consistency among the answers of the students to the 16 questions of the TEQ (Cronbach's Alpha = 0.55). The value of the total score varied in the interval 35.42±5.80; ±95.00CI:34.79-36.05). The total score for empathy among female students was insignificantly higher than among male students; $Z = -0.35$ and $p > 0.05$ ($p = 0.072$), and the total score for empathy among second-year students was significantly higher than among first-year students; $Z = -5.17$ and $p < 0.05$ ($p = 0.000$). Understanding and assessing the level of empathy of medical students during medical education is an important issue addressed during medical training.

Key words: empathy; Toronto Empathy Questionnaire; medical students.

INSTAGRAME, POKAŽI ZUBE!

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Čovek je po prirodi vizuelno biće, jer pored izrečene reči ili pročitano teksta, ono što vizuelno usvoji ostaje mu dugo u pamćenju. Vizuelni sadržaji, poput pećinskih slika, zadivljuju ljude još od kamenog doba. Instagram predstavlja društvenu mrežu, namenjenu za obradu i deljenje vizuelnih sadržaja, poput fotografija i video snimaka. Brojna istraživanja ukazuju na veliku popularnost ove društvene mreže, posebno među mlađim korisnicima. Velika popularnost Instagram-a, iskorišćena je od strane brojnih privatnih stomatoloških ordinacija u cilju promocije njihovog rada i iznošenja korisnih informacija i saveta iz oblasti stomatologije. Cilj ovog rada bio je da se ispita stavovi korisnika Instagram-a prema određenim karakteristikama Instagram profila stomatološke ordinacije. U istraživanju je ispitano 349 korisnika Instagram-a (starosti od 18 do 56 godina) u online anketi pomoći petostepene Likertove skale. Na Instagram profilima stomatoloških ordinacija našim ispitanicima najvažniji je bio broj pozitivnih komentara korisnika, a najmanje važan broj poznatih ličnosti, koje reklamiraju strancu. Žene su pridavale više važnosti Instagram objavama, koje podižu svest o oralnom zdravlju, kao i diplomama i priznanjima doktora koji rade u ordinaciji, u odnosu na muškarace. Cenovnici ordinacije, dostupni na Instagram profilima, takođe su važniji ženama nego muškarcama.

Cljučne reči: Instagram; dentalni marketing; dentalna fotografija; stomatološke ordinacije.

INSTAGRAM, SHOW YOUR TEETH!

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Humans are visual beings by nature, because in addition to spoken words or read text, what they visually perceive stays in their memory for a long time. Visual content, such as cave paintings, has been captivating to humans since the Stone Age. Instagram is a social network designed for processing and sharing visual content, such as photos and videos. Numerous studies suggest the popularity of this social network, especially among younger users. The popularity of Instagram has been utilized by numerous private dental clinics in order to promote their work and provide useful information and advice in the field of dentistry. The aim of this study was to investigate the attitudes of Instagram users towards certain characteristics of a dental clinic's Instagram profile. The study included 349 Instagram users (aged 18 to 56) in an online survey using a five-point Likert scale. The number of positive user comments on dental clinic Instagram profiles was most important to our respondents, while the number of celebrities advertising the clinic was least important. Women placed more importance on Instagram posts that raise awareness about oral health, as well as on the diplomas and awards of the doctors working in the clinic, compared to men. The prices of clinic services, available on Instagram profiles, were also more important to women than to men.

Keywords: Instagram; dental marketing; dental photography; dental clinics.

NUTRITIVNI STATUS MAKEDONSKIH ADOLESCENATA I ODNOS PREMA NIVOU OBRAZOVANJA I STATUSU ZAPOSLENOSTI NJIHOVIH RODITELJA

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Cilj ovog istraživanja bio je da se proceni stanje uhranjenosti makedonskih adolescenata i odnos sa stepenom obrazovanja i statusom zaposlenosti njihovih roditelja. U ovu studiju uključeno je 1207 učenika adolescenata (616 muškaraca i 591 žena) uzrasta od 11 do 14 godina. Merili smo težinu i visinu koristeći standardne procedure dok je izračunat indeks telesne mase i ove vrednosti su korišćene za procenu statusa uhranjenosti. Ispitanici popunjavaju upitnik podacima o obrazovanju i zaposlenju roditelja. Utvrdili smo značajnu razliku između učenika muškog pola koji su bili sa gojaznošću i rizikom od gojaznosti, i to tako da su sa visokim procentom učenici sa zaposlenom majkom, za razliku od studenata sa nezaposlenom majkom. Prema stepenu obrazovanja oca, značajna je razlika u grupi pothranjenih žena pri čemu je veći procenat pothranjenih kod oca sa nižim obrazovanjem, osnovnom školom, a samo 1,4% bilo je pothranjenih sa ocem sa fakultetskim obrazovanjem. Naši podaci sugerišu da su nivo obrazovanja roditelja i status zaposlenosti u vezi sa stanjem uhranjenosti makedonskih adolescenata.

Cljučnereči: adolescent; pothranjenost; nutritivna antropometrija; gojaznost.

NUTRITIONAL STATUS OF MACEDONIAN ADOLESCENTS AND ITS RELATION TO THE LEVEL OF EDUCATION AND EMPLOYMENT STATUS OF THEIR PARENTS

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The aim of this study was to evaluate the nutritional status in Macedonian adolescents and its relation to the level of education and employment status of their parents. The sample comprised 1207 adolescent students (616 males and 591 females) between the ages of 11 and 14. Height and weight were measured using standard procedures and body mass index was calculated. These values were used to assess nutritional status. The examinees filled the questionnaire providing data about parents' education and employment status. We found that a high percentage of male students with employed mothers was at greater risk of obesity and overweight in comparison to the male students with unemployed mothers. According to the level of education of fathers, it was observed that greater number of underweight females had a father with lower education in comparison to females with a father with university education, which was only 1,4 %. Our data suggest that there is a correlation between parental level of education, employment status and nutritional status of Macedonian adolescents.

Keywords: adolescent; underweight; nutritional anthropometry; obesity.

KARAKTERISTIKE ŠAKE SHIZOFRENIH BOLESNIKA

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U skladu sa neurorazvojnom teorijom razvoja shizofrenije, šaka je, posle kraniofacijalnih struktura, mesto na kom se najčešće uočavaju minor malformacije udružene sa shizofrenijom. Cilj rada bio je da se ispita učestalost minor malformacija šake kod shizofrenih pacijenata, kao i eventualna povezanost shizofrenije sa specifičnom cerebralnom lateralizacijom. Ispitivana je grupa od 126 bolesnika oba pola sa dijagnostikovanom shizofrenijom, dok su kontrolnu grupu činila 124 zdrava ispitanika oba pola. Merene su dužine drugog i četvrtog prsta obe šake i izračunat je njihov odnos (2D:4D). Procenjena je gestualna lateralizacija i evidentirano je prisustvo sledećih minor malformacija: klinodaktilija petog prsta, linija četiri prsta i hiperkonveksni nokti. Među shizofrenim bolesnicima oba pola, uočena je češća pojava ambidekstrije (16,6 vs. 2,2%, $p<0,01$), hiperkonveksnih noktiju (37,5 vs. 0%, $p<0,01$) i klinodaktilije petog prsta (16,8 vs. 1,6%, $p<0,01$). Žene obolele od shizofrenije imale su statistički značajno niže vrednosti 2D:4D indeksa na desnoj šaci u poređenju sa kontrolnom grupom (0,981+/-0,043 vs. 1,002+/-0,040, $p<0,01$). Dobijeni rezultati podržavaju neurorazvojnu teoriju shizofrenije i ukazuju na mogućnost primene morfoloških i funkcionalnih karakteristika šake kao prediktora ovog oboljenja.

Ključne reči: shizofrenija; minor malformacije; šaka; odnos dužine drugog i četvrtog prsta.

HAND CHARACTERISTICS IN SCHIZOPHRENIA

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In line with the neurodevelopmental theory of schizophrenia, next to the craniofacial structures, hand is the region with highest frequency of minor physical malformations associated with schizophrenia. The aim of this study was to analyze the frequency of minor physical malformations of the hand in schizophrenic patients, as well as to analyze association of schizophrenia with specific cerebral lateralization. Study group consisted of 126 schizophrenic patients of both genders, while the control group consisted of 124 healthy subjects of both genders. Lengths of second and fourth fingers were measured on both hands and their ratio (2D:4D) was calculated, gestual lateralization was assessed and the presence of the following minor malformations was determined: curved fifth finger, single transverse palmar crease and hyperconvex fingernails. Schizophrenic patients had more often mixed-handedness (16,6 vs. 2,2%, $p<0,01$), hyperconvex fingernails (37,5 vs. 0%, $p<0,01$) and curved fifth finger (16,8 vs. 1,6%, $p<0,01$). Females with schizophrenia had statistically lower values of 2D:4D on the right hand compared to the control group (0,981+/-0,043 vs. 1,002+/-0,040, $p<0,01$). Our results support the neurodevelopmental theory of schizophrenia. Morphological and functional characteristics of the hand could be useful in prediction of schizophrenia.

Keywords: Schizophrenia; Minor malformations; Hand; 2D:4D ratio

PARODONTALNO ZDRAVLJE KOD ORTODONTSKIH PACIJENATA SA FIKSNIM APARATIMA

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Fiksni ortodontski tretman obezbeđuje pomeranje zuba radi ispravljanja dentalne malokluzije putem aparata, kao što su ortodontske trake i bravice, pričvršćene za površinu zuba, lukovi, ligature i pomoćni materijali. Fiksni ortodontski aparati često komplikuju procedure oralne higijene i olakšavaju akumulaciju biofilma i na zubima i na površini aparata. Cilj rada je da se proceni parodontalno zdravlje izraženo kliničkim indeksima kod pacijenata na ortodontskom lečenju fiksnim aparatima, prema različitim programima održavanja oralne higijene. U ovom istraživanju učestvovalo je 30 pacijenata sa fiksnim ortodontskim aparatima podeljenih u tri studijske grupe: grupa A-pacijenti su upućeni da koriste električnu četkicu, konac za zube i interdentalnu četkicu; grupa B-električnu četkicu, interdentalnu četkicu i fluorid i grupu C-ručno četkanje i fluorid. Od kliničkih parodontalnih indeksa praćeni su: indeks plaka (PI), gingivalni indeks (GI) i indeks krvarenja (IK). Statistička analiza sprovedena je korišćenjem Studentovog t testa. Rezultati su pokazali statistički značajne razlike vrednosti ispitivanih indeksa u sve tri grupe pacijenata između početnih i konačnih vrednosti. Fiksni ortodontski aparati ne izazivaju parodontopatiju ako se poštuju osnovni principi oralne higijene kod pacijenata koji su pravilno obučeni u načinu održavanja oralne higijene za vreme nošenja fiksnih aparata.

Ključne reči: parodontalni indeksi, parodontalno zdravlje, fiksni ortodontski aparati, gingivitis.

PERIODONTAL HEALTH IN ORTHODONTIC PATIENTS WITH FIXED APPLIANCES

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Fixed orthodontic treatment provides tooth movement to correct dental malocclusion through appliances, such as orthodontic bands and brackets, attached to the tooth surface, arches, ligatures and auxiliary materials. Fixed orthodontic appliances often complicate oral hygiene procedures and facilitate the accumulation of biofilm both on the teeth and on the surface of the appliance. The aim of the paper is to evaluate the periodontal health expressed by clinical indices in patients undergoing orthodontic treatment with fixed appliances, according to different oral hygiene maintenance programs. 30 patients with fixed orthodontic appliances participated in this study, divided into three study groups: group A - patients were instructed to use an electric brush, water floss and interdental brush, group B - electric brush, interdental brush and fluoride and group C - manual brushing and fluoride. The following clinical periodontal indices were monitored: plaque index (PI), gingival index (GI) and bleeding index (IK). Statistical analysis was performed using Student's t test. The results showed statistically significant differences in the values of the examined indices in all three groups of patients between the initial and final values. Fixed orthodontic appliances do not cause periodontitis if the basic principles of oral hygiene are applied in patients who are properly trained how to maintain oral hygiene while wearing fixed appliances.

Keywords: periodontal indices, periodontal health, fixed orthodontic appliances, gingivitis

ZNAČAJ MERENJA PRIMARNE STABILNOSTI NA OSEOINTEGRACIJU IMPLANTATA POSLE RAZLIČITIH TEHNIKA UGRADNJE U KOST MALE GUSTINE

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Primarna stabilnost postiže se prilikom postavljanja implantata u kost. Najčešće se rutinski meri određivanjem otpora obrtnog momenta "Insertion torque". Zavisí od kvaliteta i gustine kosti, ali i od načina ugradnje implantata, što u predelu kosti male gustine može predstavljati problem u smislu loše ili nedovoljne oseointegracije. Cilj rada bio je proceniti uspešnost oseointegracije implantata na osnovu postignute primarne stabilnosti posle standardne i kondenzacione tehnike ugradnje u kost male gustine. U predeo tubera maksile postavljeno je ukupno 76 implantata. Prva polovina (38) ugrađena je u mašinski formirana ležišta. Druga polovina (38) ugrađena je u ležišta formirana kondenzacijom kosti. Primarna stabilnost merena je otporom obrtnog momenta neposredno posle ugradnje. Nakon šest meseci registrovana je uspešnost intervencije u smislu oseointegracije ili gubitka implantata. Registrovana je veća primarna stabilnost implantata ugrađenih kondenzacijom kosti, što je statistički značajno više od vrednosti primarne stabilnosti implantata ugrađenih mašinski. Pri tom je implantacija bila uspešna u 92,1% (kondenzacija kosti), naspram 81,6% (mašinska ugradnja). Veća primarna stabilnost implantata, ugrađenih u kost male gustine, tehnikom kondenzacije kosti, ide u prilog njihovoj boljoj oseointegraciji.

Ključne reči: implantacija; primarna stabilnost; merenja; meka kost; tehnika ugradnje.

THE SIGNIFICANCE OF PRIMARY STABILITY MEASURING ON OSSEOINTEGRATION OF IMPLANTS AFTER DIFFERENT TECHNIQUES OF IMPLEMENTATION IN LOW DENSITY BONE

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Primary stability is achieved during the placement of the implant in the bone. Most often, it is routinely measured by determining the resistance of the torque "Insertion torque". It depends on the quality and density of the bone, but also on the method of installing the implant, which in the area of bone with low density can be a problem in terms of poor or insufficient osseointegration. To assess the success of implant osseointegration based on the achieved primary stability after the standard and condensation technique of embedding in low-density bone. A total of 76 implants were placed in the region of the tuber of the maxilla. The first half (38) is installed in machine-formed bearings. The other half (38) is embedded in beds formed by bone condensation. Primary stability was measured by torque resistance immediately after installation. After six months, the success of the intervention was registered in terms of osseointegration or implant loss. Higher primary stability of implants inserted by bone condensation was registered, which is statistically significantly higher than the value of primary stability of implants inserted mechanically. Implantation was successful in 92.1% (bone condensation), versus 81.6% (machine implantation). Greater primary stability of implants, embedded in low-density bone, using the bone condensation technique, contributes to their better osseointegration.

Keywords: implantation; primary stability; measurements; soft bone; implant technique.

UTICAJ PUŠENJA NA STATUS PARODONTALNOG ZDRAVLJA MOLARA KOD PACIJENATA SA HRONIČNOM PARODONTOPATIJOM

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Opšte je prihvaćeno da je glavni uzrok parodontopatije dentalni plak, međutim, postoje brojni akcesorni faktori, kao što je konzumiranje cigareta, koji mogu uticati na težinu i progresiju bolesti. Cil istraživanja bio je da se ispita i utvrdi povezanost između pušenja i parodontalnog zdravlja molara kod pacijenata sa hroničnom parodontopatijom. Istraživanje je sprovedeno na Klinici za dentalnu medicinu, Medicinskog fakulteta Univerziteta u Nišu. Učestvovalo je 60 pacijenata podeljenih u grupe pušača i bivših pušača, sa najmanje prisutnih 20 zuba, dok su treći molari isključeni. Pored indeksa oralne higijene i zdravlja gingive ispitivani su sledeći parametri na prvom i drugom mandibularnom molaru: širina keratinizirane gingive, gingivalna recesija, dubina sondiranja, nivo pripojnog epitela i zahvaćenost furkacija. Merenje navedenih parametara rađeno je pomoću univerzalne parodontalne sonde (Michigan 0-1.) i krive Nabers sonde za ispitivanje furkacija. Vrednosti su pokazale da pušenje utiče na status parodontalnog zdravlja molara pušača u odnosu na bivše pušače. Takođe, pušenje značajno utiče na progresiju gingivalne recesije, na dubinu sondiranja, nivo pripojnog epitela i zahvaćenost furkacija molara u odnosu na bivše pušače ($p < 0,001$). Dugotrajna upotreba cigareta značajno pogoršava parodontalno zdravlje molara.

Ključne reči: parodontopatija; etiologija; molari; faktori rizika; pušenje.

THE INFLUENCE OF SMOKING ON PERIODONTAL HEALTH STATUS OF MOLAR TEETH IN PATIENTS WITH CHRONIC PERIODONTITIS

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It is generally accepted that the main cause of periodontitis is dental plaque, however there are numerous accessory factors such as cigarette consumption that can affect the severity and progression of the disease. The aim of this study was to investigate and determine the association between cigarette smoking and periodontal health of molars in patients with chronic periodontitis. The study was conducted at the Clinic of Dental Medicine, Medical Faculty, University of Nis. The sample comprised 60 patients divided into groups of smokers and former smokers, each patient with at least 20 teeth, while third molars were excluded. In addition to the index of oral hygiene and gingival health, the following parameters were examined on the first and second mandibular molars: width of the keratinized gingiva, gingival recession, probing depth, clinical attachment loss and furcation involvement. Measurement of the mentioned parameters was carried out using a universal periodontal probe (Michigan 0-1.) and a curved Nabers probe for examining furcations. The values showed that smoking affects the periodontal health status of molars compared to former smokers. Also, smokers exhibited significantly advanced gingival recession, probing depth, clinical attachment loss and furcation involvement of molars, compared to former smokers ($p < 0,001$). Long-term cigarette smoking significantly worsens the periodontal health of the molar teeth.

Keywords: periodontal disease; etiology; molars; risk factors; smoking

ODREĐIVANJE POLNOG DIMORFIZMA ANALIZOM MEZIODISTALNIH PROMERA MAKSILARNIH I MANDIBULARNIH FRONTALNIH ZUBA U POPULACIJI JUGOISTOČNE SRBIJE

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Određivanje polnih karakteristika u forenzičkoj stomatologiji može se izvršiti na osnovu niza kvantitativnih i kvalitativnih obeležja zuba koja su specifična za muškarce i žene. Od kvantitativnih obeležja meziodistalni promer zuba je značajan za procenu pola. Razlike između polova označavaju se kao polni dimorfizam. Cilj istraživanja bio je da se ispita uticaj meziodistalnih promera gornjih centralnih sekutića, gornjih i donjih očnjaka na polni dimorfizam. U istraživanju je učestvovalo 100 ispitanika (50 muškog i 50 ženskog pola). Meziodistalni promer maksilarnih centralnih sekutića, maksilarnih i mandibularnih očnjaka analiziran je korišćenjem digitalnog nonijusa (Mitutoyo, Japan). Merenje je vršeno od mezijalne do distalne kontaktne tačke u najširem delu klinički vidljive krunice zuba, pri čemu su kraci instrumenta postavljeni paralelno sa uzdužnom osom zuba. Meziodistalni promeri merenih zuba pokazali su statistički značajnu razliku između polova. Najveći stepen polnog dimorfizma utvrđen je kod desnog maksilarnog očnjaka muškaraca (10,05), dok je najmanji zabeležen kod desnog maksilarnog centralnog sekutića žena (-0,48). Studentov t-test i Levenov test distribucije jednakosti pokazali su da je utvrđena razlika bila statistički značajna ($p \leq 0,001$). Odontometrija krunice zuba merenjem meziodistalnih promera predstavlja jednostavnu metodu i pomoćno sredstvo u određivanju polnog dimorfizma u forenzičkoj stomatologiji.

Ključne reči: polni dimorfizam; meziodistalni promer zuba; odontometrija.

DETERMINATION OF SEXUAL DIMORPHISM BY ANALYSIS OF MESIODISTAL DIAMETERS OF MAXILLARY AND MANDIBULAR FRONTAL TEETH IN THE POPULATION OF SOUTHEASTERN SERBIA

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The determination of sex characteristics in forensic dentistry can be executed on the basis of a number of quantitative and qualitative features of the teeth that are specific to men and women. One of the quantitative features significant for sex assessment is the mesiodistal diameter of teeth. Differences between the sexes are referred to as sexual dimorphism. The aim of the research was to examine the influence of the mesiodistal diameters of the upper central incisors, upper and lower canines on sexual dimorphism. 100 respondents (50 male and 50 female) participated in the research. The mesiodistal diameter of the maxillary central incisors, maxillary and mandibular canines was analyzed using a digital vernier caliper (Mitutoyo, Japan). The measurement was made from the mesial to the distal contact point in the widest part of the clinically visible crown of the tooth, with the arms of the instrument placed parallel to the longitudinal axis of the tooth. The mesiodistal diameters of the measured teeth showed a statistically significant difference between the sexes. The highest degree in sexual dimorphism was found in the right maxillary canine of men (10.05), while the lowest was recorded in the right maxillary central incisor of women (-0.48). Student's t-test and Levene's test of equal distribution showed that the determined difference was statistically significant ($p \leq 0.001$). Odontometry of tooth crowns by measuring mesiodistal diameters is a simple method and an auxiliary tool in determining sexual dimorphism in forensic dentistry.

Keywords: sexual dimorphism; mesiodistal tooth diameter; odontometry.

EVALUACIJA ERGONOMSKIH FAKTORA KAO UZROKA MUSKULOSKELETNIH POREMEĆAJA KOD STOMATOLOGA

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Ergonomija je nauka koja se bavi interakcijom između čoveka i opreme za rad, i nalaže da ona mora biti adekvatno dizajnirana i primenjena u skladu sa propisima koji osiguravaju maksimalnu efikasnost i sigurnost radnika tokom rada. Muskuloskeletni poremećaji (MSP) nastaju kao rezultat disbalansa između fizičkog kapaciteta radnika i fizičkog napora na radnom mestu. Cilj istraživanja bio je da se na osnovu podataka anketiranih stomatologa analizira uticaj osnovnih ergonomskih faktora u stomatološkoj praksi i daju preporuke za prevenciju MSP. U istraživanju je učestvovalo 120 stomatologa niškog okruga. Ispitanici su popunjavali modifikovani Nordijski upitnik i dodatni upitnik o poznavanju ergonomskih uslova rada. Rezultati su pokazali da je 65% ispitanika upoznato sa ergonomskim principima rada. Ukupno 82,5% stomatologa se izjasnilo da pati od MSP. Najčešća lokalizacija bola bila je donji deo leđa (43,33%). Samo 19,17% stomatologa radi isključivo u sedećem položaju. Njih 60% smatra da radi u uslovima adekvatnog osvetljenja, dok uvećavajuće lupe koristi 13,33% stomatologa. Asistenta u radu ima 73,33% stomatologa. Ukupno 58,33% stomatologa smatra svoju profesiju stresnom. Od mera olakšanja 60% stomatologa upražnjava odmor, za vežbe istezanja i neki vid rekreativnog vežbanja naviku ima 24,17% stomatologa, dok fizikalnu terapiju koristi 15,83% stomatologa. Primena ergonomskih principa je od značaja u prevenciji MSP i poboljšanju produktivnosti i efikasnosti stomatologa na duži vremenski period.

Cljučne reči: stomatologija; ergonomija; muskuloskeletni poremećaji.

EVALUATION OF ERGONOMIC FACTORS AS CAUSES OF MUSCULOSKELETAL DISORDERS IN DENTISTS

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Ergonomics is a science that deals with the interaction between a man and work equipment, and dictates that it must be adequately designed and applied in accordance with regulations that ensure maximum efficiency and worker safety during work. Musculoskeletal disorders (MSDs) occur as a result of an imbalance between the worker's physical capacity and physical effort at the workplace. The aim of the research was to analyze the influence of basic ergonomic factors in dental practice and to give recommendations for the prevention of MSD based on the data of the interviewed dentists. Total of 120 dentists from the Nis district filled out a modified Nordic questionnaire and an additional questionnaire on knowledge of ergonomic working conditions. The results showed that 65% of the respondents were familiar with the ergonomic principles of work. A total of 82.5% of dentists declared that they suffer from MSD. The most common localization of pain was the lower back (43.33%). Only 19.17% of dentists work exclusively in a sitting position. 60% of them believe that they work in conditions of adequate lighting, while magnifying glasses are used by 13.33% of dentists. 73.33% of dentists have working assistants. A total of 58.33% of dentists consider their profession stressful. As for relief measures, 60% of dentists use rest, 24.17% of dentists use stretching exercise, while physical therapy is used by 15.83% of dentists. The application of ergonomic principles is important in preventing MSDs and improving the productivity and efficiency of dentists for a long period of time.

Keywords: dentistry; ergonomics; musculoskeletal disorders.

UČESTALOST IMPAKTIRANIH OČNJAKA KOD STANOVNIKA NIŠAVSKOG OKRUGA

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Cilj ove retrospektivne studije je određivanje učestalosti impaktiranih maksilarnih i mandibularnih očnjaka u odnosu na položaj i pol, na osnovu analize ortopantomografskih i tridimezionalnih kompjuterizovano tomografskih snimaka (CBCT). Istraživanje je obuhvatilo analizu ortopantomografskih i kompjuterizovano tomografskih snimaka (CBCT) 52 ispitanika Klinike za dentalnu medicinu u Nišu sa potvrđenom dijagnozom impakcije maksilarnih i mandibularnih očnjaka u periodu od januara 2022. do januara 2023. godine. Učestalost impaktiranih očnjaka među pacijentima (n=1087) iznosila je 4,7%. Veća učestalost, čak 75% je među pripadnicama ženske populacije. Od ukupnog broja impaktiranih očnjaka koji je iznosio 61, 57 (93,4%) pripadaju maksilarnim očnjacima, predominantno palatinalne pozicije (71,9%). Vestibularni položaj maksilarnih očnjaka prisutan je kod 16 ispitanika (28,08%). Od ukupnog broja ispitanika (52), kod značajno većeg procenta (88%) prisutna je unilateralna impakcija očnjaka u poređenju sa bilateralnim impakcijama (12%). Impakcija mandibularnog očnjaka najređe je zastupljena sa prevalencom 0,3% u opštoj populaciji, i 6,5% među ispitanicima sa potvrđenom impakcijom očnjaka. Veća je zastupljenost impakcije mandibularnih očnjaka (75%) kod pripadnika muškog pola. Ovim istraživanjem nije uočena značajna razlika impakcija očnjaka u odnosu na stranu tela. Rezultati istraživanja pokazuju da učestalost impakcija maksilarnih i mandibularnih očnjaka među stanovnicima Nišavskog okruga odgovara rezultatima istraživanja o učestalosti impaktiranih očnjaka kod drugih populacija.

Ključne reči: impakcija očnjaka; trodimenzionalna kompjuterizovana tomografija; učestalost.

PREVALENCE OF CANINE IMPACTION IN SERBIAN PEOPLE FROM THE REGION OF NIŠ

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The aim of this retrospective study was to estimate the prevalence of impacted maxillary and mandibular canines using panoramic radiographs and three-dimensional computed tomography images (CBCT). A sample of 52 panoramic radiographs and CBCT images of patients diagnosed with impacted maxillary and mandibular canines were retrospectively analyzed. The radiographs were obtained from the records of the Clinic of Dentistry Nis from the year 2022 until 2023. The prevalence of impacted canines among the examined population (n = 1087) was found to be 4,7%. Higher prevalence was observed among females with 75%. Of the total 61 impacted canines, 57 (93,4%) were maxillary impacted, with predominantly palatal canine impaction 71,9%. Vestibular maxillary impaction was present in 16 patients (28,08%). Frequency of unilateral impaction was the most common among them with 88,4%, while the bilateral impaction of the canines accounted for 12% of 52 cases that had at least one impacted canine. Mandibular canine impaction was the least common with the prevalence of 0,3% in the general population and 6,5% in patients with canine impaction. Higher prevalence of mandibular impaction was found in males (75%). No significant difference in the prevalence of right or left canine impaction was found. The prevalence of impacted maxillary and mandibular canines in this study was within the range reported among other populations.

Keywords: canine impaction; three dimensional computed tomography; prevalence.

VAŽNOST PRE-INTERVENTNE CBCT (KOMPJUTERSKE TOMOGRAFIJE KONUSNOG ZRAKA) RADIOGRAFIJE U SMANJENJU KOMPLIKACIJA U TOKU DENTOALVEOLARNE HIRURGIJE

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Procena operativnih rizika, pre i u toku hirurške ekstrakcije impaktiranih zuba, od izuzetne je važnosti jer nedijagnostikovane malpozicije delova zuba u duboke i skrivene anatomske zone vilica, mogu dovesti do trajnog oštećenja neurovaskularnih elemenata, koštanih struktura vilica, paranazalnih šupljina i drugih anatomskih elemenata prilikom dentoalveolarne hirurgije. CBCT tomografija (kompjuterska tomografija konusnim zrakom), daje obilje realnih submilimetarskih podataka u proceni dubine impakcije zuba, anomalije u položaju korena zuba i njihove blizine sa važnim dentoalveolarnim anatomskim elementima (procena morfologije korena, broj, položaj i dužina kanala korena i okolnih anatomskih struktura i granica tkiva relevantnih za apikalnu hirurgiju, kao i uspeh endodontskog lečenja), stepena resorpcije kosti oko impaktiranog zuba kao i korena susednog zuba, blizine i gustine kosti alveolarnog nastavka vilica, stepena pneumatizacije paranazalnih šupljina. Na osnovu dobijenih rezultata i relevantne literature, može se zaključiti da CBCT radiografija predstavlja važnu i skoro nezamenljivu radiološku dijagnostiku u preoperativnoj proceni i smanjenju mogućih komplikacija u toku dentoalveolarne hirurgije.

Ključne reči: CBCT; impakcije; zubi; radiologija; dijagnostika.

THE IMPORTANCE OF PRE-INTERVENTION CBCT (CONE BEAM COMPUTER TOMOGRAPHY) RADIOGRAPHY IN REDUCING COMPLICATIONS DURING DENTOALVEOLAR SURGERY

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Assessment of operational risks before and during the surgical extraction of impacted teeth is extremely important, because undiagnosed malpositions of tooth parts in deep and hidden anatomical zones of the jaws can lead to permanent damage to neurovascular elements, bony structures of the jaws, paranasal cavities and other anatomical elements during dentoalveolar surgery. CBCT tomography (cone beam computed tomography) provides a plethora of submillimeter real data in assessing the depth of tooth impaction, anomalies in the position of the tooth root and their proximity to important dentoalveolar anatomical elements (assessment of root morphologies, root canals and surrounding anatomical structures and tissue boundaries relevant to apical surgery, as well as the success of endodontic treatment), the degree of bone resorption around the impacted tooth as well as the root of the adjacent tooth, the proximity and bone density of the alveolar process of the jaws, the degree of pneumatization of the paranasal cavities. Based on the obtained results and relevant literature data, it can be concluded that CBCT radiography represents an important and almost irreplaceable radiological diagnosis, in the preoperative assessment and reduction of possible complications during dentoalveolar surgery.

Keywords: CBCT; impaction; teeth; radiology; diagnostics.

ANALIZA PARAMETARA MORFOMETRIJE ASTERIONA U ODNOSU NA NJEGOV KLINIČKI ZNAČAJ

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Asterion predstavlja antropološko obeležje u kojem se mastoidni ugao temene kosti spaja sa potiljačnom kosti i mastoidnim nastavkom slepoočne kosti, odnosno to je mesto gde se sustiču tri šava – lambdoidni, temeno-mastoidni i potiljačno-mastoidni. Na mestu asteriona na lobanji novorođenčeta nalazi se mastoidni temenac. Asterion je površinski orijentir za poprečno-sigmoidni venski sinusni kompleks, a takođe je i hirurški orijentir za pristup zadnjoj lobanjskoj jami, što mu daje kliničku važnost. Cilj ovog istraživanja je da se analizira oblik asteriona, kao i da se načine merenja kojima će se utvrditi udaljenost asteriona od okolnih obeležja i time ustanoviti mesto sigurnog pristupa strukturama zadnje lobanjske jame. Ispitivanje je vršeno na uzorku od 43 lobanje (26 lobanja muškog i 17 ženskog pola). Merena su četiri parametra udaljenosti asteriona od struktura na slepoočnoj i potiljačnoj kosti i opisan je izgled asteriona u odnosu na prisustvo šavnih kostiju. Merenja su vršena nonijusom Vernijerove merne skale od 0,05 mm. Podaci su statistički obrađeni Studentovim t testom. Ustanovljena je statistički značajna razlika za sve izmerene parametre između lobanja muškog i ženskog pola. Među lobanjama muškog pola zastupljenost asteriona tipa 1 iznosi 34,62%, odnosno asteriona tipa 2 - 65,38%. Kod lobanja ženskog pola zastupljenost asteriona tipa 1 je 35,29%, a asteriona tipa 2 - 64,31%. Rezultati studije ukazuju na kliničku važnost morfometrijske analize asteriona, jer doprinose planiranju izvođenja bezbednog hirurškog pristupa strukturama zadnje lobanjske jame.

Ključne reči: asterion, morfometrija, šavne kosti, zadnja lobanjska jama.

ANALYSIS OF THE ASTERION MORPHOMETRIC PARAMETERS IN RELATION TO ITS CLINICAL SIGNIFICANCE

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The asterion presents an anthropological landmark at which the mastoid angle of the parietal bone meets the occipital bone and the mastoid process of the temporal bone. In the skull of a newborn it shows the mastoid fontanelle. The asterion is an area in which three sutures are connected – lambdoid, parieto-mastoid and occipito-mastoid. It is the surface marker for the transverse-sigmoid venous complex, and it is also a surgical landmark for the posterior cranial fossa approach, which gives it a clinical importance. The aim of this research is to analyze the shape of the asterion, as well as to measure the distance of the asterion from the surrounding features, and thereby establish a point of a safe approach to the structures of the posterior cranial fossa. The research was carried out on 43 skulls, 26 male and 17 female. The measurements were conducted using the Vernier caliper of 0,05 mm. The data were statistically processed by the "Student's t-test. There was statistically significant difference between male and female skulls for all the measured parameters, in male skulls – type 1 asterion 34.62%, and type 2 asterion 65.38% while in female skulls 35.29% and 64.31%, respectively. The results of the study indicate the clinical importance of the morphometric analysis of the asterion, as they contribute to the planning of performing a safe surgical approach to the structures of the posterior cranial fossa.

Keywords: Asterion; Morphometry; Sutural bones; Posterior cranial fossa.

KREIRANJE OSMEHA U IZRADI TOTALNE PROTEZE NA OSNOVU ANTROPOLOŠKIH PARAMETARA

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Izbor zuba prilikom izrade totalne proteze veoma je bitan u smislu njihovog oblika, veličine i položaja kao i njihov međusobni odnos i odnos prema mekim strukturama usne duplje u cilju stvaranja skladne anatomske morfološke kompozicije. Tokom izrade totalnih proteza, osim funkcionalnih, treba ispoštovati i estetske kriterijume, kako bi pacijent lakše prihvatio protetsku nadoknadu i bio zadovoljan njom. Cilj istraživanja je određivanje parametara osmeha kao antropoloških kriterijuma za izbor zuba prilikom izrade totalne proteze. U istraživanju je učestvovao 91 student stomatologije Klinike za dentalnu medicinu Medicinskog fakulteta Univerziteta u Nišu, 32 (35,2%) muškog, a 59 (64,8) ženskog pola. Opservacija parametara vršena je kliničkim pregledom, a merenje nonijusom. Analizirani su: luk osmeha, linija usana, visina komisura, zakrivljenost, dužina i podizanje gornje usne i simetričnost osmeha. Rezultati su pokazali distribuciju različitih tipova ispitivanih parametara i njihovu prisutnost među ispitanicima ženskog i muškog pola sa punim zubnim nizom, sa i bez statističke značajnosti. Zaključak. Poštovanje opisanih antropometrijskih parametara i specifičan pristup svakom pacijentu daje dobre rezultate pri izboru veličine, oblika i položaja zuba u toku izrade totalne proteze. Lepota osmeha leži prvenstveno u proporcionalnosti i simetriji.

Ključne reči: veštački zubi; antropometrija; totalna proteza.

SMILE CREATION IN THE PRODUCTION OF COMPLETE DENTURES BASED ON ANTHROPOLOGICAL PARAMETERS

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The choice of teeth during the process of making complete dentures is very important in terms of their shape, size and position, as well as their mutual relationship and the soft structures of the oral cavity in order to create a harmonious anatomical and morphological composition. During the production of complete dentures, in addition to functional, aesthetic criteria should also be respected, so that the patient can accept the prosthetic compensation more easily and be satisfied with it. The aim of the research is to determine smile parameters as anthropological criteria for the selection of teeth during the fabrication of complete dentures. 91 dental students of the Clinic of Dental Medicine of the Faculty of Medicine participated in the research, 32 (35.2%) were male and 59 (64.8%) were female. Parameters were observed by clinical examination, and measurement was performed with a vernier caliper. The following were analyzed: smile arch, lip line, commissure height, curvature, length and lift of the upper lip and symmetry of the smile. The results showed the distribution of different types of investigated parameters and their presence among female and male respondents with a full set of teeth, with and without statistical significance. Respecting the described anthropometric parameters and a specific approach to each patient gives good results when choosing the size, shape and position of teeth during the fabrication of complete dentures. The beauty of a smile lies primarily in proportionality and symmetry.

Keywords: artificial teeth; anthropometry; complete dentures.

ANTROPOLOŠKI POGLED NA ODONTOFOBIJU

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Uprkos tehnološkom napretku i povećanoj upotrebi anestetika, oko ¾ stanovništva i dalje ima određeni stepen straha od stomatoloških intervencija. Najčešći razlozi za to su lična ili tuđa loša iskustva koja nisu nužno povezana sa bolom, ali i osećaj bespomoćnosti povezan sa nedostatkom kontrole u stomatološkoj stolici. Negativan imidž u javnosti koji stomatologe predstavlja kao zle ili sadistične osobe, miris stomatološke ordinacije, beli mantil i nedostatak verbalne komunikacije, takođe doprinose izbegavanju lečenja od strane odontofobičnih pacijenata. Suprotno očekivanjima, veliki broj pacijenata opisuje stomatološko okruženje kao više uznemirujuće od stomatološke procedure ili bola. Čini se da imamo nekoliko zadataka ako želimo da uništimo mitove vezane za stomatološku profesiju i izgradimo pozitivnu sliku. Stomatolozi ne bi trebalo da propuste priliku da uspostave bolju vezu sa pacijentom. Lekari treba da savladaju psihološke veštine i da koriste saosećajni pristup kao nefarmakološki način da se pacijenti osećaju bolje u stomatološkoj stolici, jer je zadovoljan pacijent i dalje veći izazov za većinu stomatologa nego rešavanje komplikovanih medicinskih slučajeva.

Cljučne reči: odontofobija; dentalna anksioznost; antropologija.

ODONTOPHOBIA- AN ANTHROPOLOGICAL VIEW

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In spite of the technological improvements and increased use of anesthetics, about ¾ of the population still has some degree of fear related to dental treatment. The most common reasons for that are of personal nature or bad experiences, not necessarily pain related, and a sense of helplessness associated with the lack of control in the dental chair. Negative public image presenting dentists as evil or sadistic persons, smell of dental office, white coat and the lack of verbal communication also contribute to treatment avoidance by patients who have odontophobia. Contrary to the expectation, a large number of patients describe the dental environment as more devastating than dental procedure or pain. It seems that we have a few tasks to fulfill if we want to destroy myths tied to the dental profession and build a positive image. Dentists should not miss the opportunities to develop a better relationship with a patient. Practitioners should develop psychological skills and use a compassionate approach as a non pharmacological way to make patients feel better in a dental chair, because a satisfied patient is still a greater challenge for most dentists than solving complicated medical cases.

Keywords: odontophobia; dental anxiety; anthropology.

PRIMENA ORAL ESTHETIC SCALE KOD STUDENATA STOMATOLOGIJE

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Kvalitet života, samopoštovanje i samouverenost zavise od ličnog zadovoljstva izgledom lica, usta i zuba. Orofaciel Esthetic Scale prilagođen srpskom jezičkom i kulturološkom području kao instrument dizajniran za samoprocenu estetike može imati široku primenu u unapređenju komunikacije pacijenta i stomatologa. Cilj rada bio je da se primenom upitnika Orofaciel Esthetic Scale utvrdi nivo zadovoljstva orofacijelnim izgledom u grupi studenata prve godine stomatologije na Medicinskom fakultetu u Nišu. Istraživanje je obuhvatilo 63 studenta oba pola. Kliničkim pregledom je kod ispitanika utvrđen gubitak pojedinih zuba, prisustvo bilo koje ortodontske anomalije ili protetskog rada. Ispitanici su na postavljena pitanja iz upitnika odgovarali numeričkim vrednostima od 0 do 10, od kompletnog nezadovoljstva do potpunog zadovoljstva. Poređenje učestalosti različitih obeležja u odnosu na prisustvo ortodontskih anomalija vršeno je Hi-kvadrat testom ili Fišerovim testom egzaktno verovatnoće. Poređenje kontinuiranih varijabli između grupa vršeno je t testom ili Mann-Whitney testom. Hipoteza je testirana sa pragom značajnosti $p < 0,05$. Sve zube, uključujući i treće molare, imalo je 24 studenta (38,1%). Ortodontske anomalije su registrovane kod 30 studenata (47,6%). Fiksni ortodontski aparat prisutan je kod 3 studenta (4,8%). U ukupnoj populaciji najviši prosečni skor dobijen je za stanje desni ($8,48 \pm 1,71$), zadovoljstvo izgledom lica ($8,30 \pm 1,35$) i ukupan skor estetske skale $8,14 \pm 1,37$. Statistički značajno veću vrednost skorova pokazali su ispitanici bez ortodontskih anomalija i sa punim zubnim nizom. Orofacijalna estetska skala prevedena na srpski jezik pokazala se kao pogodno sredstvo za ispitivanje zadovoljstva izgledom lica, usana i zuba kod studenata stomatologije.

Ključne reči: Orofacijalni izgled; Orofaciel Esthetic Scale; student stomatologije.

APPLICATION OF THE ORAL ESTHETIC SCALE IN STUDENTS OF DENTISTRY

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Quality of life, self-esteem and self-confidence depend on personal satisfaction with the facial, dental and mouth appearance. The Orofaciel Esthetic Scale, adapted to the Serbian linguistic and cultural area, as an instrument designed for self-assessment of aesthetics, can be widely used in improving patient-dentist communication. The aim of the paper was to determine the level of satisfaction with orofacial appearance in a group of first-year dentistry students at the Faculty of Medicine in Niš using the Orofaciel Esthetic Scale questionnaire. The research included 63 students of both sexes. The clinical examination revealed the loss of individual teeth, the presence of any orthodontic anomaly or prosthetic work. Respondents answered the questions in the questionnaire with numerical values from 0 to 10, from complete dissatisfaction to complete satisfaction. Comparison of the frequency of different features in relation to the presence of orthodontic anomalies was performed using the Chi-square test or Fisher's exact probability test. Comparison of continuous variables between groups was performed by t test or Mann-Whitney test. The hypothesis was tested with a significance threshold of $p < 0.05$. 24 students (38.1%) had all teeth, including third molars. Orthodontic anomalies were registered in 30 students (47.6%). A fixed orthodontic appliance is present in 3 students (4.8%). In the total population, the highest average score was obtained for the condition of the gums (8.48 ± 1.71), satisfaction with the appearance of the face (8.30 ± 1.35) and the total score of the aesthetic scale 8.14 ± 1.37 . Statistically significantly, higher scores were shown in subjects without orthodontic anomalies and with a full set of teeth. The orofacial aesthetic scale translated into Serbian proved to be a suitable tool for examining satisfaction with the facial, dental and mouth appearance in dental students.

Keywords: Orofaciel appearance; Orofaciel Esthetic Scale; dental students.

ANTROPOLOGIJA ZUBNIH KVRŽICA, OD NEOPHODNOSTI DO NEPOGODNOSTI

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U okviru dentalne antropologije možemo dobiti saznanja proučavanjem razvoja, evolucije i varijacije viličnog sklopa i zuba homo sapiens-a. Često se, kao rezultat genetskih varijacija, faktora okoline, ishrane pojedinca i rase, mogu uočiti varijacije u morfologiji zuba. Strukturalne varijacije se često koriste za prepoznavanje rasnih razlika među populacijom. Osim toga, sa aspekta forenzike važno je opisati morfološke varijacije zuba u stomatološkoj istoriji svake osobe. Najčešće varijacije pronalazimo u veličini, broju i lokalizaciji zuba, a nešto ređe samih kvržica. Cilj rada je da se predoči porast anomalija bočnih zuba, naročito oblika i broja kvržica, njihov klinički značaj i mogući problemi koji nastaju prilikom sanacije i artikulacije. Obradena je sva dostupna literatura pronađena u bazama podataka PubMed, Medline i Cochran. Broj, veličina i izgled kvržica određuju se tokom inicijalnog i morfogenetskog stadijuma odontogeneze. Učestalost pojavljivanja anomalija veća je po tipu bilateralnog manifestovanja. Prekobrojne kvržice češće se javljaju kod Indijanaca, Azijata, Inuita i Arapa sa prevalencijom u rasponu od 1 do 8%. Nema podataka o učestalosti ove anomalije na teritoriji Republike Srbije. Razvojne varijacije morfologije kvržica i njihova prekobrojnost mogu predstavljati skloništa za nakupljanje i zadržavanje plaka, čime se zub predisponira za ranu pojavu oboljenja pulpe i bolesti parodontijuma. Klinički značaj varijacija broja, veličine i oblika zuba ima važnu ulogu u mnogim stomatološkim disciplinama. Rana dijagnoza omogućava optimalno planiranje lečenja, uz pravovremenu prevenciju kako bi se sprečile komplikacije u artikulaciji, sanaciji i tako smanjila kasnija potreba za zahtevnijim lečenjem.

Ključne reči: antropologija zuba; morfologija; razvojne anomalije.

ANTHROPOLOGY OF DENTAL CUSPS, FROM NECESSITY TO INCONVENIENCE

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Dental anthropology, can spread knowledge of the development, evolution and variation of jaw assembly and teeth of homo sapiens. Often, as a result of genetic mutations, environmental factors, individual diet and race, variations in tooth morphology can be observed. Structural variation can identify racial differences among populations. In addition, from the aspect of forensics, it is important to describe the morphological variations of the teeth in the dental history of each patient. The most common variations are found in the size, number and location of the teeth, and less often in the cusps themselves. The aim of the paper is to present the increase in back teeth anomalies, especially the shape and number of cusps, their clinical significance and possible problems that arise during rehabilitation and articulation. Material and methods: All available literature found in PubMed, Medline and Cochran databases was reviewed. Results: The number, size and appearance of cusps are determined during the initial and morphogenetic stages of odontogenesis. They have a higher prevalence according to the bilateral occurrence. Supernumerary cusps occur more often in Native Americans, Asians, Inuit and Arabs with a prevalence ranging from 1-8%. There is no data on the frequency of this anomaly in the territory of the Republic of Serbia. Developmental variations in the morphology of the cusps and their overabundance can represent shelters for the accumulation and retention of plaque, which predisposes a tooth to the early onset of pulp disease and periodontal disease. Conclusion: The clinical significance of variations in the number, size and shape of teeth is important in many dental disciplines. Early diagnosis enables optimal treatment planning, with timely prevention in order to avoid complications in articulation, rehabilitation and thus reduce the later need for more demanding treatment.

Keywords: dental anthropology; morphology; developmental anomalies.

JEDAN VEK LEČENJA HEMOFILIJE - POSTOJI LI MOGUĆNOST ZA POTPUNO IZLEČENJE?

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Hemofilija predstavlja naslednu krvnu diksraziju okarakterisanu nedostatkom VIII, IX, ili XI faktora koagulacije i mogućim spontanim ili traumatskim, životno ugrožavajućim krvarenjem. Izvršiti istorijski osvrt na terapiju i postupke zaustavljanja krvarenja kod pacijenata koji boluju od hemofilije, unapređenje i očekivanja od savremenih lekova i njihov doprinos u smanjenju morbiditeta u toku oralno-hirurških intervencija. Pretraživanjem baza podataka i na osnovu kliničkog iskustva lekara Klinike za dentalnu medicinu, dobijena su saznanja o terapijskom napretku u lečenju obolelih od hemofilije sa osvrtom na oralno hirurški tretman. Prva terapija transfuzijom pune krvi ili sveže smrznute plazme primenjena je 1940. godine, za kojom slede primena krioprecipitata, liofiliziranih faktora VII i IX što je do 1980. godine dovelo do produženja životnog veka od 27 na 60 godina. U tom periodu javlja se zaražavanje pacijenata novim HIV virusom. Sledi pokušaj inaktivacije virusa zagrevanjem krvnih produkata. Od 1992. godine u upotrebi su humani rekombinantni faktori VIII i IX i Factor Eight Inhibitor Bypassing Activity (FEIBA) kod slučajeva sa inhibitorima na humane faktore. Potporna terapija kod krvavih intervencija uključuje upotrebu ligatura, dezmpresina, antifibrinolitičkih sredstava kao što su ϵ -aminokapronska kiselina i traneksamična kiselina koje inhibiraju proteolitičku aktivnost plazmina sprečavajući fibrinolizu, sistemski i lokalno. Najnovija dostignuća su Emicizumab- monoklonsko antitelo za lečenje hemofilije A i od 2022. godine Etranacogene dezaparovec, genska terapija za reviziju bolsenog u zdrav fenotip obolelih od hemofilije B, koja ove životno ugrožene pacijente prevodi u zdrave. Nova sredstva u terapiji hemofilije značajno će olakšati oralno-hirurške intervencije kod pacijenata sa hemofilijom.

Ključne reči: hemofilija; terapija; hirurška intervencija.

ONE CENTURY TREATMENT OF HAEMOPHILIA - IS THERE A POSSIBILITY FOR COMPLETE RECOVERY?

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Hemophilia is a hereditary blood dyscrasia with a lack of coagulation factor VIII, IX, or XI and possible spontaneous or traumatic life-threatening bleeding. Historical review of the therapy and procedures for bleeding curbing in patients suffering from hemophilia, improvement and expectations of modern drugs and their contribution to reducing morbidity during oral-surgical interventions. By searching the medical database and based on the clinical experience of the doctors at the Clinic of Dental Medicine, we gained knowledge of therapeutic progress in the treatment of hemophilia patients with the reference to oral surgical treatment. The first transfusion therapy with whole blood or fresh frozen plasma was administered in 1940. This was followed by cryoprecipitates, lyophilized factors VIII and IX, which by the 1980s led to an extension of life span from 27 to 60 years. During this period, patients were infected with the new HIV virus. An attempt to inactivate the virus by heating the blood products followed. Since 1992, human recombinant factor VIII and IX, and Factor eight inhibitor bypassing activity (FEIBA factor) have been used in patients with human factor inhibitors. Supportive therapy in bloody interventions includes the use of ligatures, desmopressin, antifibrinolytic agents such as ϵ -aminocaproic acid and tranexamic acid that inhibit the proteolytic activity of plasmin by preventing fibrinolysis, acting systemically and locally. The latest developments are Emicizumab - a monoclonal antibody for the treatment of hemophilia A. and from 2022. Etranacongene dezaparovec gene therapy for the reconversion of the sick into a healthy phenotype of hemophilia B patients, potentially transforms these patients with a life-threatening disease into healthy ones. New drugs in the treatment of hemophilia will significantly facilitate oral-surgical interventions in patients with hemophilia.

Keywords: hemophilia; therapy; surgical intervention

TELESNA VISINA KAO FAKTOR RIZIKA ZA RAZVOJ KARCINOMA DOJKE

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Telesna visina predstavlja rastojanje od vrha glave (vertex) do podloge (basis) na kojoj ispitanik stoji. Nasleđuje se poligeniski, ali pored gena na nju imaju uticaj i razni spoljašnji faktori. Veliki broj studija ukazao je na pozitivnu korelaciju između telesne visine i rizika za razvoj malignih oboljenja, pri čemu je utvrđeno da osobe višeg rasta imaju 20-40% povećan rizik za razvoj maligniteta, među kojima se ističe karcinoma dojke. Cilj istaživanja bio je da se utvrdi povezanost telesne visine sa rizikom za razvoj karcinoma dojke. Ispitivanu grupu činilo je 499 žena starosti od 26 do 80 godina (prosečna starost: 54,51±11,34 godine) dok se kontrolna grupa sastojala od 400 žena starosti od 17 do 84 (prosečna starost: 47,64±13,93 godina) bez prethodno dijagnostikovanog karcinoma dojke. Iz bolničkog informacionog sistema BIRPIS uzimani su podaci ispitanica o telesnoj visini, telesnoj masi, vremenu pojave menarhe i menopauze, nakon čega je vršeno poređenje telesne visine žena ispitivane i kontrolne grupe. Žene obbolele od karcinoma dojke u reproduktivnom periodu bile su statistički značajno niže od žena kontrolne grupe (162,88±6,79 vs. 164,03±6,50 cm, p=0,010*). Primećena je pozitivna korelacija između telesne visine i prisustva karcinoma dojke (r=0,086, p<0,05). Telesna visina se nije pokazala kao značajan indikator rizika za razvoj karcinoma dojke.

Ključne reči: telesna visina, karcinom dojke, menarha, menopauza.

BODY HEIGHT AS A RISK FACTOR FOR BREAST CANCER DEVELOPMENT

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Body height represents the distance from the top of the head (vertex) to the base (basis) on which the subject stands. It is inherited polygenic, but besides genes, it is also influenced by many external factors. A large number of studies have shown a positive correlation between body height and the risk of malignant diseases development, and it was found that taller people have 20-40% higher chances of developing malignancies, including breast cancer. The aim of the study was to determine the correlation between body height and the risk of breast cancer development. The study group consisted of 499 women aged between 26 and 80 (average age: 54.51 ± 11.34 years), while the control group consisted of 400 women aged between 17 and 84 (average age: 47.64±13.93 years) without previously diagnosed breast cancer. From the hospital information system BIRPIS, the data of respondents body height, body weight, the onset of menarche and menopause were taken, after which body height comparison between women in study and control group was made. Premenopausal women with breast cancer were statistically significantly shorter than premenopausal women in control group (162.88±6.79 vs. 164.03±6.50 cm, p=0.010*). Positive correlation between body height and breast cancer was noticed (r=0.086, p<0.05). Body height has not been shown as a significant indicator of the risk of breast cancer development.

Keywords: Body height; Breast cancer; Menarche; Menopause.

MORFOLOŠKE VARIJACIJE DONJEG TREĆEG MOLARA

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Donji treći molar je predstavnik atipične grupu zuba, što zahteva poznavanje njegove spoljašnje morfologije, zbog sklonosti ove grupa zuba za pojavu i razvoj karijesnih i nekarijesnih oboljenja, a radi pravovremenog lečenja i uspešne restauracije u funkcionalnom i estetskom smislu. Cilj istraživanja bio je da se utvrdi najčešći geometrijski oblik i veličina krunice donjeg trećeg molara, kao i najčešći broj i raspored kvržica. U studiji je analizirano 140 umnjaka donje vilice odraslih pacijenata oba pola, starosti 18-65 godina. Oblik krunice, morfologija okluzalne površine, broj i raspored kvržica utvrđivan je vizuelno uz pomoć veštačke svestlosti i stomatološkog ogledalca. Merenje zuba vršeno je uz pomoć dvokrakog šestara. U 68% slučajeva donji treći molar bio je oblika paralelopipeda, u 27% slučajeva bio je oblika trouglaste prizme dok je u 5% slučajeva oblika kocke. Okluzalna površina je u 58% slučajeva bila oblika pravougaonika, u 23% slučajeva bila je trouglastog oblika, okrugao oblik bio je zastupljen sa 11.4% i kvadratni sa 7.6%. U 52,65% slučajeva donji treći molar je imao četiri kvržice, tri kvržice u 28.25% i dve kvržice u 19.1% slučajeva. Prosečna dužina donjeg trećeg molara u okluzo-gingivalnom pravcu bila je 7.5mm, u mezio-distalnom 9.6mm i vestibulooralnom pravcu 9,3mm. Najzastupljeniji oblik donjeg trećeg molara bio je oblik paralelopipeda, najčešći oblik okluzalne površine bio je pravougani, dok su kod najvećeg broja zuba zapažene četiri kvržice.

Ključne reči: donji treći molar; oblik krunice; veličina; kvržica.

MORPHOLOGICAL VARIATIONS OF THE LOW THIRD MOLAR

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The external morphology of the tooth is important, not only because of the susceptibility to dental caries and non-caries diseases of certain groups of teeth, but also because of the proper treatment of the tooth. The aim of the study was to determine the most common geometric shape and size of the crown of the low third molar, as well as the most common number of cusps. The study analyzed 140 low third molars. The shape of the crown, the morphology of the occlusal surface, and the number of the cusps were determined visually with artificial light. Tooth measurement was performed with the double-legged compass. In 68% of the cases the low third molar was the shape of a parallelepiped, in 27% of the cases it was a triangular prism, in 5% of cases the shape was a cube. In 58% of the cases, the occlusal surface was rectangular, the triangular shape was represented by 23%, the square with 11.4% and round shape with 7.6%. In 52.65% of the cases he had four cusps, three cusps in 28.25% and two cusps in 19.1% of the cases. The average length of the low third molar in the occluso-gingival direction was 7.5 mm, in the mesio-distal direction 9.6 mm and in the vestibule-oral direction 9.3 mm. The most common shape of the low third molar was the shape of a parallelepiped, the most common shape of the occlusal surface was rectangular, while four cusps were observed in the largest number of teeth.

Keywords: third molar; crown shape; size; cusp.

UPOTREBA ULTRALJUBIČASTOG, INFRACRVENOG I RENDGEN ZRAČENJA U FIZIČKOJ ANTROPOLOGIJI

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Leninsky prospect, 32a

U laboratorijama Centra za vizuelnu i fizičku antropologiju Instituta za etnologiju i antropologiju Ruske akademije nauka, autori predavanja eksperimentisali su i razvili novu tehniku i metodu za fotografisanje ostataka kostiju, koje su arheolozi pronašli, u infracrvenom, ultraljubičastom i rendgenskom opsegu. Ovaj novi način vizualizacije karakteristika drevnih kostiju omogućava nam da uočimo neke osobenosti i patologije koje nije moguće videti kada se kosti fotografišu u boji ili crno-belo u uobičajenom opsegu svetlosti. Na primer, u ultraljubičastom opsegu može se uočiti fluorescencija kolagena u predelu koštanog tkiva koje je u toku života bilo izloženo mehaničkom stresu. Takođe, dentin zuba fluorescira u opsegu ultraljubičastog zračenja. Spektar refleksije različit je za predstavnike različitih antropoloških grupa. Takođe je razvijen novi način korišćenja opsega ultraljubičastog i infracrvenog zračenja za izradu antropoloških portreta. Autori nove metodologije predstaviće metode i preliminarne rezultate dobijene upotrebom ultraljubičastog, infracrvenog i rendgenskog opsega u antropologiji.

Ključne reči: infracrveno; ultraljubičasto; rendgensko zračenje; ostaci kostiju; fotografisanje antropoloških portreta.

THE USE OF ULTRAVIOLET, INFRARED AND X-RAY RADIATION RANGES IN PHYSICAL ANTHROPOLOGY

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Leninsky prospect, 32a

In the laboratories of the Center of Visual and Physical Anthropology of the Institute of Ethnology and Anthropology of the Russian Academy of Sciences, the authors of the lecture experimented and developed a new technique and method of taking photographs of the bone remains found in the burial grounds by archaeologists, in infrared, ultraviolet and x-ray ranges. This new way of visualizing the features of ancient bones allows us to see some particulars and pathologies, which are not detectable, if color and black-and-white photographs are taken in the usual light range. For an example, in the ultraviolet range the collagen fluorescence can be observed in the areas of bone tissues, which had been subjected to mechanical stress during life. Furthermore, the dentin of the tooth fluoresces in ultraviolet radiation ranges. The reflection spectrum is different for representatives of different anthropological groups. A new way of using infrared and ultraviolet radiation ranges was also developed and used to do anthropological portraits. The authors of the new methodology will present the method and preliminary results obtained by using the ultraviolet, infrared and x-ray ranges.

Keywords: infrared; ultraviolet; x-ray; bone remains; anthropological portrait photography.

KOMBINOVANA HIRURŠKO-ORTODONTSKA TERAPIJA ZA POSTIZANJE FUNKCIONALNIH I ESTETSKIH REZULTATA KOD PACIJENATA SA TEŠKIM SKELETNIM MALOKLUZIJAMA

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Orthognatska hirurgija uključuje hirurško pomeranje skeleta lica, posebno maksile i mandibule, kako bi se povratio odgovarajući anatomski i funkcionalni odnos kod pacijenata sa dentofacijalnim skeletnim anomalijama. Prvu operaciju deformiteta vilica uradio je Američki hirurg Hullihen 1848. g. Prethodna intezivna ortodontska terapija, preoperativno planiranje osteotomija mandibule, maksile, kao i primena distrakcione osteogeneze vilica kod teških skeletnih malokluzija, omogućava visok procenat uspeha u ispravljanju kraniofacijalnih anomalija. Pravilan preoperativni ortodontski tretman dentofacijalnih anomalija, predstavlja uvod u postizanje optimalnog završnog rezultata. Planirane osteotomije maksile zbog maksilarnog retrognatizma, mandibule zbog mandibularnog prognatizma i kombinovane maksilo-mandibularne osteotomije kao i distrakcione (kalus) osteogeneze, omogućuju fascinatan klinički rezultat. Obavezni završni ortodontski tretman, je finalni deo kompleksne terapije za postizanje normalne okluzije, jer se estetski ukupni izgled kao i funkcija kranio-mandibulo-maksilarnog kompleksa pacijenata, koriguje do postizanja normalnog izgleda lica i Angleove klase i okluzije.

Ključne reči: hirurgija; ortodonticija; skeletne; anomalije; vilice.

COMBINED SURGICAL-ORTHODONTIC THERAPY FOR ACHIEVING FUNCTIONAL AND AESTHETIC RESULTS IN PATIENTS WITH SEVERE SKELETAL MALOCCLUSIONS

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Orthognathic surgery involves surgical movement of the facial skeleton, particularly the maxilla and mandible, to restore the proper anatomical and functional relationship in patients with dentofacial skeletal anomalies. The first jaw deformity operation was performed by the American surgeon Hullihen in 1848. Previous intensive orthodontic therapy, preoperative planning with osteotomies of the mandible, maxilla, as well as the application of distraction osteogenesis of the jaws in severe skeletal malocclusions, enable a high percentage of success in correcting craniofacial anomalies. Proper pre-operative orthodontic treatment of dentofacial anomalies is a prelude to achieving an optimal final result. Planned osteotomies of the maxilla due to maxillary retrognathism, mandible due to mandibular prognathism and combined maxillo-mandibular osteotomies as well as distraction (callus) osteogenesis enable fascinating clinical results. Mandatory final orthodontic treatment is the final part of the complex therapy to achieve normal occlusion, because the aesthetic overall appearance as well as the function of the patient's crano-mandibular-maxillary complex is corrected to achieve normal facial appearance and Angle's class I occlusion.

Keywords: surgery; orthodontics; skeletal; anomalies; jaws.

KOMPARATIVNA STUDIJA PODUDARNOSTI OBLIKA MAKSILARNOG CENTRALNOG SEKUTIĆA SA OBLIKOM LICA I OBLIKOM MAKSILARNOG ZUBNOG LUKA U POPULACIJI SA PUNIM ZUBNIM NIZOM

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Prema modifikovanoj Williams-ojoj teoriji oblik gornjeg centralnog sekutića odgovara obliku gornjeg alveolarnog nastavka (zubnog luka) i obliku lica. Takođe, standardi lepog podrazumevaju da se sredina lica osoba sa punim zubnim nizom poklapa sa sredinom gornjeg i donjeg zubnog luka. Istraživanje predstavlja komparativnu studiju podudarnosti oblika lica, maksilarnog centralnog sekutića i maksilarnog zubnog luka, kao i poklapanja medijalne linije lica i zubnih lukova kod ispitanika sa punom denticijom. U istraživanju je učestvovao 91 ispitanik sa punim zubnim nizom, oba pola. Oblik lica je određivan analizom fotografija, dok je oblik zubnog luka i maksilarnog centralnog sekutića određivan analizom izlivenog radnog modela. Nije utvrđena značajna razlika prema polu u obliku maksilarnog centralnog sekutića koji je odgovarao obliku gornjeg zubnog luka ($\chi^2=0.878$; $r=0,349$) i obliku zubnog luka koji je odgovarao obliku lica ($\chi^2=0.152$; $p=0,697$). Postojala je statistički značajna razlika u obliku zuba koji je odgovarao obliku lica ($\chi^2=4.097$; $p=0,043$), značajnije narušena kod muškaraca. Poklapanje sredine lica i sredine zubnog luka značajno se razlikovalo među polovima ($\chi^2=6,010$; $r=0,014$). Značajno veće poklapanje bilo je prisutno kod žena. Nije bilo značajnosti u poklapanju sredine maksilarnog i mandibularnog zubnog luka prema polu. Prisustvo postulata modifikovane Williams-ove teorije potvrđeno je kod većine ispitanika, te se ona može smatrati relevantnom smernicom pri određivanju oblika zuba nakon njihovog gubitka. Procentualno najveća podudarnost kod oba pola odnosi se na oblik lica i zubnog luka. Pozitivne korelacije sredine maksilarnog i mandibularnog zubnog luka u većini slučajeva nije bilo.

Cljučne reči: maksilarni centralni sekutić; oblik lica; maksilarni zubni luk.

A COMPARATIVE STUDY OF THE CONFORMITY OF THE SHAPE OF THE MAXILLARY CENTRAL INCISOR WITH THE SHAPE OF THE FACE AND THE SHAPE OF THE MAXILLARY DENTAL ARCH IN A POPULATION WITH FULL DENTITION

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According to the modified Williams theory, the shape of the upper central incisor corresponds to the shape of the upper alveolar process (dental arch) and the shape of the face. Also, the standards of beauty define that the center of the face of a person with a full set of teeth aligns with the center of the upper and lower dental arches. The research presents a comparative study of the matching of facial shape, maxillary central incisor and maxillary dental arch, as well as matching of the medial facial line and dental arches in subjects with full dentition. 91 respondents with a full set of teeth, of both sexes, took part in the research. The shape of the face was determined by analyzing photographs, while the shape of the dental arch and maxillary central incisor was determined by analyzing the cast working model. No significant difference was found according to gender in the shape of the maxillary central incisor that corresponded to the shape of the upper dental arch ($\chi^2=0.878$; $r=0.349$) and the shape of the dental arch that corresponded to the shape of the face ($\chi^2=0.152$; $p=0.697$). There was a statistically significant difference in the shape of the teeth that corresponded to the shape of the face ($\chi^2=4.097$; $p=0.043$), more significantly impaired in men. The match between the mid-face and the mid-dental arch was significantly different between the sexes ($\chi^2=6.010$; $r=0.014$). A significantly greater overlap was present in women. There was no significance in the matching of the middle of the maxillary and mandibular dental arch according to gender. The postulates of the modified Williams theory were confirmed by the majority of respondents, and it can be considered a relevant guideline in determining the shape of teeth after their loss. The greatest percentage match in both sexes refers to the shape of the face and dental arch. There was no positive correlation between the maxillary and mandibular dental arches in most cases.

Keywords: maxillary central incisor; facial shape; maxillary dental arch.

ANATOMSKE KARAKTERISTIKE VEZALIJUSOVOG I HIRTLOVOG OTVORA HUMANE LOBANJE

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Vezalijusov i Hirtlov otvor su nestalni otvori na ljudskoj lobanji. Vezalijusov otvor se nalazi na bazi lobanje, napred i unutra od ovalnog otvora (foramen ovale), a spolja i iza okruglog otvora (foramen rotundum). Hirtlov otvor se može uočiti na velikim krilima sfenoidalne kosti, spolja od gornje orbitalne pukotine (fissura orbitalis superior). Vezalijusov otvor je poznat još i po nazivu emisarni sfenoidalni otvor, a Hirtlov otvor kao kranio-orbitalni otvor, meningo-orbitalni otvor, suzni otvor, otvor sinusnog kanala i sfeno-frontalni otvor. Cilj ovog rada je morfološka analiza Vezalijusovog i Hirtlovog otvora na lobanji odraslog čoveka i klasifikacija u odnosu na tip, oblik otvora i pol. U istraživanju je korišćeno 50 ljudskih lobanja koje pripadaju Zavodu za anatomiju Medicinskog fakulteta, Univerziteta u Novom Sadu. Lobanje su makroskopski analizirane na prisustvo ili odsustvo nestalnih otvora. Vezalijusov otvor je uočen na 17 (34%), a odsutan je na 33 (66%) lobanje. Bilateralan otvor je zastupljen na 5 (29,41%), a unilateralan na 12 (70,59%) lobanja. Otvor je bio prisutan na 10 lobanja muškog (58,82%) i 7 lobanja ženskog pola (41,18%). Hirtlov otvor je uočen na 31 (62%), a odsutan na 29 (38%) lobanja. Bilateralan otvor je zastupljen na 11 (35,48%), a unilateralan na 20 (64,52%) lobanja. Otvor je bio prisutan na 16 lobanja muškog (51,61%) i 15 lobanja ženskog pola (48,39%). Studija je pokazala varijacije u anatomskim karakteristikama nestalnih otvora koje mogu biti posledica genetskih, nutritivnih ili ekoloških razlika.

Ključne reči: Vezalijusov otvor; Hirtlov otvor; morfologija; lobanja.

ANATOMIC CHARACTERISTICS OF FORAMEN VESALIUS AND FORAMEN OF HYRTL OF THE HUMAN SKULL

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The foramen of Vesalius and foramen of Hyrtl are atypical foramina on the human skull. Foramen Vesalius is located at the skull base, anteromedial to the foramen ovale (foramen ovale) and lateral to the foramen rotundum (foramen rotundum). The foramen of Hyrtl can be seen on the greater wings of the sphenoid bone, lateral of the upper orbital fissure (fissura orbitalis superior). Vesalius' foramen is also known as the emissary sphenoidal foramen, and Hirtle's foramen as the cranio-orbital foramen, meningo-orbital foramen, lacrimal foramen, sinus canal foramen and sphenofrontal foramen. The aim of this study was morphological analysis and classification of the foramen Vesalius and foramen of Hyrtl based on the type, shape, and gender differences. The study included 50 dry adult human skulls of both genders collected at the Department of Anatomy, Medical Faculty, University of Novi Sad. The skulls were macroscopically analysed for the presence or absence of atypical foramina. Foramen Vesalius was present on 17 (34%), and was absent on 33 (66%) skulls. Incidence of bilateral foramen was found on 5 (29.41%), and unilateral on 12 (70.59%) skulls. The foramen was present on 10 male skulls (58.82%) and 7 female skulls (41.18%). Foramen of Hyrtl was present on 31 (62%) and was absent on 29 (38%) skulls. Incidence of bilateral foramen was found on 11 (35.48%), and unilateral on 20 (64.52%) skulls. The foramen was present on 16 male skulls (51.61%) and 15 female skulls (48.39%). Study showed variations in the anatomical characteristics of atypical foramina which might be due to genetic, nutritional or environmental differences.

Keywords: Foramen Vesalius; Foramen of Hyrtl; Morphology; Skull.

ZASTUPLJENOST I VELIČINA RECESIJA GINGIVE KOD ODRASLIH OSOBA

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Recesije gingive predstavljaju često stanje koje nastaje pomeranjem koronarne ivice gingive apikalnije od gleđnocementne granice usled čega se ogoljava površina korena zuba i nastaju estetske i funkcionalne smetnje. Cilj istraživanja je odrediti zastupljenost i veličinu recesija gingive kod odraslih osoba. U istraživanju je učestvovalo 300 ispitanika Klinike za dentalnu medicinu u Nišu, podeljenih u 4 starosne grupe: grupa 1 (20-29 godina), grupa 2 (30-39 godina), grupa 3 (40-49 godina), grupa 4 (50-59 godina). Za merenje veličine recesije gingive korišćena je kalibrisana parodontalna sonda. Recesije su merene od gleđnocementne granice do koronarne ivice gingive na sredini sve četiri površine svakog zuba (mezijalnoj, bukalnoj, distalnoj, oralnoj). Za procenu veličine recesije gingive sa vestibularne strane korišćena je Milerova klasifikacija. Recesije gingive su zabeležene kod 119 ispitanika. Pregledano je 3257 zuba, od kojih su recesije gingive veće od ≥ 1 mm uočene na 697 zuba i 1124 površine zuba. Prema Milerovoj klasifikaciji klasa 1 bila je najzastupljenija, zabeležena je na 618 mesta (54.98%), a zatim klasa 3 na 427 mesta (37.99%). Broj mesta sa klasom 1 smanjivao se sa porastom starosti, dok se broj mesta sa klasom 3 i 4 povećavao sa povećanjem starosti ispitanika. Recesije gingive su najzastupljenije kod starije životne grupe (50-59 godina). Prema vrsti zuba, najčešće su recesijom zahvaćeni sekutići donje vilice. Zastupljenost recesija gingive kod odraslih osoba je visoka i povećava se u starijoj životnoj dobi. Najčešće su zahvaćeni sekutići donje vilice. Najzastupljenija recesija gingive je klase 1 po Milerovoj klasifikaciji.

Ključne reči: recesija gingive; parodontitis; Milerova klasifikacija.

REPRESENTATION AND SIZE OF GINGIVAL RECESIONS IN ADULTS

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Gingival recession is a frequent condition caused by the movement of the coronal gingival margin more apical than the enamel-cementum border, which exposes the root surface and causes aesthetic and functional disturbances. The aim of the research is to determine the prevalence and size of gingival recessions in adults. 300 subjects from the Clinic of Dental Medicine Niš participated in the study. They were divided into 4 age groups: group 1 (20-29 years of age), group 2 (30-39 years of age), group 3 (40-49 years of age), group 4 (50-59 years of age). A calibrated periodontal probe was used to measure the size of gingival recession. Recession was measured from the enamel-cementum border to the coronal gingival margin in the middle of all four surfaces of each tooth (mesial, buccal, distal, oral). Miller's classification was used to assess the size of gingival recession on the vestibular tooth surfaces. Gingival recession was recorded in 119 subjects. 3257 teeth were examined, of which gingival recession greater than ≥ 1 mm was observed on 697 teeth and 1124 tooth surfaces. According to Miller's classification, class 1 was the most represented, recorded in 618 surfaces (54.98%), followed by class 3 in 427 surfaces (37.99%). The number of places with class 1 decreased with increasing age, while the number of places with class 3 and 4 increased with increasing age of subjects. Gingival recession is most prevalent in the older age group (50-59 years). According to the type of teeth, the incisors of the lower jaw are most often affected by recession. The incidence of gingival recession in adults is high and increases in old age. The incisors of the lower jaw are most often affected. The most common gingival recession is class 1 according to Miller's classification.

Keywords: gingival recession; periodontitis; Miller's classification.

ODREĐIVANJE SOMATOSENZORNE PROSTORNE DIFERENCIJACIJE DONJE USNE

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Merenje somatosenzorne prostorne diferencijacije na određenim telesnim dermatomima može se izvesti testom diskriminacije dve tačke (TDDT) koji predstavlja najmanju razdaljinu na kojoj dva stimulusa mogu biti razlikovana od jednog. Bazična vrednost testa za dermatom n.mentalisa prema navodima iz literature varira od 2 do 6 mm sa potencijalno većom osetljivošću kod žena. Cilj je bio proceniti vrednost testa diskriminacije dve tačke pacijenata koji se javljaju na Kliniku za dentalnu medicinu u Nišu. U istraživanju je učestvovalo ukupno 48 pacijenata oba pola podeljenih u 3 grupe od po 16 pacijenata, pri čemu su prvu grupu činile samo žene, drugu jednako žene i muškarci i treću samo muškarci. TDDT u dermatomu n.mentalisa vršen je počevši od ugla donje usne sa desne strane korišćenjem test diskriminatora sa početnom razdaljinom od 2 mm i sa svakom narednom udaljenošću po 2 mm više od prethodne, sve dok pacijent nije osetio dva uboda umesto jednog, a zatim je ponovljen još dva puta sa prvom razdaljinom na kojoj je pacijent osetio dva uboda. Kada je pacijent tri puta dao isti odgovor, ta razdaljina je beležena kao vrednost testa. Postoji statistički značajna razlika u polnoj zastupljenosti pacijenata među ispitivanim grupama ($p=0,001$). Vrednosti testa diskriminacije u dve tačke bile su $4,40\pm 0,45$ mm u prvoj, $4,50\pm 0,72$ mm drugoj i $4,60\pm 0,63$ mm u trećoj grupi pacijenata, bez statističke značajnosti među ispitivanim grupama ($p= 0,587$). Ispitivani TDDT pokazao je vrednost oko 4,5 mm što se može smatrati standardom za dermatom donje usne, bez razlike među polovima.

Ključne reči: donja usna, dermatom, test diskriminacije dve tačke.

DETERMINATION OF SOMATOSENSORY SPATIAL DIFFERENTIATION OF THE LOWER LIP

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Measurement of somatosensory spatial differentiation on specific body dermatomes can be performed by using the two-point discrimination test (TPDT), which represents the smallest distance at which two stimuli can be distinguished from each other. The basic value of this test for the dermatome of n.mentalis according to the literature varies from 2-6 mm with potentially higher sensitivity in women. The aim was To evaluate the value of the two-point discrimination test for patients who come to the Clinic of Dental Medicine in Niš. 48 patients of both sexes were divided into 3 equal groups of 16 patients, where the first group consisted only of women, the second of women and men equally, and the third consisted only of men. TPDT in the dermatome n.mentalis at the lower lip was performed starting from the corner of the lower lip on the right side using a test discriminator with an initial distance of 2 mm and with each subsequent distance 2 mm more than the previous one, until the patient felt two stings instead of one, and then repeated two more times with the first distance at which the patient felt two stings. When the patient gave the same answer three times, that distance was recorded as the test value. There is a statistically significant difference in the gender representation of patients among the examined groups ($p=0.001$). The values of the two-point discrimination test were 4.40 ± 0.45 mm in the first, 4.50 ± 0.72 mm in the second and 4.60 ± 0.63 mm in the third group of patients, without statistical significance among the examined groups ($p= 0.587$). The TPDT showed that a value of about 4.5 mm is the standard for the dermatome of the lower lip with no differences among the genders.

Keywords: lower lip; dermatome; two-point discrimination test

ANTROPOLOŠKA PERSPEKTIVA RUMUNSKOG DEMOGRAFSKOG PROFILA

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13. Septembar, br. 13, sektor 5, Bukurešt, Rumunija

Natalitet je demografski indeks učestalosti živorođenih beba u populaciji. Za razliku od drugih vrsta, ljudski natalitet prevazilazi biološki okvir. Kao takav, predstavlja kompleksan fenomen sa biološkim, kulturološkim, socijalnim, ekonomskim i političkim implikacijama. Pristup natalitetu sa antropološkog stanovišta zahteva analizu ovog fenomena ne samo iz biološke već i socio-ekonomske i kulturološke perspektive koje neprestano oblikuju biološko okruženje u zavisnosti od napretka i zahteva ljudskih društava tokom njihovog razvoja kroz istoriju. U Rumuniji, kao i u ostatku Evrope, natalitet opada. Ovaj fenomen povezan je sa zahtevima postindustrijskog društva: promenama u porodičnom modelu, migracijom stanovništva, pomeranjem prosečne starosne granice za sklapanje braka, pomeranjem prosečne starosne granice kada se žene ostvaruju kao majke po prvi put, vrednostima stope fertiliteta koje su ispod minimalnog praga potrebnog za obnovu generacije. Demografsko starenje i smanjen prirodni priraštaj izmeniće strukturu radničke klase, sistem socijalnog osiguranja i indeks ekonomske zavisnosti.

Cljučne reči: demografija; antropologija; Rumunija.

AN ANTHROPOLOGICAL PERSPECTIVE ON THE ROMANIAN DEMOGRAPHIC PROFILE

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Birth rate is a demographic index of the frequency of live births in a population. Unlike other species, the birth rate of humans exceeds the biological frame. It is a complex phenomenon with biological, cultural, social, economic and political implications. Approaching birth rate from an anthropological perspective requires the analysis of this phenomenon not only from a biological perspective but also from a socio-economic and cultural perspective that permanently shapes the biological terrain according to the progress and requirements of human societies during their development over time. In Romania as in the rest of Europe, the birth rate is decreasing, this phenomenon being strictly linked to the requirements of the post-industrial society: changes in the family model, external migration, increased average age at marriage and increased average age of mothers at first birth, the fertility rate registering a value below the minimum generational replacement threshold. Demographic aging and the reduced birth rate will modify the structure of the labor force, the social insurance system and the economic dependency index.

Keywords: demography; anthropology; Romania.

SPORTSKA ANTROPOLOGIJA
SPORT ANTHROPOLOGY

TELESNI SASTAV KOD BODIBILDING I FITNESS VEŽBAČA U ZAVISNOSTI OD NIVOVA VEŽBANJA: TAKMIČARI I REKREATIVCI

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Primarni cilj u fitnessu i bodibildingu je izgradnja i oblikovanje idealne telesne figure, tako da je postizanje idealnog telesnog sastava krajnji cilj svakog takmičara u ovim sportovima. Bez obzira na težinsku kategoriju, svi takmičari žele da postignu izuzetno visoku mišićnu masu i ekstremno nisku masu telesne masti. Cilj ovog istraživanja je da se utvrde telesne komponente kod fitness i bodibilding vežbača i uporede u odnosu na nivo afizičke aktivnosti (takmičarski ili rekreativni). U ovom istraživanju učestvovalo je 50 muškaraca, uzrasta od 18 do 40 godina, koji su bili podeljeni u dve grupe: muškarci takmičari (visokinivo PA, N=15) i rekreativci (nižinivo PA, N= 35). Sastavtela je analiziran metodom bioelektrične impedanse, InBody 720. Srednje vrednosti visine, težine i BMI su se neznatno razlikovale između takmičara i rekreativaca. Takmičari su pokazali veći volumen telesnih tečnosti (ICV i ECV). Masa telesne masti (BFM) bila je statistički veća kod rekreativaca, 16,64 kg naspram 9,81 kg masti kod takmičara. Srednje vrednosti procenata telesne masti (BF%) takođe su bile statistički veće kod rekreativaca u odnosu na takmičare, 19,49% naspram 11,97%. Skeletna mišićna masa (SMM) bila je veća kod takmičara ($p=0,43$). Fitness takmičari imaju značajno veću bezmasnu komponentu, meku nemasnu masu i značajno nižu masnu komponentu. Rekreativci su imali značajno veće parametre gojaznosti (BF%iWHR) od takmičara u fitnessu i bodibildingu.

Ključne reči: Bodibilding, fitness, telnii sastav, mišićna masa, telesne masti.

BODY COMPOSITION IN MALE FITNESS AND BODY BUILDING REGARDING THE LEVEL OF EXERCISE

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The primary goal in fitness and bodybuilding is to build and shape a desirable body figure, so the ideal body composition is the ultimate goal of every competitor in these sports. Regardless the weight category all competitors aimed to achieve extremely high muscle mass and extremely low body fat mass. The aim of this study isto establish body components in fitness and bodybuilding exerciser and compare them regarding the level of physical activity. This study involved 50 adult men, aged 18 to 40, who were divided into two groups: men competitors (high level PA, N=15) and recreational men (lower level of PA, N= 35). Body composition was analyzed through bioelectrical impedance method, InBody 720. Results: the mean values of height, weight and BMI were insignificantly different between competitors and recreationists. The contestants showed higher volume of body fluids (ICW and ECW). Body fat mass (BFM) was statistically greater in recreationists comparing the competitors, 16.64 kg vs 9.81kg fat in contestants. Mean values of body fat percent (BF %) were also statistically higher in recreationists compared to the competitors, 19.49% vs 11.97%. Skeletal muscle mass (SMM) was higher in competitors ($p=0.43$). Fitness competitor had a significantly higher fat-free mass, soft lean mass and significantly lower fat component. Recreational exercisers had significantly higher parameters of obesity (BF% and WHR) than contestants in fitness and bodybuilding.

Keywords: skeletal muscle mass, body fat mass, fitness, bodybuilding, contestants, recreationists.

VAŽNOST ANTROPOMETRIJE U SPORTSKOJ MEDICINI

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Antropometrija se u sportskoj medicini odnosi na merenja veličine tela, struktura pogodnih za različite sportske discipline. Elementi antropometrijskih merenja kod sportista su debljina kožnih nabora, visina, težina, obim glave, indeks telesne mase, obim tela za procenu adipoznosti (struk, kukovi, odnos struka i kukova i udova). Sportisti koji poseduju izdržljivost (maratonci, triatlonci i biciklisti) imaju koristi od niske telesne masti, dok sportisti iz borbenih sportova (rvanje, boks, džudo, karate) imaju koristi od odnosa snage i mase. Kompozicija tela ima važnu ulogu u sportskim prednostima, jer postoje 3 tipa tela vezana za različite sportske discipline: ektomorfni tip tela - ima laganu muskulaturu i malo masti, mala ramena, ravne grudi i delikatnu strukturu kostiju, tanko telo, dugačke udove, vitke mišice, ima brz metabolizam i teško dobija na težini, oslanjajući se više na aerobnu izdržljivost nego na snagu (plivanje, fudbal, maraton, košarka, triatlon, biciklizam); mezomorfni tip tela - ima široka ramena, uzak struk, relativno tanke zglobove i okrugao mišićni stomak, telo pravougaonog oblika, dugačke udove, definisane mišice, ima normalan metabolizam i lako dobija na težini, dobro reaguje na kardio treninge i treninge otpora (košarka, boks, borilačke veštine, odbojka, plivanje); endomorfni tip tela - ima okrugli izgled, debele grudne košnice, široke kukove, mišićavo kratko telo, kratke udove, više mišića, spor metabolizam i lako dobijanje na težini, dobro reaguje na kardio treninge i treninge snage (sportovi dizanja diska, bacanje kladiva, džudo, tenis, plivanje). Iako većina sportista ima mešoviti tip tela, antropometrijska analiza pruža pristup za izbor sporta, snagu i odgovor na trening za bolja sportska dostignuća.

Cljučne reči: tip tela; sport; antropometrijska analiza.

THE IMPORTANCE OF ANTHROPOMETRY IN SPORTS MEDICINE

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Anthropometry in sports medicine is related to the body size, structure and composition measurements suitable to different sport disciplines. The core elements of anthropometric measurements in athletes are skinfold thickness, height, weight, head circumference, body mass index (BMI), body circumference for the assessment of adiposity (waist, hip, waist to hip ratio and limbs). Thus, endurance athletes (marathon, triathlon and cyclists) benefit from low body fat, while combat athletes (wrestling, boxing, judo, karate) benefit from the strength-to-mass ratio. Body composition has an important role in sport advantages as there are three body types related to different sport disciplines. Ectomorph body type has light musculature and low fat, small shoulders, flat chest and delicate bone structure, thin body, long limbs, lean muscles, has fast metabolism and hard time gaining weight, it relies on aerobic endurance more than power (swimming, football, marathon, basketball, triathlons, cycling). Mesomorph body type has wide shoulders, narrow waist, relatively thin joints and round muscle belly, rectangular shaped body, somewhat long limbs, well-defined muscles, normal metabolism and gains weight easily, it responds well to cardio and resistance training (basketball, boxing, martial arts, and volleyball, swimming). Endomorph body type has rounder appearance, thick ribcage, wide hips, muscular short body, short limbs, more muscles, slow metabolism and gains weight easily, responds well to cardio and strength training (power lifting sports, discus, hammer throw, judo, tennis, and swimming). Although most athletes have a mixed body type, the anthropometric analysis provides help for sport selection, prowess and training response for better sport achievements.

Keywords: body type; sport; anthropometric analysis.

KOMPOZICIJA TELA I ANALIZA RESPIRATORNIH PARAMETARA KOD FUDBALERA

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Testovi plućne funkcije (TPF) često se koriste za procenu respiratornog statusa kao i za praćenje osoba koje boluju od neke plućne bolesti. Postali su deo rutinske kontrole u pulmologiji, okupacionoj i sportskoj medicini kao i prilikom skrininga u javnom zdravlju. Rezultati plućne funkcije interpretiraju se u odnosu na opseg referentnih vrednosti koje preporučuju vodiči Američkog torakalnog udruženja (ATS) i Evropske zajednice za ugalj i čelik (ECCS). Spirometrija predstavlja zlatni standard u proceni količine vazduha koji protiče prilikom uzdisaja i izdisaja osobe u jedinici vremena. Ovo je najvažnija i najčešće primenjivana procedura testiranja plućne funkcije, i kao takva postala je neizbežna procedura u prevenciji, dijagnostici i proceni različitih respiratornih bolesti. 61 fudbaler podeljen je u dve grupe na osnovu godišta, 13 (13.85 ± 3.26) i 27 godina (23.82 ± 3.32). Studiju je sproveo Institut medicinske, eksperimentalne i primenjene fiziologije i antropologije, Medicinski fakultet UKIM u Skoplju. Spirometrija je vršena pomoću Spirobank II spirometra (Ri. Italija) za sledeće parametre: forsirani vitalni kapacitet (FVC), forsirani ekspiracijski volumen u prvoj sekundi (FEV1), i odnos FEV1/FVC vrednosti. Kako bi se odredila telesna težina (kg), visina (cm), indeks telesne mase BMI (kg/m^2), masa skeletnih mišića SMM (kg) kao i nivo proteina (kg) i minerala (kg) korišćen je analizator telesnog sastava InBodz 720, Velika Britanija. Nisu pronađene statistički značajne razlike kod forsiranog vitalnog kapaciteta (FVC), forsiranog ekspiracijskog volumena u prvoj sekundi (FEV1) i odnosa vrednosti FEV1/FVC.

Ključne reči: spirometrija, plućna funkcija, telesna kompozicija

BODY COMPOSITION AND RESPIRATORY PARAMETER ANALYSIS AT FOOTBALL PLAYERS

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Pulmonary function tests (PFTs) are commonly used for evaluating respiratory status and managing persons with known pulmonary disease. They have become part of routine health examinations in respiratory, occupational, and sports medicine, and in public-health screening. The results of PFTs are interpreted in relation to normal range reference values, as recommended by the guidelines of the American Thoracic Society (ATS) and the European Community for Coal and Steel (ECCS). Spirometry is a gold standard pulmonary function test that measures how an individual inhales or exhales volumes of air as a function of time. It is the most important and most frequently performed pulmonary function testing procedure, having become indispensable for the prevention, diagnosis, and evaluation of various respiratory impairments. A number of 61 football players were divided into 2 groups according to their age, 13 (13.85 ± 3.26) and 27 years (23.82 ± 3.32). This study was organized by the Institute of Medical, Experimental and Applied Physiology and Anthropology, Medical faculty - UKIM, Skopje. The spirometry method was performed with the Spirobank II spirometer (Rome, Italy), for the following parameters: forced vital capacity (FVC), forced expiratory volume in the first second (FEV1), and the ratio FEV1/FVC ratio. Body composition analyzer InBody 720, Great Britain, was used to determine body weight (kg), body height (cm), body mass index - BMI (kg / m^2), skeletal muscle mass SMM (kg) and the amount of proteins (kg) and minerals (kg). We did not find any statistically significant differences for forced vital capacity (FVC), forced expiratory volume in the first second (FEV1), and the ratio FEV1/FVC ratio.

Keywords: spirometry; pulmonary function; body composition.

MODELI INKLUZIJE U NASTAVI FIZIČKOG VASPITANJA

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Inkluzija u nastavi fizičkog vaspitanja treba da omogući svakom detetu sa invaliditetom da bez obzira na njegove motoričke, morfološke, kognitivne i socijalne sposobnosti i karakteristike učestvuje na času fizičkog vaspitanja u istom okruženju kao njegovi vršnjaci uz odgovarajuću individualnu podršku. Postoje tri osnovna modela inkluzije u nastavi fizičkog vaspitanja. To su: 1. adaptirane aktivnosti, 2. obrnuta integracija i 3. odvojene aktivnosti. Adaptirane aktivnosti podrazumevaju da sva deca učestvuju u istom sportu ili fizičkoj aktivnosti, ali se vrši odgovarajuća adaptacija koja omogućava uključivanje sve dece sa različitim sposobnostima. Primer može biti košarka sa spuštenim obručima, manjim brojem igrača i izmenjenim pravilima etc. (dozvoljena je dupla lopta). Obrnuta integracija podrazumeva da se deca bez invaliditeta uključuju u sportske igre koje su karakteristične za osobe sa invaliditetom. Na primer na času fizičkog vaspitanja igra se sedeća odbojka, golbal. Odvojene aktivnosti podrazumevaju da deca sa i bez invaliditeta treniraju u istom sportskom klubu, ali u različitim grupama. Na primer u istom klubu deca bez invaliditeta treniraju odbojku, a deca sa invaliditetom treniraju sedeću odbojku. U okviru modela adaptirane aktivnosti koristi se adaptaciona strategija koja obuhvata adaptaciju opreme, pravila, zadataka, instrukcija i prostora. Adaptacija se vrši pojedinačno za svaku vrstu invaliditeta ili smetnji u razvoju kao i u odnosu na svaki pojedinačni sport i fizičku aktivnost. Pritome mora da se vodi računa da se, koliko je moguće, zadrže bazične karakteristike određenog sporta ili fizičke aktivnosti.

Cljučne reči: inkluzija, fizičko vaspitanje, adaptacija, invaliditet.

MODELS OF INCLUSION IN PHYSICAL EDUCATION CLASSES

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Inclusion in physical education classes should enable every child with disabilities, regardless of their motor, morphological, cognitive, and social abilities and characteristics, to participate in physical education classes in the same environment as their peers with the appropriate individual support. There are three basic models of inclusion in physical education. These are Adapted activities, Reverse integration and Separate activities. Adapted activities mean that all children participate in the same sport or physical activity, with an appropriate adaptation that allows the inclusion of all children with different abilities. An example can be basketball with lowered basketball rings, a smaller number of players and modified rules, etc. (a double ball is allowed). Reverse integration implies that children without disabilities participate in sports games that are characteristic of people with disabilities. For example, in physical education classes, sitting volleyball, goalball, etc. are played. Separate activities mean that children with and without disabilities train in the same sports club but in different groups. For example, in the same club, children without disabilities practice volleyball, and children with disabilities practice sitting volleyball. Within the adapted activity model, an adaptation strategy is used, which includes the adaptation of equipment, rules, tasks, instructions and space. Adaptation is done individually for each type of disability or impaired development, as well as in relation to each individual sport and physical activity. In doing so, the basic characteristics of a particular sport or physical activity should be maintained as much as possible.

Keywords: inclusion, physical education, adaptation, disability

UTICAJ PROGRAMIRANOG FIZIČKOG VEŽBANJA NA RAZVOJ OPŠTE KOORDINACIJE PREDŠKOLSKE DECE

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Koordinacija predstavlja jednu od najznačajnijih motoričkih sposobnosti u detinjstvu. Slabo razvijena koordinacija kod dece onemogućava adekvatan razvoj motoričkih veština, ali isto tako negativno utiče i na uspeh u školi, kompetentnost dece, njihovo učešće u fizičkim aktivnostima, kao i na društvene interakcije i uspeh kod svojih vršnjaka. Zbog toga je veoma važno na vreme utvrditi i kontinuirano pratiti nivo koordinacije kod predškolske dece. Na uzorku od 139 ispitanika (68 dece eksperimentalne i 61 kontrolne grupe) uzrasta 5-6 godina, primenjena je KTK baterija testova (Körperkoordinationstest Für Kinder) sa ciljem utvrđivanja razlika u nivou opšte koordinacije između dve grupe dece različitog nivoa fizičkog angažovanja. Rezultati multivarijatne analize varijanse (MANOVA) ukazuju na statistički značajnu razliku ispitivanih grupa i to na najoštrijem nivou statističkog zaključivanja ($P \leq 0,01$). Primenom univarijatne analize varijanse (ANOVA) ustanovljeno je postojanje statistički značajnih razlika ($p \leq 0,01$) u svim varijablama KTK baterije testova izuzev „hodača unazad po gredicama“, u korist eksperimentalne grupe. U pogledu antropometrijskih varijabli „Telesna visina“, „Telesna masa“ i „BMI“ nije uočena statistički značajna razlika između ispitivanih grupa predškolske dece ($p > 0,05$). Rezultati istraživanja nedvosmisleno ukazuju na to da eksperimentalna grupa dece uzrasta 5-6 godina koja je uključena u program „školice sporta“ poseduje značajno viši nivo opšte koordinacije u odnosu na svoje vršnjake koji nisu uključeni u neki vid organizovanog fizičkog vežbanja. Autori ovog rada snažno sugerišu roditeljima, vaspitačima i drugim pedagogima da motivišu predškolsku decu da se uključe u neki vid organizovanog fizičkog vežbanja koji ima za cilj opšti razvoj koordinacije, a takođe i svih fundamentalnih motoričkih veština i fizičke forme povezane sa zdravljem.

Ključne reči: predškolski uzrast, koordinacija, školica sporta, vežbanje.

THE EFFECT OF PROGRAMMED PHYSICAL EXERCISING ON DEVELOPMENT OF GENERAL COORDINATION IN PRE-SCHOOL CHILDREN

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Coordination is one of the most important motor abilities in childhood. Poor coordination in children not only impedes the adequate development of motor abilities, but also negatively affects school achievements, child competencies, and their participation in physical activities and social interactions. Therefore, it is crucially important to establish and continuously monitor the level of coordination in pre-school children. The sample of 139 respondents (68 and 61 children in experimental and control group respectively) aged 5-6 completed the KTK test battery (Körperkoordinationstest Für Kinder). The aim was to establish the differences in the level of general coordination between the two groups of children with different level of physical involvement. The results of multivariate analysis of variance (MANOVA) indicated that there was a statistically significant difference between the groups at the highest level of statistical inference ($P \leq 0,01$). By applying univariate analysis of variance (ANOVA), it was established that there were statistically significant differences in all KTK battery variables ($p \leq 0,01$) except that in Walking Backwards the experimental group reported better results. As for the anthropometric variables of Body Mass, Body Height and BMI, no statistically significant difference was identified between the examined groups of pre-school children ($p > 0,05$). The results of the research undoubtedly indicate that the experimental group of children aged 5-6 which is included in the programs of "Sport school" has significantly better general coordination compared to their peers who are not included in any type of organized physical exercising. Therefore, the authors of this paper recommend to parents, teachers and other pedagogues to motivate pre-school children to get involved in any type of physical activity aimed at developing general coordination and fundamental motor abilities and improving health-related physical fitness.

Keywords: pre-school age, coordination, sport school, exercising

UTICAJ ANTROPOMETRIJSKIH KARAKTERISTIKA NA MOTORIČKI PROSTOR FUDBALERA 11-12 GODINA

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Fudbal, kao kompletni sport, koji obiluje najrazličitijim mogućim kretanjima, svrstava se u polistrukturalne, kompleksne sportove. Cilj rada bio je da se utvrdi da li postoji statistički značajan uticaj morfoloških karakteristika na određene motoričke sposobnosti fudbalera 11-12 godina. Uzorak je činilo 25 ispitanika muškog pola, starosti 11,9 ($\pm 1,1$) godina. Varijable antropometrijskih karakteristika su: Telesna visina (cm), Telesna masa (cm) i BMI, a motoričkog prostora su: Skok udalj (cm), Bacanje medicine (cm), Brzina na 20m (s), Slalom trčanje (s), Slalom trčanje sa loptom 20m (s). Ispitanici su bili testirani pred nastupajuću fudbalsku sezonu. Primenom Pirsonovog koeficijenta utvrđivana je korelacija između varijabli antropometrijskih mera i motoričkih sposobnosti, a Regresionom analizom utvrđivan je njihov odnos, odnosno uticaj antropometrijskih karakteristika (prediktora) na motoričke sposobnosti (kriterijske). Dobijeni rezultati ukazali su samo na uticaj antropometrijskih karakteristika na Skok udalj; dok su za preostale varijable posmatranog motoričkog prostora, odgovorne neke druge karakteristike koje nisu obuhvaćene ovim istraživanjem.

Ključne reči: telesna konstitucija, motorika, fudbal.

THE INFLUENCE OF ANTHROPOMETRIC CHARACTERISTICS ON MOTOR SPACE OF FOOTBALL PLAYERS 11-12 YEARS OF AGE

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Football, which abounds in the most diverse movements, is classified as a poly-structural, complex sport. The aim of this paper was to determine whether there was a statistically significant influence of morphological characteristics on specific motor skills of 11 and 12-year-old football players. The sample consisted of 25 male participants aged 11.9 (± 1.1). The variables of anthropometric characteristics were: body height (cm), body mass (cm), and BMI, while the variables of motor space were: long jump (cm), throwing medicine ball (cm), speed at 20m (s), slalom running (s), slalom running with a ball 20m (s). The respondents were tested before the upcoming football season. The correlation between the variables of anthropometric measures and motor abilities was determined using the Pearson coefficient, and their relationship, i.e., the influence of anthropometric characteristics (predictors) on motor abilities (criteria), was selected by regression analysis. The obtained results indicated only the influence of anthropometric characteristics on the long jump, while some other characteristics that are not included in this research were responsible for the remaining variables of the observed motor space.

Keywords: physical constitution, motor skills, football

KORELACIJE ELEKTROKARDIOGRAFSKIH PROMENA U ODNOSU ANTROPOMETRIJSKIH KARAKTERISTIKA KOD SPORTISTA U REPUBLICI SEVERNA MAKEDONIJA

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Elektrokardiografske (EKG) promene kod sportista nastaju usled strukturnog, funkcionalnog i električnog remodeliranja srca, kao direktne posledice njihovog dugotrajnog bavljenja sportskim aktivnostima. Cilj ove studije bio je da se napravi poređenje i utvrde potencijalne korelacije promena u EKG-u koje se odnose na određene antropometrijske karakteristike. Ovom prospektivnom studijom preseka, sprovedenom tokom 2016. i 2017. godine, obuhvaćeno je ukupno 285 sportista uzrasta od 9 do 38 godina oba pola. Antropometrijske karakteristike su određivane kod svih ovih sportista uz EKG od 12 odvoda. Prosečna starost ispitanika bila je $19,3 \pm 5,7$ godina. Nije utvrđena značajna korelacija između EKG karakteristika i uzrasta sportista ($r = -0,009$, $p = 0,880$). Nije bilo značajne razlike u procentu graničnih i abnormalnih promena EKG-a u pogledu pola, iako su bile neznatno veće kod muških sportista. Korelaciono istraživanje je pokazalo da normalan EKG značajno korelira sa ženama ($r = -0,205$, $p = 0,001$). Ispitanici sportisti koji su imali normalan EKG imali su značajno nižu telesnu visinu i neznatno nižu telesnu težinu u poređenju sa onima sa fiziološkim promenama EKG-u. Promenena EKG-u su vezane za telesnu visinu, težinu i pol, što je najverovatnije posledica manjeg obima remodeliranja srca, kao i stope bavljenja sportom koji može doprineti promenama EKG-a.

Cljučne reči: elektrokardiogram, sportisti, antropometrijske karakteristike

CORRELATIONS OF ELECTROCARDIOGRAPHIC CHANGES IN TERMS OF ANTHROPOMETRIC CHARACTERISTICS IN ATHLETES IN THE REPUBLIC OF NORTH MACEDONIA

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Electrocardiographic (ECG) changes in athletes occur due to structural, functional and electric remodeling of the heart, as a direct result of their long-term engagement in sporting activities. The objective of this study was to establish a potential correlation of changes in the ECG pertaining to certain anthropometric characteristics. In this prospective cross-sectional study, conducted during 2016 and 2017, 285 athletes aged between 9 and 38 of both sexes were included. Anthropometric characteristics were determined on all the athletes alongside a 12-lead ECG. The average age of the respondents was 19.3 ± 5.7 . No significant correlation between the ECG characteristics and the athletes' age was found ($r = -0,009$, $p = 0,880$). There was no significant difference in the percentage of borderline and abnormal changes of ECG in terms of sex, even though they were marginally higher in male athletes. The correlation research has shown that a normal ECG significantly correlates with females ($r = -0,205$, $p = 0,001$). The athlete subjects who had a normal ECG had a significantly shorter body height and marginally lower body weight compared to those with physiological changes in the ECG. The changes in ECG are related to the body height, weight and sex, which are most probably due to the lesser range of heart remodeling, as well as the rate of participation in sports that can contribute to ECG changes.

Keywords: electrocardiogram, athletes, anthropometric characteristics

POREĐENJE VREDNOSTI MAKSIMALNE POTROŠNJE KISEONIKA, METABOLIČKE KOLIČINE U MIROVANJU I TELESNOG SASTAVA KOD SPORTISTA AEROBNIH I ANAEROBNIH SPORTOVA

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Cilj ove studije je uporediti vrednosti maksimalne potrošnje kiseonika (VO_2 max), metaboličke stope u stanju mirovanja (RMR) i kompozicije tela između aerobnih i anaerobnih sportova. U istraživanju je testirano 90 ispitanika muškog pola ($25,34 \pm 5,6$ godina; $179,78 \pm 6,9$ cm visina; $78,66 \pm 6,9$ kg težina i $24,34 \pm 2,75$ BMI). Ispitanici su podeljeni u 2 grupe: I grupa-aerobni sportovi (izdržljivost) ($n=63$), II grupa-anaerobni sportovi (snaga) ($n=26$). Visina je merena stadiometrom-SEKA, telesni sastav je određen analizom bioelektrične impedanse- InBody 720, (Velika Britanija), RMR je meren indirektnom kalorimetrijom- Fit Mate, COSMED, (Italija), a VO_2 max je određen ergometrijskim testom na traci za trčanje Bruce (ergo_run medical_a 24). Rezultati su pokazali da anaerobni sportovi imaju značajno veće vrednosti: težine (83 ± 12 kg), BMI (26 ± 3 kg/m²) i procenat masnog tkiva-PBF ($15 \pm 8\%$) u poređenju sa aerobnim sportovima: težine (76 ± 7 kg), BMI ($23 \pm 1,5$ kg/m²), PBF ($12 \pm 3\%$). Aerobni sportovi imaju značajno veće vrednosti za: procenat skeletne mišićne mase-SMM ($50 \pm 2\%$), VO_2 max ($50,1 \pm 4$ ml/kg/min) i RMR (2265 ± 276 kcal/dan) u poređenju sa anaerobnim sportovima: % SMM ($48 \pm 4\%$), VO_2 max ($45,9 \pm 5$ ml/kg/min) i RMR (2258 ± 314 kcal/dan). Kako bi održali visoku SMM, sportisti izdržljivosti moraju unositi veći broj kalorija. Kako bi postigli više vrednosti VO_2 max i bolju performasnu sportisti kombinuju submaksimalne i maksimalne trenažne sesije.

Ključne reči: sport, telesni sastav, mirovne metaboličke stope, maksimalna potrošnja kiseonika

COMPARISON OF MAXIMAL OXYGEN CONSUMPTION, RESTING METABOLIC RATE AND BODY COMPOSITION ANALYSIS BETWEEN AEROBIC AND ANAEROBIC SPORTS

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The aim of this study is to compare the values of maximal oxygen consumption (VO₂ max), resting metabolic rate (RMR) and body composition analysis between aerobic and anaerobic sports. 90 male athletes (25,34 ±5,6 age; 179,78±6.9 height/cm; 78,66±6,9 weight/kg and 24,34±2,75 BMI/ kg/m²) were tested for this study. The athletes were divided in 2 groups, I group- aerobic sports (endurance) (n=63), II group- anaerobic sports (strength) (n=26). Height was measured with stadiometer - CEKA, body composition by means of bioelectrical impedance analysis - InBody 720, (Great Britain), RMR with indirect calorimetry- Fit Mate, COSMED, (Italy) and VO₂ max with ergometric test Bruce on treadmill (ergo_run medical_α 24). Results showed that anaerobic athletes have significantly higher values of weight (83 ± 12kg) , BMI (26 ± 3 kg/m²) and body fat percentage-PBF (15 ± 8%), compared to aerobic athletes: weight (76 ±7 kg), BMI (23±1,5 kg/m²) and PBF (12 ±3 %). Aerobic athletes have significantly higher values skeletal muscle mass percentage -SMM (50 ±2%) and VO₂ max (50,1 ± 4 ml/kg/min) (p<0,05) and higher values of RMR (2265 ±276 kcal/day) compared to anaerobic athletes: % SMM (48 ± 4%), VO₂ max (45,9± 5 ml/kg/min) and RMR (2258 ± 314 kcal/day). Kako bi postigli više vrednosti VO₂ max i bolju performasnu sportisti kombinuju submaksimalne i maksimalne trenažne sesije. To keep high SMM, endurance athletes need to have higher calorie intake. To achieve higher VO₂ max values and better performance athletes tend to have combined submaximal and maximal training sessions.

Keywords: sports, body composition, resting metabolic rate, maximal oxygen consumption.

PODSTICANJE FIZIČKE AKTIVNOSTI: UNAPREĐENJE MOTORIČKIH SPOSOBNOSTI UČENIKA BOGOSLOVIJE PUTEM PRILAGOĐENOG PROGRAMA VEŽBANJA

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Cilj ovog rada je da istraži i pokaže efikasnost prilagođenog programa vežbanja u unapređenju motoričkih sposobnosti učenika bogoslovije. Ukupno je 26 učenika Bogoslovije Svetog Kirila i Metodija iz Niša učestovalo u ovom istraživanju. Program vežbanja je trajao 12 nedelja sa ciljem poboljšanja motoričkog statusa učenika i ovladavanja novim znanjima i veštinama iz oblasti plesa, opšte motorike, samoodbrane, akrobatike i plivanja. Testiranjem je bilo obuhvaćeno utvrđivanje antropometrijskih karakteristika (telesna visina, telesna masa, indeks telesne mase) i merenje motoričkih sposobnosti koje je obuhvatilo: snagu (sklekovi, pregibanje trupa za 30 sekundi, pregibanje trupa za 60 sekundi, stisak šake, skok udalj), brzinu (sprint na 5, 10 i 20 metara), gipkost (sit and reach, back-saver sit and reach) i izdržljivost (bip test). Statistički značajne razlike na finalnom u odnosu na inicijalno testiranje utvrđene su u telesnoj masi (Sig.=0,002), indeksu telesne mase (Sig. = 0,003), pregibanju trupa za 30 sekundi (Sig. = 0,011), pregibanju trupa za 60 sekundi (Sig. = 0,005), stisku šake (Sig. = 0,031), skoku udalj (Sig. = 0,001), sprintu na 5 metara (Sig. = 0,000), sprintu na 10 metara (Sig. = 0,000), sprintu na 20 metara (Sig. = 0,000), sit and reach-u (Sig. = 0,000) i maksimalnoj potrošnji kiseonika (Sig.=0,001). Rezultati ovog istraživanja pokazuju da strukturisana fizička aktivnost, prilagođena potrebama i sposobnostima dece, može dovesti do poboljšanja motoričkih sposobnosti. Ono naglašava važnost bavljenja fizičkim aktivnostima kako bi se omogućio pravilan fizički razvoj i blagostanje.

Ključne reči: srednjoškolci; snaga; brzina; gipkost; izdržljivost.

FOSTERING PHYSICAL ACTIVITY: IMPROVING MOTOR ABILITIES IN THEOLOGICAL SCHOOL STUDENTS THROUGH TAILORED EXERCISE PROGRAM

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This research aims to investigate and demonstrate the effectiveness of a tailored exercise program for improving the motor abilities of theology school students. A total of 26 students from Saints Cyril and Methodius Theology School in Niš participated in this study. The exercise program lasted for 12 weeks, aiming to improve the students' motor abilities and enhance their proficiency in various areas such as dance, general motor abilities, self-defense, acrobatics, and swimming. The testing included assessing anthropometric characteristics (body height, body weight, body mass index) and measuring motor abilities, which included strength (push-ups, sit-ups in 30 s, sit-ups in 60 s, handgrip, standing broad jump), speed (5 m, 10 m, and 20 m sprint), flexibility (sit and reach, back-saver sit and reach), and endurance (beep test). Statistically significant differences were found in the final compared to the initial testing in body weight (Sig. = 0.002), body mass index (Sig. = 0.003), sit-ups in 30 s (Sig. = 0.011), sit-ups in 60 s (Sig. = 0.005), handgrip (Sig. = 0.031), standing broad jump (Sig. = 0.001), 5m sprint (Sig. = 0.000), 10m sprint (Sig. = 0.000), 20msprint (Sig. = 0.000), sit and reach (Sig. = 0.000), and beep test (Sig. = 0.001). The results of this research indicate that structured physical activity tailored to the needs and abilities of children can lead to improvements in motor abilities. It emphasizes the importance of engaging in physical activities in order to enable proper physical development and well-being.

Keywords: high school students; strength; speed; flexibility; endurance.

PRIMENA VEŠTAČKE INTELIGENCIJE U SPORTSKOJ ANTROPOLOGIJI - „UPGRADED SPORTS ANTHROPOLOGY“

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Cilj ovog istraživanja je da predstavi različite modele primene veštačke inteligencije u sportskoj antropologiji i da ukaže na prednosti i nedostatke njene primene u sportu. Veštačka inteligencija je metoda iz domena kompjuterskih nauka u kojoj se kompjuteri razvijaju tako da oni procesuiraju podatke oponašajući inteligenciju čoveka odnosno ljudski način razmišljanja kroz procese kao što su učenje, rezonovanje i samokorekcija. Veštačka inteligencija zapravo pokušava da imitira ljudsku inteligenciju primenom različitih kompjuterskih softvera. Danas je vrlo teško pronaći oblast u kojoj se već ne primenjuje veštačka inteligencija. U sportu ona je prisutna već više godina. Jedna od mogućnosti primene veštačke inteligencije u sportu je prikupljanje velikog broja podataka koji karakterišu izvesno sportsko kretanje (tehniku) kroz nošenje mobilnih senzora koji će biti povezani sa kompjuterom. Na ovaj način može se izvršiti bolji uvid u status sportiste i izvršiti predikcija uspešnosti u igri, ili predikcija sportske povrede veštačkom inteligencijom i otkrivanjem visokog stepena verovatnoće za njen nastanak. U drugoj fazi veštačka inteligencija, na osnovu velikog broja prikupljenih podataka, vrši analizu i predstavlja zaključke šta i kako treba dalje činiti kako bi se unapredio sportski rezultat ili izbegla moguća sportska povreda. Veštačka inteligencija takođe može izvršiti analizu igre u nekom sportu (košarka, rukomet, fudbal, tenis, odbojka i td.) i na osnovu velikog broja podataka o tehničko-taktičkim elementima koji su se dogodili na terenu može izvući adekvatne zaključke i dati preporuke za uspešniju organizaciju igre i planiranje uspešnije taktike. Primenom veštačke inteligencije u sportu formira se jedan sasvim novi pristup sportskoj antropologiji koji bismo mogli da nazovemo „upgraded sports anthropology“.

Cljučne reči: veštačka inteligencija; virtualna realnost; mašinsko učenje; sport; fizičko vežbanje, sportski trening.

APPLICATION OF ARTIFICIAL INTELLIGENCE IN SPORTS ANTHROPOLOGY - "UPGRADED SPORTS ANTHROPOLOGY"

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The goal of this research is to present different models of artificial intelligence (AI) application in anthropology of sports and point out the advantages and disadvantages of its application in sport. Artificial intelligence is a method in the domain of computer science in which computers are developed so that they process data imitating human intelligence, that is, the human way of thinking through processes such as learning, reasoning and self-correction. Artificial intelligence actually tries to imitate human intelligence by applying different computer software. Today, it is very difficult to find an area in which artificial intelligence is not already applied. AI has been present in sport for many years. One of the possibilities of applying artificial intelligence in sport is to collect a large amount of data that characterize a certain sport movement (technique) by wearing mobile sensors connected to a computer. In this way, a better insight into the athlete's status can be obtained and a prediction of success in the game or a prediction of a sports injury can be made by artificial intelligence as well as the calculation of the degree of probability of its occurrence. In the second phase, artificial intelligence based on a large amount of collected data performs an analysis and presents conclusions on what and how to proceed in order to improve sport results or avoid a possible sports injury. Artificial intelligence can also analyze sport games (basketball, handball, football, tennis, volleyball, etc.). Based on a large amount of data on technical-tactical elements that happened on the field, it can draw adequate conclusions and give recommendations for a more successful organization of the game and planning tactics. By applying artificial intelligence in sport, a completely new approach to anthropology of sports is developed, which we could call "upgraded anthropology of sport".

Keywords: artificial intelligence; virtual reality; machine learning; sports; physical exercise; sports training.

ANALIZA TELESNOG SASTAVA KOD FITNES VEŽBAČICA: KOMPARACIJA IZMEĐU REKREATIVKI I VEŽBAČICA

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Fitness je postao veoma popularan sport za žene širom sveta, bilo da se bave vežbanjem kao rekreacijom ili iz takmičarskih razloga. Oblik tela i odgovarajuća telesna građa je primarni cilj svih učesnika u fitnessu, rekreativaca i takmičara. Cilj ovog istraživanja je da se uporede karakteristike telesnog sastava ženskih fitness rekreativki i takmičarki. U ovoj studiji je učestvovalo 39 žena, uzrasta od 18 do 40 godina, koje su bile podeljene u dve grupe: takmičarke (N=9), rekreativke (N=30). Telesni sastav je analiziran metodom bioelektrične impedanse, InBody 720. Komparacija BIA parametara gojaznosti pokazala je da se BMI značajno razlikovao između takmičarki i rekreativki, 22,5 naspram 23,03 ($p=0,659$). Fitness takmičarke su pokazale veću zapreminu telesnih tečnosti (ICV i ECV), i značajno veću proteinsku i mineralnu komponentu. Ukupna masa telesne masti (BFM) bila je statistički veća kod rekreativki, 18,58 kg u odnosu na 12,47 kg. Srednja vrednost procenta telesne masti (BF%) je takođe statistički veća kod rekreativki u odnosu na takmičarke, 27,25% naspram 16,39%. Fitness takmičari su imali značajno veću mišićnu komponentu, a značajno manju masnu komponentu. Rekreativci su imali značajno veće parametre gojaznosti (ukupne telesne masti, BF% i odnos struk prema kukovima) od fitness takmičarki.

Cljučne reči: fitness, telesni sastav, mišićna masa, telesne masti, takmičarke.

BODY COMPOSITION ANALYSIS IN FEMALE FITNESS COMPETITORS AND RECREATIONISTS

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The fitness became very popular sport for women globally, whether they are involved in exercise as leisure activity or for competitive reasons. Body shape and suitable body composition is a primary goal for all participants in fitness programs, recreationists and competitors. The aim of this study is to compare the body composition characteristics of female fitness and bodybuilding recreationists and competitors. This study involved 39 adult women, aged 18 to 40, who were divided into four groups: women competitors (N= 9), recreational women (N=30). Body composition was analyzed with bioelectrical impedance analysis, InBody 720. The comparison of BIA obesity parameters showed that BMI was insignificantly different between competitors and recreationists, 22.5 vs 23.03 ($p=0.659$). The fitness competitors showed higher volume of body fluids (ICW and ECW), higher protein and mineral components. Body fat mass (BFM) was statistically greater in recreationists comparing the competitors 18.58 kg vs 12.47 kg. Mean values of body fat percentage were also statistically higher in recreationists in comparison with the competitors, 27.25% vs 16.39%. Fitness competitor had a significantly higher fat-free mass, i.e. muscle component, and significantly lower fat component. Recreational exercisers had significantly higher parameters of obesity (body fat mass, BF% and WHR) than fitness contestants.

Keywords: skeletal muscle mass, body fat mass, fitness, bodybuilding, contestants, recreationists.

SOCIO-KULTURNA ANTROPOLOGIJA
SOCIO-CULTURAL ANTHROPOLOGY

VREME, MESTO I KULTURNE PROMENE: BORBA NOMADSKJE ZAJEDNICE KAŠIKAPDI ZA IDENTITETOM ANTROPOLOŠKA ANALIZA

Banita Behera

Antropološko ispitivanje Indije, Ministarstvo kulture, Vlada Indije

Kašikapdi su često poznati pod imenom Tirumali ili Nadivale. Migrirali su iz Andra Pradeša poslednjih 800-900 godina u Maharaštru i počeli da se bave prodajom svete vode koju donose iz Ganga u Kašiju. Tri generacije pre toga, bili su zajednica koja govori telugu jezikom. Tvrdi da su tokom vladavine dinastije Kakatija išli u Kaši kako bi odatle doneli svetu vodu i to je postalo njihovo zanimanje i od tada ih nazivaju Kaši-Kavadi. Usled velike suše u Andra Pradešu cela grupa krenula je da migrira prema Maharaštru u potrazi za hranom i održivim zanimanjem. Vremenom su se raširili po celoj državi i migrirali u različite države Indije. Iz istorijskih dokumenata mogu se razumeti mnogi aspekti vezani za zajednicu. Dugo su neprestano bili u pokretu u potrazi za hranom ili poslom, bez stalnog boravka. Njihova kasnija koegzistencija sa drugim kastama funkcionisala je na razne načine, uključujući i slabljenje njihovih uverenja i gubitak identiteta. Pored toga što su ostali upamćeni po svojoj slavnoj istoriji, gotovo su nevidljivi državi zbog anomalija i poremećaja identiteta. Ideja da je ljudsko društvo trajno je lažna. Ljudsko društvo prolazi kroz kontinuiran proces rasta, degradacije, obnove i prilagođavanja novootkrivenim konceptima, inovacijama i životnim stilovima. Ovaj istraživački rad ima za cilj da sumira kako je istorija komunikacije zajednice važna za društvenu promenu i razvoj. Kako su se borili za svoj identitet i tako stvorili društvenu promenu na mapi. Ovaj rad takođe opisuje kako društvena promena dovodi do transformacije zajednice u pogledu sistema vrednosti, društvene organizacije i prakse.

Ključne reči: društvena promena, zajednica, transformacija, antropologija, društvena organizacija.

TIME SPACE AND CULTURAL CHANGE: THE KASHIKAPDI NOMADIC COMMUNITY STRUGGLING FOR THEIR IDENTITY AN ANTHROPOLOGICAL ANALYSIS

Banita Behera

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The Kashikapdi are often also called Tirumali and Nandiwale. They migrated from Andhra Pradesh in the last 800-900 years to Maharashtra and engaged themselves in selling holy water which they bring from Ganges in Kashi. Three generations back, they were Telugu speaking community. They claim that during the rule of Kakatiya dynasty, they went to Kashi for the purpose of bringing holy water from Kashi and that became their traditional occupation and from then on they are named Kashi-Kawadi. Due to severe drought in Andhra Pradesh, the entire group started migrating towards Maharashtra in search of food and sustainable occupation. With time, they had spread out all over the state and they migrated to different states of India. From historical documents, many aspects related to the community can be understood. For long, they had been constantly on the move in search of food or work, with no permanent residence. Their later coexistence with other castes worked in many ways including dilution of their beliefs or loss of their identity. Despite the fact that they have been remembered for their glorious history, they are almost invisible in the state due to identity anomalies and disturbances. The idea that human society is permanent is false. Human society is undergoing a continuous process of growth, degradation, renewal, and adaptation to newly discovered concepts, innovations, and lifestyles. This research paper aims to summarize the history of communication of the communities for social change and development. How they struggled to get their identity and thus created social change on the road map. This paper also expresses how social change brings about transformations of a community in terms of values systems, social organization, and practices.

Keywords: Social change; community; transformation; anthropology; social organization.

UPOTREBA HLEBA I VINA U BOGOSLUŽENJU PRAVOSLAVNE CRKVE

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Pitanje bogoslužbene upotrebe hleba i vina u Pravoslavnoj Crkvi zadire u samu srž ljudskoga načina postojanja. Posmatrano očima starozavetnih Jevreja, hleb je, prvenstveno, žrtveni prinos koji, između ostalog, podseća na ključne momente istorije izabranog naroda i Božijeg staranja o njemu, ali i biva povod za stvaranje zajednice sa Bogom. Prelomni „trenutak“ ljudske istorije jeste rođenje Sina Božijeg, koji daje život svetu. Ispunjavajući i dovršavajući Stari Zavet na Krstu u krvi svojoj, Spasitelj Gospod Isus Hristos, ostavlja služiteljima Novoga Zaveta u nasleđe zapovest o vršenju Svete Liturgije, čiji su neodvojivi elementi hleb i vino. Sagledavanje bogoslužbene upotrebe hleba i vina u Pravoslavnoj Crkvi kroz prizmu Svete Liturgije, omogućava drugačiji pristup hrani i svetu oko nas. Čovekova potreba za hranom jeste prilika za odgovoran odnos ljudske zajednice prema svemu što je stvoreno, jer je „svako stvorenje Božije dobro i ništa nije za odbacivanje kad se prima sa zahvalnošću“ (1Tim 4, 4). Ovim nam postaje jasno da se putem liturgijskog osvećenja vremena i prostora, osvećuje sve. Tek pojavom hrišćanstva, iako je nastalo hiljadama godina pre i tretirano kao jedna od najdragocenijih namirnica zbog brojnih hranljivih svojstava i sastojaka, vino dobija poseban značaj i postaje nazamenljivi deo crkvenog obreda. Setimo se samo podatka da se u najčitanijoj i najprevođenijoj knjizi – Bibliji, reči loza, vinograd, vino i vinogradar spominju 450 puta, a samo vino 235. Ali, mnogo više od brojki o odnosu hrišćanstva prema vinu i lozi govori značaj koji im je hrišćanska nauka dala u svom učenju.

Ključne reči: hleb, vino, hrišćanstvo, Liturgija.

THE BREAD AND WINE USAGE IN THE LITURGY OF THE ORTHODOX CHURCH

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The question of the liturgical use of bread and wine in the Orthodox Church goes to the very core of the human way of being. Seen through the eyes of the Old Testament Jews, the bread is primarily a sacrificial offering which, among other things, reminds us of the key moments in the history of the chosen people and the God's care for them, but it also becomes an occasion for creating a community with God. The turning point in human history is the birth of the Son of God, who gives the life to the world. Fulfilling and completing the Old Testament on the Cross, and being in his own blood, the Savior Lord Jesus Christ, is leaving to the servants of the New Testament, as a legacy, the commandment to perform the Holy Liturgy, whose inseparable elements are bread and wine. Looking at the liturgical use of bread and wine in the Orthodox Church through the prism of the Holy Liturgy, develops a different approach to food and the world around us. The man's need for food is an opportunity for a responsible attitude of the human community towards everything that is created, because "every creature of God is good and nothing is to be rejected when it is received with gratitude." (1Tim 4, 4). With this, it becomes clear to us that through liturgical consecration of time and space, everything becomes sanctified. Only with the advent of Christianity, although it was created thousands of years ago and was treated as the most precious food because of its numerous nutritional properties and ingredients, wine received special importance and became an irreplaceable part of the church ritual. Let us just remember the fact that in the most read and the most translated book of all time - the Bible, the words vine, vineyard, wine and winegrower are mentioned 450 times, and the word "wine" alone 235 times. However, the importance that Christian Science has given to wine and vines in its teaching tells us much more than the figures.

Keywords: bread; wine; Christianity; Liturgy,

RAZVIJENOST KAPACITETA ZA MENTALIZACIJU KAO PREDIKTOR ZADOVOLJSTVA INTIMNOM PARTNERSKOM VEZOM

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Cilj ovog istraživanja je da utvrdi da li razvijenost kapaciteta za mentalizaciju, godine života i godine trajanja intimne partnerske veze, doprinose predikciji zadovoljstva u intimnoj partnerskoj vezi. Uzorak čini 222 ispitanika, 153 ženskog i 69 muškog pola, starosti od 18 do 50 godina (AS = 26.91, SD = 6.89) koji su u intimnoj partnerskoj vezi ili braku, sa prosekom trajanja veze AS = 3.968, SD = 2.97. U istraživanju su primenjeni sledeći instrumenti: Skala za procenu odnosa RAS koja meri opšte zadovoljstvo u intimnoj partnerskoj vezi; Upitnik za ispitivanje mentalizacije UM koji meri ukupni kapacitet za mentalizaciju, kao i tri dimenzije: mentalizacija sebe, mentalizacija drugih i motivacija za mentalizaciju. Regresionom analizom ispitivan je efekat mentalizacije, godina života i dužine trajanja intimne partnerske veze na zadovoljstvo u intimnoj partnerskoj vezi. Rezultati pokazuju da prediktivni model koji sadrži godine života, godine trajanja intimne partnerske veze, mentalizaciju sebe, mentalizaciju drugih i motivaciju za mentalizaciju, objašnjava blizu 13% varijanse zadovoljstva intimnom partnerskom vezom ($R^2 = 0.127$; $F = 6.283$; $p < .001$). Veća mentalizacija sebe ($\beta = .286$; $t = 4.251$; $p < .001$) i manja mentalizacija drugih ($\beta = -.223$; $t = -2.990$; $p = .003$) doprinose većem zadovoljstvu intimnom partnerskom vezom, a mentalizacija sebe predstavlja značajniji pojedinačni prediktor. Godine života doprinose predikciji i to tako što su stariji ispitanici pokazali manje zadovoljstvo partnerskom vezom ($\beta = -.284$; $t = -3.773$; $p < .001$). Motivacija za mentalizaciju i dužina trajanja partnerske veze, u ovom istraživanju, nisu doprineli predikciji opštem zadovoljstvu partnerskom vezom. Zaključak: mentalizacija sebe, mentalizacija drugih i godine života, doprinose predikciji zadovoljstva intimnom partnerskom vezom dok dužina trajanja partnerske veze i motivacija za mentalizaciju ne doprinose predikciji. Rezultati ovog istraživanja ukazuju na značaj konstruisanja intervencija za jačanje kapaciteta za mentalizaciju sebe.

Ključne reči: mentalizacija; zadovoljstvo intimnom partnerskom vezom.

THE DEVELOPMENT OF CAPACITY TO MENTALIZE AS A PREDICTOR OF INTIMATE PARTNERSHIP SATISFACTION

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The aim of this study is to determine whether the development of capacity to mentalize, age and duration of an intimate partnership contribute to an intimate partnership satisfaction. The sample consists of 222 respondents, 153 female and 69 male, aged 18 to 50 ($AS = 26.91$, $SD = 6.89$) who were in an intimate partnership or married, with an average duration of the relationship $AS = 3.968$, $SD = 2.97$. The following instruments were used: the Relationship Assessment Scale RAS, which measures general intimate partnership satisfaction; The Mentalization Scale (MentS) which measures the overall capacity to mentalize, as well as three dimensions: mentalization of the self, the mentalization of others, and the motivation to mentalize. Regression analysis was used to examine the effect of mentalization, age and duration of an intimate partnership on an intimate partnership satisfaction. The results indicate that the predictive model containing age, intimate partnership duration, mentalization of the self, mentalization of others and motivation to mentalize explains close to 13% of the variance of intimate partnership satisfaction ($R^2 = 0.127$; $F = 6.283$; $p < .001$). Higher level of mentalization of the self ($\beta = .286$; $t = 4.251$; $p < .001$) and lower level of mentalization of others ($\beta = -.223$; $t = -2.990$; $p = .003$) contribute to greater intimate partnership satisfaction, and mentalization of the self is a more significant individual predictor. Age contributes to the prediction, as older respondents showed less intimate partnership satisfaction ($\beta = -.284$; $t = -3.773$; $p < .001$). In this study, the motivation to mentalize and the duration of the intimate partnership did not contribute to the prediction of general intimate partnership satisfaction. Conclusion: mentalization of the self, mentalization of others and age contribute to the prediction of intimate partnership satisfaction, while duration of an intimate partnership and motivation to mentalize do not contribute to the prediction. The results of this study point to the importance of constructing interventions for strengthening the capacity to mentalize oneself.

Keywords: mentalization, intimate partnership satisfaction

INTERKULTURALNA TRANSFORMACIJA ŠKOLE: UČITI ŽIVETI ZAJEDNO

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Interkulturalizam kao savremeni koncept svoju primenu zasniva na interkulturalnim principima u različitim oblastima ljudske delatnosti, među kojima značajno mesto zauzimaju vaspitanje i obrazovanje. Ovaj rad ima za cilj da predstavi i ukaže na značaj razvijanja interkulturalnosti u školskom kontekstu i pruži uvid u načine njenog transformisanja. U radu se polazi od pretpostavke da primena interkulturalnog vaspitanja i obrazovanja doprinosi prihvatanju različitosti kao mogućnosti sticanja novih iskustava i ostvarivanja kvalitetne saradnje u multikulturalnom okruženju. Razvijanje pluralističkog načina razmišljanja, odnosno osetljivosti na etnokulturnu raznolikost i otvorenost, prihvatanje i inkluzivnost iste, podrazumeva aktivnu uključenost svih aktera vaspitno-obrazovnog procesa. Imajući u vidu da je primarni cilj škole priprema za život u heterogenoj kulturi (vrednovanje kulturne raznolikosti, razvijanje tolerancije, empatije i inkluzivnosti, otvorenost za kulturnu različitost, poglede na svet i dr), nastavnici se prepoznaju kao jedni od najvažnijih faktora interkulturalne transformacije škole. Primenom pedagoških principa učenici razvijaju socijalnu osetljivost i sposobnost korišćenja znanja o drugima i time uče da žive zajedno. S obzirom na to da se u radu škola sagledava kao mesto kontinuiranog učenja (su)života, doprinos rada ogleđa se u preporukama koje idu u prilog unapređivanju školske kulture, nastavnog kurikuluma, kompetencija i uloga nastavnika i učenika i drugih aspekata vaspitno-obrazovnog rada.

Ključne reči: interkulturalizam; interkulturalno vaspitanje i obrazovanje; interkulturalni kurikulum; škola.

INTERCULTURAL SCHOOL TRANSFORMATION: LEARN AND LIVE TOGETHER

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Interculturalism as a modern concept bases its application on intercultural principles in various areas of human activity, among which upbringing and education have a significant place. This paper aims to present and point out the importance of developing interculturality in the school context and to provide insight into the ways of its transformation. The paper is based on the assumption that the application of intercultural upbringing and education contributes to the acceptance of diversity as an opportunity to gain new experiences and achieve quality cooperation in a multicultural environment. Developing a pluralistic mindset, that is, sensitivity to ethno-cultural diversity and openness, acceptance, and inclusiveness of the same, implies the active involvement of all actors in the educational process. Bearing in mind that the primary goal of school is preparation for life in a heterogeneous culture (valuation of cultural diversity, development of tolerance, empathy, and inclusiveness, openness to cultural diversity, worldviews, etc.), teachers are recognized as one of the most important factors of intercultural school transformation. By applying pedagogical principles, students develop social sensitivity and the ability to use knowledge about others and thus learn to live together. Given that the work sees the school as a place of continuous learning of (co-)life, the contribution of the work is reflected in recommendations that support the improvement of school culture, teaching curriculum competencies and roles of teachers and students, and other aspects of educational work.

Keywords: interculturalism; intercultural upbringing and education; intercultural curriculum; school.

KULTURNA DIMENZIJA GLOBALIZACIJE I IZAZOVI KULTURNOG DIVERZITETA

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U ovom radu sagledavaju se glavne teorijske perspektive (kulturalna homogenizacija, kulturni partikularizam i kulturalna hibridizacija) koje ukazuju na različite implikacije globalizacije u kontekstu kulture. Cilj rada je kritički sagledati odnos kulture i globalizacije i utvrditi učinke globalizacije na kulturni identitet. Kulturni diverzitet se postavlja kao jedan od najvećih imperativa savremenih društava, te je i pitanje različitosti (kako je prihvatiti i kako se odnositi prema njoj?) veoma važno sagledati u kontekstu globalizacijskih procesa. U vezi sa tim, razmatra se i najveći izazov sa kojim se suočava čovečanstvo, a to je ograničavanje negativnih efekata globalizacije na polju kulturnih raznolikosti, ali i moguće strategije prevazilaženja datog izazova. U analizi ovog problema sagledava se i stanovište kulturnog relativizma sa aspekta savremenih multikulturalnih društava, pri čemu se ukazuje na važnost kritičke refleksije u prihvatanju kulturnih raznolikosti. Odnos kulture i globalizacije veoma je kompleksan, pa se shodno tome uočavaju različiti problemi kulturne globalizacije i ishodi, koji utiču i na ostale sfere društva. Iz tog razloga ova je tema ne samo od akademskog interesa zbog analize različitih teorijskih perspektiva, koje mogu da pomognu u boljem razumevanju odnosa kulture i globalizacije, već i od šireg društvenog značaja zbog identifikovanja pozitivnih i negativnih učinaka globalizacije na kulturu, iz čega mogu proizaći različite smernice za kreiranje kulturne politike.

Ključne reči: kulturalna globalizacija; kulturni identitet; kulturni diverzitet; kulturni relativizam.

CULTURAL DIMENSION OF GLOBALIZATION AND CHALLENGES OF CULTURAL DIVERSITY

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This paper examines the main theoretical perspectives (cultural homogenization, cultural particularism and cultural hybridization) that point to the various implications of globalization in the context of culture. The aim of the paper is to critically examine the relationship between culture and globalization and determine the effects of globalization on cultural identity. Cultural diversity is considered one of the greatest imperatives of modern societies, and it is very important to examine the issue of diversity (how to accept it and how to treat it?) in the context of globalization processes. In connection to this, the greatest challenge facing humanity, which is limiting the negative effects of globalization in the field of cultural diversity, is considered as well as possible strategies for overcoming this challenge. In the analysis of this problem, the point of view of cultural relativism is examined from the aspect of modern multicultural societies, while the importance of critical reflection in the acceptance of cultural diversity is pointed out. The relationship between culture and globalization is very complex, and accordingly various problems and outcomes of cultural globalization, which affect other spheres of society, can be observed. For this reason, this topic is not only of academic interest due to the analysis of different theoretical perspectives, but also of wider social importance due to the identification of positive and negative effects of globalization on culture, from which different guidelines for creating cultural policy can emerge.

Keywords: cultural globalization; cultural identity; cultural diversity; cultural relativism.

KULTUROLOŠKA DIMENZIJA EMOCIONALNOG VASPITANJA

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Emocije i emocionalne reakcije različitog intenziteta često određuju ponašanje u socijalnim odnosima. Analiziranje tih reakcija nameće pitanje da li su emocionalni doživljaji i reagovanja univerzalni ili kulturno određeni. Danas nam je dostupno više teorijskih stanovišta koja uvažavaju kulturološki aspekt emocija i smatraju da se emocije mogu razumeti, razvijati jedino kroz uvažavanje kulturnih razlika. Takva stanovišta potvrđuju i rezultati različitih empirijskih istraživanja koja su potvrdila povezanost između emocionalnog doživljaja i pripadnosti različitim kulturama (Kineza, Amerikanaca i sl). Iz tog razloga, fokus ovog rada je na pitanju u kojoj meri emocionalno vaspitanje treba zasnovati na karakteristikama kulture/sredine u kojoj se ostvaruje, imajući u vidu da ono podrazumeva vaspitne intervencije usmerene ka razvoju sposobnosti prepoznavanja, razumevanja, ispoljavanja i regulisanja emocija. Cilj ovog rada je, dakle, analizirati odnos kulture i emocionalnog vaspitanja pri čemu će kultura biti sagledana na dva nivoa: širi nivo – Hofstedeove dimenzije kulture (individualizam i kolektivism) i užu nivo – kultura škole. Dimenzije individualizma i kolektivism predstavljaju osnovu za objašnjenje kulturnih razlika i varijacija u ponašanju, stavovima, vrednostima, socijalnim ulogama, verovanjima, pa se tako SAD, zemlje engleskog govornog područja, severna i zapadna Evropa smatraju individualističkim, za razliku od Kine, Japana, Grčke, zemalja bivše Jugoslavije koje su kolektivističke. Kultura škole predstavlja konkretno i specifično školsko okruženje koje nudi modele identiteta i usmerava delovanje svih pripadnika školske zajednice, a zasniva se na odnosima prema društvu, pravilima, drugim ljudima, itd. Razumevanje ovih kulturoloških odrednica emocionalnog vaspitanja je od praktičnog značaja za vaspitnu praksu. Naime, vrednosti, uverenja i stavovi su produkt kulture i unose se u vaspitni proces svesno ili nesvesno, te je važno približiti ovu temu roditeljima i nastavnicima kako bi oni svesno kreirali optimalno pozitivno okruženje za emocionalni razvoj dece uz prihvatanje i uvažavanje kulturnih razlika.

Ključne reči: individualizam; kolektivism; emocionalno vaspitanje; kultura škole.

CULTURAL DIMENSION OF EMOTIONAL EDUCATION

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Emotions and emotional reactions of varying intensity often determine behavior in social relationships. Analyzing those reactions raises the question of whether emotional experiences and reactions are universal or culturally determined? Today, we have a couple of theoretical points of view that respect the cultural aspect of emotions and consider that emotions can be understood and developed only through the appreciation of cultural differences. Such points of view are confirmed by the results of various empirical studies, which proved the connection between emotional experience and belonging to different cultures (Chinese, American, etc.). For this reason, the focus of this paper is on the question to what extent emotional education should be based on the characteristics of the culture/environment in which it is implemented, bearing in mind that it implies educational interventions aimed at developing the ability to recognize, understand, express and regulate emotions. The aim of this paper is, therefore, to analyze the relationship between culture and emotional education, whereby culture will be viewed on two levels: a broader level - Hofstede's dimensions of culture (individualism and collectivism) and a narrower level - school culture. The dimensions of individualism and collectivism represent the basis for explaining cultural differences and variations in behavior, attitudes, values, social roles, beliefs, so the USA, English-speaking countries, northern and western Europe are considered individualistic, in contrast to China, Japan, Greece, countries of the former Yugoslavia that are collectivist. School culture represents a concrete and specific school environment that offers models of identity and directs the actions of all members of school community, and is based on relations to society, rules, other people, etc. Understanding these cultural determinants of emotional education has practical importance for educational practice. Namely, values, beliefs and attitudes are a product of culture and are brought into the educational process consciously or unconsciously. It is important to bring this topic closer to parents and teachers so that they consciously create an optimal positive environment for the emotional development of children while accepting and respecting cultural differences.

Keywords: individualism; collectivism; emotional education; school culture.

RAZVOJNI ZADACI ODRAŠLO DOBA IZ KULTURNO-ISTORIJSKE PERSPEKTIVE

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U današnjem, modernom dobu odgovori na mnoga pitanja postaju složeni, pa i odgovor na pitanje: ko je odrasla osoba? Još od poslednjih decenija prošlog veka primetna je destandardizacija i destabilizacija društvenih uloga, koje su obeležavale ulazak u odraslost: završetak školovanja, nezavisno stanovanje, zapošljavanje, ulazak u stabilnu partnersku vezu i postajanje roditeljem. Iako je individualizacija životnog toka nesumnjivo prisutna u ekonomski razvijenim zemljama, može se postaviti pitanje šta je (i dalje) zajedničko u odrasloj dobi savremenog čoveka i ljudi u ranijim istorijskim periodima. Rečima Pola Baltsa, autora teorije životnog ciklusa, ako život odraslih sagledamo iz biološke i kulturno-evolucionarne perspektive, šta ćemo videti? Videćemo „polja“ bliskih odnosa, polja ljubavi i polja rada. Kao što primećuje Glen Elder, odraslost ima društveno značenje i put u odraslo doba obeležen je postizanjem (i gubljenjem) određenih društvenih uloga. Iako su vreme, redosled, pa i sadržaj uloga, izmenjeni, od mlade odrasle osobe i dalje se očekuje postizanje bliskih odnosa i uspostavljanje obrazaca rada koji osobu čine materijalno nezavisnom (ili ravnopravnom članom zajednice). Iz domena bliskih odnosa i domena rada, osoba crpi i značenje svog života, odnosno osećaj smisla. U različitim istorijskim periodima, a i danas u različitim kulturama, različita je važnost koja se pridaje bliskim odnosima i radu u životu ljudi – muškaraca i žena. Od ispunjavanja razvojnih zadataka u određenom, specifičnom, kontekstu razvoja, zavisice i osećaj življenja ispunjenog, smislenog života.

Ključne reči: razvojni zadaci, odraslo doba, kulturno-istorijska perspektiva, smisao života.

DEVELOPMENTAL TASKS OF ADULTHOOD FROM A CULTURAL-HISTORICAL PERSPECTIVE

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In today's modern age, the answers to many questions are becoming more complex, including the answer to the question: who is an adult? Since the last decades of the last century, there has been a noticeable destandardization and destabilization of social roles, which marked the entry into adulthood: completing education, establishing an independent residence, obtaining a full-time job, entering into a partnership or marriage, and becoming a parent. Although the individualization of the life course is undoubtedly present in economically developed countries, the question can be raised as to what is (still) common in the adulthood of modern man and people in earlier historical periods. In the words of Paul Baltes, the author of the life-span theory, if we look at adult life from a biological and cultural-evolutionary perspective, what will we see? We will see "fields" of close relationships-fields of love and fields of work. As Glenn Elder notes, adulthood has social meaning and the path to adulthood is marked by the achievement (and loss) of certain social roles. Although the timing, sequence, and content of roles have changed, the young adult is still expected to achieve close relationships and establish work patterns that make the person materially independent (or an equal member of the community). A person derives the meaning of his/hers life, that is, the sense of meaning from the domain of close relationships and the domain of work. In different historical periods, and even today in different cultures, the importance given to close relationships and work in the life of people - men and women - is different. The feeling of living a fulfilled, meaningful life will depend on the fulfillment of development tasks in a certain, specific, developmental context.

Keywords: developmental task; adulthood; cultural-historical perspective; life meaning.

RODITELJSKE ULOGE U SRPSKOJ PATRIJARHALNOJ I SAVREMENOJ KULTURI

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Brojna kroskulturalna istraživanja ukazuju na činjenicu da roditeljstvo konstruiše kultura. Normativi i običaji koji postoje u jednom društvu reflektuju se na praksu podizanja dece i zahteve za efikasno roditeljstvo. U srpskoj patrijarhalnoj kulturi uobičajeno je bilo da je majka odgovorna za vaspitanje dece, ali i da je tolerantnija od oca. Percepcije o roditeljskim ulogama u srpskoj patrijarhalnoj kulturi bile su povezane sa verovanjima da otac treba da bude strog i pravičan, a majka blaga i podržavajuća - uloge oca i majke bile su komplementarne. Nalazi novijih istraživanja (Matejević, Todorović, 2012; Matejević, Nikolić, 2013; Matejević, Jovanović, 2014), ukazuju na promenjene uloge roditelja: permisivnost očeva je prihvatljivija od permisivnosti majki, u vaspitnom stilu roditelja odbacivanje je izraženije kod majki, a emocionalne toplina kod očeva, dok je u kontekstu vaspitnih postupaka izraženije verbalno kažnjavanje kod majki, a nagrađivanje kod očeva. Može se konstatovati da se tradicionalno sačuvalo u komplementarnosti roditeljskih uloga, ali na jedan drugačiji način, što možda ukazuje na jednu fleksibilniju raspodelu porodičnih uloga i drugačiju distribuciju moći u porodici. Komplementarnost roditeljskih uloga sada je drugačija u odnosu na prošlost, gde je strogost bila odlika očeva, a popustljivost odlika majki. Tranzicija je donela drugačiju preraspodelu popustljivosti i strogosti u roditeljskim ulogama, ali jedna stvar je i dalje zadržana- komplementarnost u ulogama. Postavlja se pitanje šta sa nekim očekivanjima prema kojima se insistira na saglasnosti roditelja u odnosu na vaspitni stil i vaspitne postupke. Izgleda da je komplementarnost nešto što je tako duboko ukorenjeno u očekivanja u odnosu na percipiranje roditeljskih uloga, da predstavlja obrazac roditeljskog funkcionisanja u našoj kulturi. Dobijeni nalazi ukazuju da savremeno i patrijarhalno egzistiraju paralelno i na specifičan način konstruišu roditeljske uloge. Značajna implikacija ovih nalaza jeste ukazivanje na potrebu daljeg izučavanja ovog problema i pružanje društvene podrške roditeljima u adekvatnijem ispunjavanju ovih kompleksnih uloga.

Cljučne reči: roditeljske uloge; komplementarnost; srpske patrijarhalna kultura; savremena kultura.

PARENTAL ROLES IN SERBIAN PATRIARCHAL AND MODERN CULTURE

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Numerous cross-cultural studies point to the fact that parenting is created by culture. The norms and customs that exist in a society reflect on the practice of raising children and the requirements for effective parenting. In the Serbian patriarchal culture, it was common for the mother to be responsible for raising children, but also to be more tolerant than the father. Perceptions of parental roles in Serbian patriarchal culture were associated with beliefs that the father should be strict and fair and the mother gentle and supportive, the roles of a father and a mother were complementary. The findings of recent research (Matejević, Todorović, 2012; Matejević, Nikolić, 2013; Matejević, Jovanović, 2014) indicate that the parental roles have changed: fathers' permissiveness is more acceptable than mothers' permissiveness; rejection is more prominent in mothers, and emotional warmth in fathers. In the context of educational procedures, verbal punishment is more pronounced with mothers, and rewarding with fathers. Still, the traditional complementarity of parental roles has been preserved, although in a different way, indicating more flexible distribution of family roles and a different distribution of power in the family. The complementarity of parental roles is now different compared to the past, where strictness was the characteristic of fathers and permissiveness was the characteristic of mothers. The transition has brought about a different redistribution of permissiveness and strictness in parental roles, but one thing is still retained - the complementarity of roles. The question arises about expectations about the consensus on the upbringing style and the educational procedures? Complementarity seems to be something that is so deeply rooted in the expectations regarding the perception of parental roles, that it represents the pattern of parental functioning in our culture. The obtained findings indicate that contemporary and patriarchal styles exist in parallel and construct parental roles in a specific way. A considerable implication of these findings demonstrates the need for further study of this problem and social support to parents in fulfilling these complex roles more adequately.

Keywords: parental roles; complementarity; Serbian patriarchal culture; contemporary culture.

KOMPONENTE SLIKE TELA I NEKI ASPEKTI CRTEŽA LJUDSKE FIGURE KOD TINEJDŽERKI

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Cilj ovog istraživanja je da ispita moguću vezu između slike tela i pola i veličine crteža ljudskih figura. Uzorak su činile 143 devojke prosečne starosti 17 godina (SD=1,15, raspon 15-19). Instrument Body image (Garner, 1996) meri zadovoljstvo različitim komponentama tela i poželjan imidž. Sve ispitanice su nacrtale dve ljudske figure (druga figura je bila suprotnog pola) u željenom redosledu (Machover, 1949). Rezultati korelacionih analiza na nivou stavki/komponenti slike tela, pokazali su da je prva nacrtana figura imala tendenciju da bude manja kod devojaka zadovoljnih izgledom svojih ramena, koje teže dečaćkom izgledu, a veća kod onih koje teže mladalačkom seksi izgledu i ženstvenom i nežnom izgledu. Druga nacrtana figura bila je manja kod devojaka koje su zadovoljne svojom težinom i izgledom ramena, onih koje se smatraju privlačnim i onih koji teže dečaćkom izgledu, dok je veća kod onih koji teže ženstvenom i nežnom izgledu. Devojke koje su prvo nacrtale žensku figuru zadovoljnije su izgledom svojih očiju i sopstvenom slikom u ogledalu i teže da izgledaju starije od vršnjaka. Istraživanje je pokazalo da postoje neke suptilne relacije između slike tela i aspekata crteža ljudskih figura kod tinejdžerki.

Ključne reči: slika tela; crtež ljudske figure; tinejdžerke.

COMPONENTS OF BODY IMAGE AND SOME ASPECTS OF HUMAN FIGURE DRAWINGS IN TEENAGE GIRLS

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The study aimed to investigate the relationship between body image, gender and the size of human figure drawings. The sample consisted of 143 girls of an average age of 17 (SD=1.15, range 15-19). The instrument Body image (Garner, 1996) measured satisfaction with different components of one's body image and the look one aspires to have. All participants drew two human figures (the second figure was the opposite gender) in the desired order (Machover, 1949). The correlational analyses were performed on the level of items/components of body image. The results showed that the first drawn figure tended to be smaller in the girls satisfied with their shoulders, striving towards a boyish look, but larger in those striving for a younger sexy look and feminine and gentle look. The second drawn figure tended to be smaller in the girls satisfied with their weight and shoulders, who find themselves attractive and aspire to have a boyish look, while larger in the girls who aspire to have a feminine and gentle look. The girls who drew the female (same-sex) figure first were more satisfied with their eyes and their own image in the mirror, and aspiring to look older than their peers. In conclusion, the study demonstrates that there are some subtle associations between body image and aspects of human drawing figures in teenage girls.

Keywords: body image; human figure drawing; teenage girls.

MODERIRAJUĆA ULOGA POLA NA UTICAJE KOJI OBLIKUJU SLIKU TELA I POŽELJNI IZGLED TINEJDŽERA

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Cilj rada je da ispita da li pol moderira efekat različitih uticaja koji oblikuju sliku tela na poželjni izgled. Uzorak se sastojao od 221 učesnika (64% žena) prosečne starosti od 17 godina (SD=1,13, raspon 15-19). Instrument Body image (Garner, 1996) meri zadovoljstvo različitim komponentama slike tela, različite uticaje koji oblikuju sliku tela i poželjnu sliku tela (izgled). Analize su uključivale regresionu analizu sa testom moderacije. Model je objasnio 4,43 procenta varijanse izgleda koji neko želi da ima ($R = 21,05$; $F(3, 217) = 3,25$, $p = 0,0199$). Glavni efekti različitih uticaja ($B = 0,46$, $p = 0,0164$) i pola ($B = 0,28$, $p = 0,0419$) su značajni. Značajna je i interakcija pola i različitih uticaja koji oblikuju sliku tela ($B = -0,29$, $p = 0,0321$). Kondicionalni efekti fokalnog prediktora na vrednostima moderatora (pola) su otkrili da je efekat bio značajan za ženski pol ($B = 0,17$, $p = 0,0307$), ali nije bio značajan za muški pol ($B = -0,23$, $p = 0,2635$). Rezultati sugerišu da su različiti uticaji na izgled kome se teži moderirani polom, što možda ukazuje na rodne razlike u procesima akulturacije u domenu željene slike tela.

Ključne reči: pol; slike tela; tinejdžeri.

MODERATING ROLE OF GENDER ON THE INFLUENCES THAT SHAPE THE BODY IMAGE AND DESIRED APPEARANCE OF TEENAGERS

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The aim of this paper is to investigate whether gender moderates the effect of different factors that shape body image towards the look one aspires to have. The sample consisted of 221 participants (64% female) the average age of 17 (SD=1.13, range 15-19). The instrument Body image (Garner, 1996) measures satisfaction with different components of one's body image, different influences that shape body image, and the body image (look) one aspires to. The analyses included regression analysis with the test for moderation. The model explained 4.43 percent of the variance of the look one aspires to have ($R = 21.05$; $F(3, 217) = 3.25$, $p = 0.0199$). The main effects of different influences ($B = 0.46$, $p = 0.0164$) and gender ($B = 0.28$, $p = 0.0419$) are significant. The interaction of gender and different factors which shape body image is also significant ($B = -0.29$, $p = 0.0321$). Conditional effects of the focal predictor moderator values (gender) revealed that the effect was significant for the girls ($B = 0.17$, $p = 0.0307$), while not significant for the boys ($B = -0.23$, $p = 0.2635$). Results suggest that different influences on the look one aspires to have are moderated by gender possibly suggesting gender differences in acculturation processes in the domain of aspired body image.

Keywords: gender; body image; teenagers.

ISPITIVANJE OSTATAKA KOSTIJU I FRAGMENTA ODEĆE ARHEOLOŠKIH SPOMENIKA RJAZAN-OKA KULTURE POMOĆU TEHNIKA SPEKTOMETRIJE I HROMATOGRAFIJE

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Prilikom ispitivanja spomenika Rjazan-Oke kulture (u petom i šestom veku nove ere), pored ostataka kostiju, pronađen je veliki broj fragmenata odeće sahranjenih pojedinaca. Otkrića iz Undriča i Boroka (2 groblja Rjazanske oblasti u centralnoj Rusiji) proučavali su autori predavanja u laboratorijama Centra vizuelne i fizičke antropologije Instituta za etnologiju i antropologiju Ruske akademije nauka pomoću spektrometrije i hromatografije. To nam je omogućilo da dobijemo nove antropološke i istorijske podatke. Na primer, uspeli smo da odredimo boje, kao i tehnologiju koja je korišćena za farbanje tkanine u petom i šestom veku nove ere u oblasti centralne Rusije. O tome ne postoje zapisani dokumenti. Predavači će prezentovati rezultate studije sprovedene upotrebom navedenih tehnika.

Cljučne reči: Rjazan-Oka kultura; spektrometrija; hromatografija; drevne tehnike bojenja.

THE STUDY OF BONE REMAINS AND FRAGMENTS OF CLOTHING FROM THE ARCHEOLOGICAL MONUMENTS OF THE RYAZAN-OKA CULTURE USING SPECTROMETRY AND CHROMATOGRAPHY

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During the examination of the monuments of the Ryazan-Oka culture (5th-6th centuries AD), along with the bone remains, a large number of fragments of clothing, in which the buried individuals were dressed, have been found. The findings from the Undrich and Borok (2 burial grounds of Ryazan Region–Central Russia) have been studied by the authors of the lecture in the laboratories of the Center of Visual and Physical Anthropology of the Institute of Ethnology and Anthropology of the Russian Academy of Sciences, using long-wave ultraviolet radiation, spectrometry and chromatography. This enabled us to obtain new anthropological and historical information about the findings. For example, we managed to determine the dyes, as well as the technology used for dyeing fabrics in the 5th and 6th centuries AD in Central Russia regions. There are no written documents about that. The lecturers will present the results of the study carried out using the above listed technologies.

Key words Ryazan-Oka culture; spectrometry; chromatography; ancient dyeing technics.

UKUPNA DEPOPULACIJA I STARENJE STANOVNIŠTVA ISTOČNE SRBIJE

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Cilj istraživanja je da na temelju rezultata dva poslednja popisa stanovništva (2011. i 2022) i analize vitalne statistike za period od 2011. do 2022. godine utvrdi i ukaže na osnovne trendove u ukupnom, prirodnom i mehaničkom kretanju stanovništva Istočne Srbije. Region Istočne Srbije, prema statističkim demografskim pokazateljima i kriterijumima, ima u odnosu na druge regione najnepovoljnije demografske odlike. Karakterišu ga negativni demografski trendovi i procesi koji imaju dominantno depopulaciona obeležja. Uz ukupnu i prirodnu depopulaciju na demografsku sliku Istočne Srbije značajno utiče i mehaničko kretanje stanovništva, odnosno brojnije iseljavanje od doseljavanja. Iz podataka popisa i izračunanih pokazatelja očigledno je da je promena broja stanovnika bila negativna. Ukupan broj stanovnika, u poslednjem međupopisnom razdoblju, smanjen je za 16,62% (apsolutno za 105.582 staovnika). Prirodna depopulacija drugi je depopulacioni proces. U periodu od 2011. do 2022. zabeležen je značajno veći broj umrlih osoba od živorođene dece čime je ostvarena negativna prirodna promena -81.131 stanovnika. Prema statističkim demografskim indikatorima, Istočna Srbija se nalazi u jakom demografskom pražnjenju, što će implicirati niz dugoročnih i vrlo negativnih demografskih, socijalnih i ekonomskih posledica.

Ključne reči: Istočna Srbija, demografski razvoj, depopulacija, prirodno kretanje.

TOTAL DEPOPULATION AND AGING OF THE POPULATION OF EASTERN SERBIA

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The aim of the research is to determine and show the basic trends in the general, natural and mechanical movement of the population of Eastern Serbia based on the results of the last two censuses (2011 and 2022) and the analysis of vital statistics for the period from 2011 to 2022. According to the statistical demographic indicators and criteria, the region of Eastern Serbia has the most unfavorable demographic characteristics compared to other regions. It is characterized by negative demographic trends and processes with predominant depopulation features. In addition to general and natural depopulation, the demographic picture of Eastern Serbia is significantly influenced by the mechanical movement of the population, i.e. more emigration than immigration. It is evident from the census data and the calculated indicators that the change in the number of inhabitants was negative. The total number of inhabitants in the last census period decreased by 16.62% (by 105,582 inhabitants in absolute terms). Natural depopulation is another depopulation process. In the period from 2011 to 2022, a significantly higher number of deaths than live births was recorded, resulting in a negative natural change of -81.131 inhabitants. According to the statistical demographic indicators, Eastern Serbia is in a strong demographic vacuum, which will result in a number of long-term and very negative demographic, social and economic consequences.

Keywords: Eastern Serbia, demographic development, depopulation, natural movement

REPRODUKTIVNO ZDRAVLJE I UZROCI NEPLODNOSTI U REPUBLICI SRPSKOJ, NA PRIMERU GRADA BIJELJINA

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Unapređenje reproduktivnog zdravlja i opadanje stope infertiliteta postalo je prioritet za brojne zdravstvene organizacije. Neplodnost se dijagnostifikuje ukoliko par ne ostvari trudnoću nakon godinu dana. Uzroci neplodnosti se pripisuju najčešće faktorima biološkog, psihološkog karaktera i načinu življenja. Prema novijim istraživanjima životni stil igra ključnu ulogu u određivanju reproduktivnog zdravlja i može pozitivno ili negativno uticati na plodnost. Smatra se da se u svetu oko 15% parova suočava za neplodnošću, naročito u industrijalizovanim društvima. U Republici Srpskoj se postupku vantelesne oplodnje godišnje podvrgene oko 700 bračnih parova. Stoga je cilj ovog rada da pokaže potencijalne efekte ovih faktora na reproduktivno zdravlje i fertilitet u Republici Srpskoj, na primeru Grada Bijeljina.

Ključne reči: neplodnost, reproduktivno zdravlje, Bijeljina.

REPRODUCTIVE HEALTH AND CAUSES OF INFERTILITY IN THE REPUBLIC OF SRPSKA, USING THE EXAMPLE OF THE CITY OF BIJELJINA

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Improving reproductive health and reducing the rate of infertility has become a priority for numerous healthcare organizations. Infertility is diagnosed if a couple fails to achieve pregnancy after a year of trying. The causes of infertility are most commonly attributed to biological, psychological, and lifestyle factors. According to recent studies, lifestyle plays a crucial role in determining reproductive health and can positively or negatively impact fertility. It is estimated that around 15% of couples worldwide face infertility, particularly in industrialized societies. In the Republic of Srpska, around 700 married couples undergo in vitro fertilization procedures annually. Therefore, the aim of this study is to demonstrate the potential effects of these factors on reproductive health and fertility in the Republic of Srpska, using the example of the city of Bijeljina.

Keywords: infertility, reproduction health, Bijeljina.

PROCENA PARAMETARA PSIHOLOSKOG STRADANJA KOD STUDENATA MEDICINE

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Cilj istraživanja bio je da se odredi prevalenca visoke anksioznosti, srednje i teške depresije, visokih nivoa percipiranog stresa i niskog samopouzdanja kao parametara psihološkog stradanja kod kohorte od 712 studenata medicine, na uzrastu od 18 do 33 godina sa Medicinskog fakulteta, Univerziteta "Sv. Kiril i Metodij" u Skoplju u Republici Severnoj Makedoniji tokom 2018/2019 školske godine. Za istraživanje su bili upotrebljeni nestandardizovani upitnik za sakupljanje sociodemografskih podataka i standardizovani instrumenti za samoocenjivanje intenziteta depresivnih simptoma, (Beck Depression Inventory) (BDI), intenziteta simptoma anksioznosti (BAI), nivoa percipiranog stresa (Perceived Stress Scale - PSS) i stepena samopouzdanja (Rosenberg Self Esteem Scale - RSES). Prevalenca visoke anksioznosti bila je 28%. Najviša prevalenca visoke anksioznosti bila je notirana kod studenta treće godine (40.7%). Skoro 81% ispitanika odgovorio je da je pod stresom. Prevalenca visokog stresa bila je 18.8%. Prevalenca simptoma srednje i teške depresije kod studenta medicine bila je 10.4%, a kod studenata treće godine notirana je najviša (15.7%). Najviši procenat studentata sa niskim samopouzdanjem notiran je kod devojaka u trećoj i petoj godini studija (21.5% i 15%). Lako dostupna profesionalna psiholoska pomoć, uvođenje predmeta za prevenciju ličnog mentalnog zdravlja i kontinuirano akademsko mentoriranje rizičnih studenata, trebalo bi da budu obavezni elementi medicinskih kurikuluma u našoj zemlji.

Ključne reči: psiholosko stradanje; studenti medicine; savetovanje.

AN EVALUATION OF THE PARAMETERS OF PSYCHOLOGICAL DISTRESS IN MEDICAL STUDENTS

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The aim of the study was to determine the prevalence of high anxiety, moderate and severe depression, high levels of perceived stress and low self-esteem as parameters of psychological distress in cohort of 712 students of general medicine, 18-33 years of age, enrolled on Faculty of Medicine, Ss. Cyril and Methodius University, Skopje, R. North Macedonia during 2018/2019 study year. An un-standardized questionnaire for acquisition of sociodemographic variables and standardized instruments as self-rating questionnaires for evaluation of the intensity of depressive symptoms (Beck Depression Inventory - BDI), intensity of anxiety (Beck Anxiety Inventory - BAI), levels of perceived stress (Perceived Stress Scale - PSS) and the levels of self-esteem (Rosenberg Self Esteem Scale -RSES) were used. The prevalence of high anxiety was 28%. The highest prevalence of high anxiety was noticed in the third-year students (40, 7%). Almost 81% of the students reported that they perceived stress. High stress prevalence was 18, 8%. The prevalence of symptoms of moderate and severe depression was 10, 4% with the highest one evidenced among the third-year students (15, 7%). The highest percentage of students with low self-esteem was noticed among the third and fifth-year female students (21.5% and 15.8% respectively). Easily accessible professional psychological support, introduction of courses for personal mental health prevention and continuous academic support by assigned mentors for students at risk should be obligatory elements of medical faculty curriculum in our country.

Keywords: psychological distress; medical students; counseling.

UTICAJ MALIH MIGRACIJA - SVEDOK ZASNOVAN NA ISTORIJSKOM PRIMERU

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Kao jedna od ključnih kapija između Istoka i Zapada i strateška raskrsnica komercijalnih i političkih interesa, i zbog svog geografskog položaja, oblasti Crnog i Azovskog mora su još od davnina bile područja migracija. Kada govorimo o relativno skoroj prošlosti-kraj osamnaestog i početak dvadesetog veka- pronalazimo italijanski element tokom migracija ka Crnom i Azovskom moru. Tokom perioda od otprilike 150 godina, različiti migracioni tokovi doneli su hiljade stanovnika Apeninskog poluostrva u ovu oblast. Italijanske migracije u oblasti Crnog i Azovskog mora bile su kvantitativno neznatne u poređenju sa migracijama drugih naroda kao što su Grci, Turci, Nemci, Bugari, Austrijanci, Francuzi i mnogi drugi. Uprkos tome, ti preduzimljivi Italijani, uglavnom pomorci i bogati brodovlasnici iz oblasti današnje regije Ligurije i Pijemonta, ostavili su snažan uticaj i trajni trag na multietničku kulturu. Danas, mala grupa od 150 do 250 osoba italijanskog porekla, koja predstavlja potomke tih italijanskih migranata i dalje postoji. Uglavnom žive u gradu Kerč. Nazivaju sebe i zvanično ih prepoznaju kao „Italijani sa Krima“.

Ključne reči: migracije, manji migracioni tokovi, Crno more, Azovsko more, Italijani sa Krima.

THE IMPACT OF SMALL MIGRANT FLOWS - A WITNESS BASED ON AN HISTORICAL EXAMPLE

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Leninsky prospect, 32a

Being a crucial gateway between the West and the East and a strategic crossroad of commercial and political interests, because of their geographical position, the Black Sea and the Sea of Azov regions have been, since the beginning of time, lands of migrations. Speaking of a relative recent past – the end of the 18th and the beginning of the 20th century – during the migration flows to the Black Sea and the Sea of Azov coasts, we find the presence of the Italian element. During a period of about 150 years, different migrations flows brought hundreds of inhabitants of the Apennine Peninsula to this region. The Italian migrations to the Black Sea and the Sea of Azov Basins were quantitatively insignificant, in comparison with the migrations flows of other populations, like the Greeks, the Turks, the Germans, the Bulgarians, the Austrians, the French and many others. Despite this, those enterprising Italians, mainly seamen and well-off ship-owners from today's Liguria and Piedmont regions, left a strong impact on the economic development of the region, as well as a permanent trace on its multiethnic culture. Today a small group of 150-250 individuals of Italian origin, represented by the descendants of those Italian migrants, still exists. They mainly live in the city of Kerch'. They call themselves and are officially recognized as the "Italians of Crimea".

Keywords: migrations, small migration flows, Black Sea, Sea of Azov, Italians of Crimea.

NOVA STUDIJA ANTROPOMETRIJSKIH PARAMETARA FUJUMSKIH PORTRETA

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Fujumski portreti nastali u period između prvog i četvrtog veka nove ere, neprestano privlače pažnju naučnika. Već je dokazano da portreti na slikama koje krasi sarkofage imaju velike sličnosti sa ljudima koji su u njima sahranjeni, što je posebno interesantno iz perspektive fizičke antropologije. Nedavno je tim stručnjaka iz Centra za vizuelnu i fizičku antropologiju na Institutu za etnologiju i antropologiju Ruske akademije nauka sproveo novu studiju antropometrijskih parametara fujumskih portreta. Parametri lica portreta izmereni su metodom triangulacije. Kao rezultat, dobijeni uglovi omogućavaju poređenje antropometrijskih vrednosti svakog portreta. Takođe je napravljena serija kompozicijskih portreta ženskih i muških fujumskih portreta. Predavači će detaljno izložiti gore navedeno istraživanje.

Ključne reči: fujumski portreti; triangulacija; antropometrijski parametri; kompozicijski portreti.

A NEW STUDY ON THE ANTHROPOMETRIC PARAMETERS OF THE FAYUM PORTRAITS

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The Fayum portraits, created in the period between the 1st and 4th century AD, constantly attract the attention of scientists. It has already been proven that the artistic images that adorn the sarcophagi have a strong similarity with the portraits of the individuals buried in them, which is particularly interesting from the perspective of physical anthropology. A new study of the anthropometric parameters of the Fayum portraits has been recently carried out by a team of researchers of the Center of Visual and Physical Anthropology of the Institute of Ethnology and Anthropology of the Russian Academy of Sciences. The facial parameters of the portraits were measured using the triangulation method. As a result, the obtained angles allow a comparison of the anthropometric values of each portrait to be made.

Composite portraits of a series of male and female Fayum portraits have been made as well. The lecturers will share the details of the research described above.

Keywords: Fayum portraits; triangulation; anthropometric parameters; composite portraits.

TRENDOVI KRETANJA MORTALITETA U REPUBLICI SRPSKOJ U 21. VIJEKU (2001-2022)

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Negativni demografski trendovi u Republici Srpskoj (negativan prirodni priraštaj, negativni migracioni saldo, starenje), imaju sve značajniji uticaj na društveno-ekonomski razvoj Republike Srpske. Na početku 21. vijeka dugoročno smanjenje broja rođenih i povećanje broja umrlih prepoznati su kao destabilizovani faktori demografskog razvoja. Posebno zabrinjava intenziviranje emigracije stanovništva u zemlje EU i druge zemlje svijeta (SAD, Kanada, Australija). Na mortalitet u Republici Srpskoj uticali su različiti društveno-ekonomski, demografski i epidemiološki faktori. Upravo je glavni cilj ovog rada da se analiziraju promjene pokazatelja mortaliteta u okviru savremenih trendova kretanja stanovništva u Republici Srpskoj. Rezultati istraživanja pokazuju da su u Republici Srpskoj zabilježene određene promjene (pozitivne i negativne) vezane za mortalitet (povećanje očekivanog trajanja života pri rođenju, smanjenje smrtnosti odojčadi, te neki trendovi koji nisu povoljni, posebno oni koji su vezani za uzroke smrtnosti. Iako je došlo do smanjenja udjela umrlih od nekih bolesti, zabilježeno je značajno povećanje broja umrlih od određenih bolesti (Kovid-19), što se može pripisati nezdravom načinu života i različitim bihevioralnim faktorima.

Ključne reči: mortalitet; smrtnost prema uzroku; očekivano trajanje života pri rođenju.

MORTALITY TRENDS IN THE REPUBLIC OF SERBIA IN THE 21ST CENTURY (2001-2022)

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Negative demographic trends in Republika Srpska (negative natural increase, negative migration balance, and aging) have an increasingly significant impact on the socio-economic development of Republika Srpska. At the beginning of the 21st century, the long-term decrease in the number of births and increase in the number of deaths were recognized as destabilizing factors of demographic development. The intensification of population emigration to EU countries and other countries of the world (the USA; Canada, Australia) is of particular concern. Mortality in Republika Srpska was influenced by various socio-economic, demographic and epidemiological factors. The main goal of this paper is to analyze the changes in mortality indicators within the framework of contemporary trends in population movements in the Republic of Srpska. The results of the research show certain changes (positive and negative) related to mortality in the Republic of Srpska such as the increase in life expectancy at birth, decrease in infant mortality, and some trends that are not favorable, especially those related to the causes of mortality. Although there was a decrease in the number of deaths from some diseases, a significant increase in the number of deaths from certain diseases (Covid-19) was reported, which can be attributed to an unhealthy lifestyle and various behavioral factors.

Keywords: mortality; mortality by cause; life expectancy at birth.

POTENCIJALI PRIMENE VIRTUELNE STVARNOSTI PRI OBRADI ANTROPOLOŠKIH SADRŽAJA U OBRAZOVANJU

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Antropologija kao dinamična nauka objedinjuje znanja iz različitih oblasti porekla, razvića, građe i funkcije čovekovog organizma. Jedan od važnih aspekata u okviru antropologije je anatomska građa ljudskog tela. Ovaj segment, obimnog i složenog sadržaja izaziva poteškoće kod učenika i studenata. Međutim, napretkom tehnologije resursi poput virtuelnih 3D modela i virtuelnih laboratorija postaju sve dostupniji. Njihov potencijal za primenu u obrazovanju i nauci je ogroman. Virtuelno okruženje za vizuelizaciju i obuku zasnovanu na VR tehnologiji u okviru nastave antropologije, objedinjuje iskustvo učenja koje uključuje memorisanje građe delova tela i trodimenzionalnih odnosa sa procesom razumevanja strukture zasnovanog na vizuelizaciji čime učenje postaje efikasnije. Neke od aplikacija koje nude iskustvo učenja anatomske građe ljudskog tela po VR modelu su: Human Body, Anatomy Learning – 3D Anatomy, My Anatomy (VR) i mnoge druge koje se mogu besplatno preuzeti sa Android Play prodavnice. U ovom radu, prezentovane su funkcije i mogućnosti virtuelne aplikacije Human Body koja se može koristiti na mobilnom telefonu sa ili bez upotrebe virtuelnih naočara. Efekte upotrebe virtuelnih aplikacija u nastavi trebalo bi detaljnije ispitati, ali s obzirom na njihovu dostupnost, ne postoje prepreke za masovnije korišćenje ovih aplikacija, čime bi se izašlo iz okvira tradicionalne nastave, a proces učenja unapredio.

Ključne reči: antropološki sadržaji; nastava; android 3D aplikacije; virtuelna stvarnost.

THE POTENTIAL OF APPLICATION OF VIRTUAL REALITY IN THE PROCESSING OF ANTHROPOLOGICAL CONTENTS IN EDUCATION

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Anthropology is a dynamic science that combines knowledge from various areas of the origin, development, structure and function of the human organism. One of the important aspects within anthropology is the anatomical structure of the human body. This segment, with extensive and complex content, causes difficulties for pupils and students. However, with the advancement of technology, resources such as virtual 3D models and virtual laboratories are becoming more and more available. Their potential for application in education and science is enormous. A virtual environment for visualization and training based on VR technology in anthropology classes combines a learning experience that includes memorizing the structure of body parts and three-dimensional relationships with the process of understanding the structure based on visualization, which makes the learning process more efficient. Some of the applications that offer the experience of learning the anatomy of the human body in a VR model are: Human Body, Anatomy Learning - 3D Anatomy, My Anatomy (VR) and many others that can be downloaded for free from the Android Play Store. In this paper, the functions and capabilities of the Human Body virtual application, which can be used on a mobile phone with or without the use of virtual glasses, are presented. The effects of the use of virtual applications in teaching should be examined in more detail, but considering their availability, there are no obstacles to the more extensive use of these applications, which would go beyond the scope of traditional teaching and improve the learning process.

Keywords: anthropological content; teaching; android 3D apps; virtual reality.

ETIKA U KOMUNIKACIJI KNJIŽEVNIH LIKOVA STANKOVIĆEVE DRAME „KOŠTANA“ U KONTEKSTU SOCIO-KULTURNE ANTROPOLOGIJE (SA OSVRTOM NA PAGANSKE I RELIGIJSKE ELEMENTE)

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U ovom će se radu istraživati način na koji Stankovićevi likovi u drami „Koštana“ međusobno komuniciraju (ne)poštujući etičke principe. Takođe, biće razmatrano pitanje u kojoj je meri ponašanje književnih likova uslovljeno društvenim i kulturnim uticajima. Posebno interesantnim se čini sagledavanje religijskih okvira drame, ali i upečatljive slike paganskog odnosa prema životu. Za sagledavanje pomenutih složenih pitanja od značaja će biti istorijski kontekst književnog dela, piščeva biografija i njegova poetika. Bora Stanković je stvarao likove na osnovu sveta koji je poznao i razumeo. Uverljivi književni likovi u sebi su nosili pobunu protiv svih okova društva, protiv nametanja pravila, apsurdnog i destruktivnog. Sukob se odvija najčešće na unutrašnjem planu likova, pa o Stankoviću govorimo kao o začetniku moderne proze. U dubinama ljudske psihe uvek su sakriveni nejasni sadržaji, teskobni, teški. Stanković se bavio unutrašnjom dramom čoveka, otuda u njegovim tekstovima nema humora, već večite zagledanosti u najintimnije prostore ljudske duše. Da li čovek ima pravo na izbor? Zašto čovek odustaje od borbe za svoj put i miri se sa nametnutim porodičnim i čaršijskim pravilima? Odgovore na ova pitanja pronalazimo u dijalozima dramskih likova, ali i u tišinama između redova. Kroz dijaloge likova, otkriva se čitav jedan svet nesrećnih i neostvarenih ljudi o čijim su životima odlučivali drugi. Analizirajući komunikaciju u kontekstu etike, rad će se baviti sukobom na porodičnom i društvenom planu, koji se prenosi na lični plan bezglasne borbe za elementarno ljudsko pravo.

Ključne reči: etika, komunikacija, socio-kulturna antropologija, paganski elementi, religija, drama, likovi...

ETHICS IN THE COMMUNICATION OF LITERARY CHARACTERS IN STANKOVIĆ'S PLAY "KOŠTANA" IN THE CONTEXT OF SOCIO-CULTURAL ANTHROPOLOGY (WITH REFERENCE TO PAGAN AND RELIGIOUS ELEMENTS)

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This paper will investigate the way in which Stanković's characters in the drama "Koštana" communicate with each other (dis)respecting ethical principles. Also, the question of the extent at which the behavior of literary characters is conditioned by social and cultural influences will be considered. It is particularly interesting to look at the religious framework of the drama on the one hand, and the striking image of the pagan attitude towards life on the other hand. The historical context of the literary work, the writer's biography and his poetics will be important for understanding the mentioned complex issues. Bora Stanković creates characters based on the world he knows and understands. Believable literary characters carry within them a rebellion against all the shackles of society, against the imposition of rules, against the absurd and the destructive. The conflict takes place most often on the internal plan of the characters, so we talk about Stanković as the originator of modern prose. In the depths of the human psyche, obscure, anxious, difficult contents are always hidden. Stanković deals with the inner drama of man, hence there is no humor in his texts, but eternal contemplation of the most intimate spaces of the human soul. Does man have the right to choose? Why does a man give up the fight for his own path and put up with imposed family and bazaar rules? We find the answers to these questions not only in the dialogues of the dramatic characters, but also in the silences between the lines. Through the dialogues of the characters, a whole world of unhappy and unfulfilled people whose lives are decided by others is revealed. Analyzing communication in the context of ethics, the paper will deal with the conflict on the family and social level, which is transferred to the personal level of the silent fight for basic human rights.

Keywords: ethics; communication; socio-cultural anthropology; pagan elements; religion; drama, characters...

UTICAJ PANDEMIJE COVID-19 NA OBIM I POJAVNE OBLIKE NASILJA U PORODICI KAO RODNO ZASNOVANOG NASILJA

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Zabrana kretanja i nemogućnost napuštanja zajedničkog prostora za život za vreme trajanja socijalne izolacije i tokom pandemije covid-19, pružila je velike mogućnosti za ispoljavanje svih oblika rodno zasnovanog nasilja prema ženama. U posmatranom periodu od 2017. godine do proglašenja pandemije covid-19 marta 2020. godine, Klinici za dentalnu medicinu Niš - Službi za maksilofacijalnu hirurgiju sa stacionarom, javljale su se žene žrtve rodno zasnovanog nasilja koje su nasilje pretrpele od strane članova porodice muškog pola i to od: strane bračnog-vanbračnog partnera/partnera/bivšeg bračnog - vanbračnog partnera (62,29%), sina ili pastorka (21,31%), unuka (4,91%), oca (3,27%), brata (1,63%), ujaka (1,63%), devera (1,63%) i zeta (1,63%). U periodu od marta 2020. godine do maja 2023. godine, žene koje su zbrinjavane na Klinici bile su žrtve pretrpljenog nasilja od strane bračnog-vanbračnog partnera/partnera/bivšeg bračnog - vanbračnog partnera (84,61%), oca (5,12%), brata (5,12%), sina (2,56%) i svekra (2,56%). Navedeni rezultati pokazuju značajan porast partnerskog nasilja i nasilja između bivših partnera. Sada, kada je proglašen kraj trajanja pandemije, neophodno je da se ukaže na socijalnu izolaciju kao značajan faktor za ispoljavanje porodičnog nasilja i navedu osnovne smernice za pružanje pomoći i podrške žrtvama za prevazilaženje teškoća u suzbijanju ove negativne pojave u vreme pandemije. Nasilje prema članovima porodice, a posebno partnerima, najčešće je duboko sakrivena tajna i članovi porodice o njemu ne govore javno, zato i govorimo o fenomenu „tamne brojke“ nasilja u porodici.

Cljučne reči: covid-19; nasilje u porodici; rodno zasnovano nasilje.

THE IMPACT OF THE COVID-19 PANDEMIC ON THE SCOPE AND FORMS OF DOMESTIC VIOLENCE AS GENDER-BASED VIOLENCE

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The ban on movement and the impossibility of leaving the common living space during the period of social isolation and during the covid-19 pandemic provided great opportunities for the manifestation of all forms of gender-based violence against women. In the period from 2017 until the declaration of the covid-19 pandemic in March 2020, the Clinic of Dentistry Niš - Maxillofacial Surgery Service was attended by women victims of gender-based violence who suffered violence from male family members: marital-extramarital partner/partner/former partner (62.29%), son or stepson (21.31%), grandson (4.91%), father (3.27%), brother (1.63%), uncle (1.63%), brother-in-law (1.63%) and son-in-law (1.63%). In During the period from March 2020 to May 2023, women who were cared for at the Clinic were victims of violence suffered by a : marital-extramarital partner/partner/former partner (84.61%), father (5.12 %), brother (5.12%), son (2.56%) and father-in-law (2.56%). The above results showed a significant increase in partner violence and violence between former partners. Now, when the end of the pandemic has been declared, it is necessary to point out to social isolation as a significant factor for the manifestation of domestic violence, and to state the basic guidelines for providing help and support to victims, in order to overcome difficulties in suppressing this negative phenomenon during the pandemic. Violence against family members, especially between partners, is most often a deeply hidden secret and family members do not talk about it publicly, which is why we are talking about the phenomenon of the "dark figure" of domestic violence.

Keywords: covid-19, domestic violence, gender-based violence

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