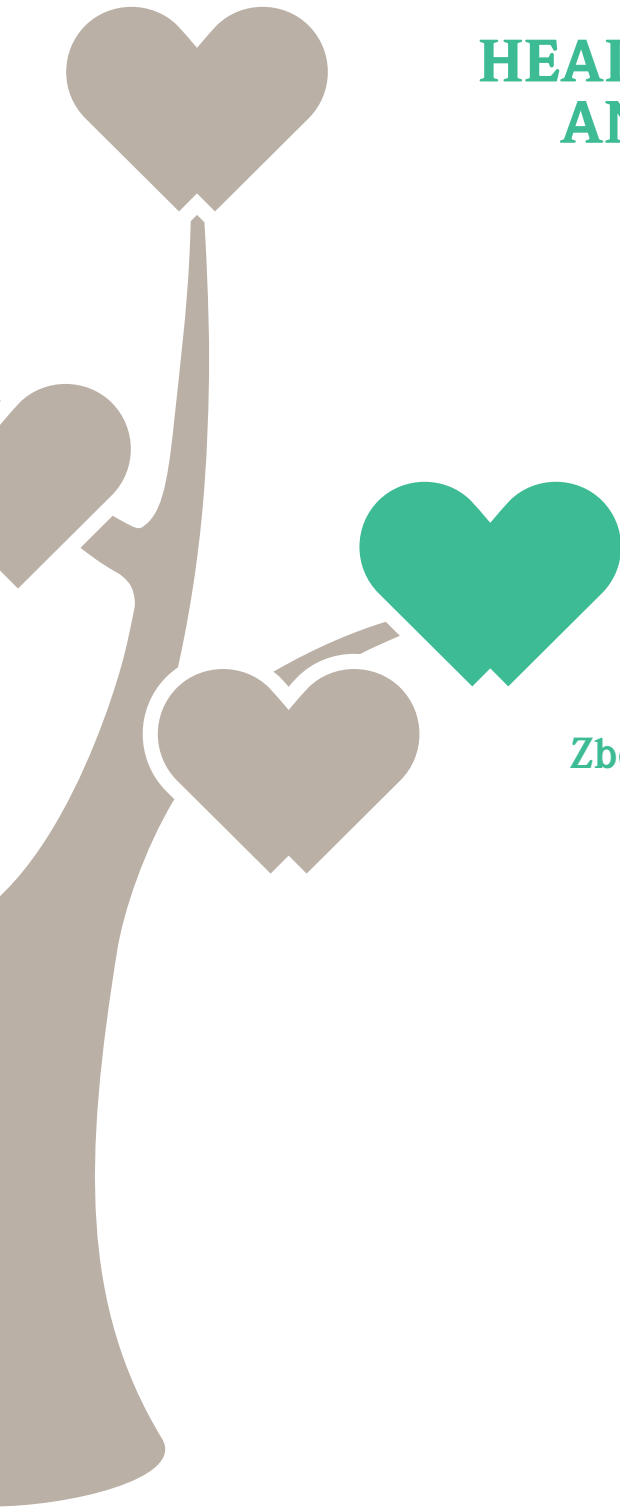


ZDRAVJE OTROK IN MLADOSTNIKOV

HEALTH OF CHILDREN AND ADOLESCENTS

Zbornik povzetkov z recenzijo
Book of Abstracts

Edited by Ana Petelin



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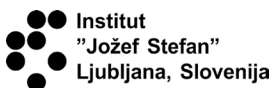


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Preface

Zdravje otrok in mladostnikov

Čas epidemije COVID-19, ki smo ga živeli od zadnje konference »Zdravje otrok in mladostnikov 2019«, je bil za celotno človeštvo velika preizkušnja. Soočali smo se z ukrepi, ki jih do same razglasitve še nismo poznali. Pravzaprav je le redko kdo verjel, kako velike družbene razmere se lahko zgodijo v zgolj treh letih. Zdi se, da so se ukrepi in omejitve, ki so bile prvenstveno namenjene ohranjanju in skrbi za zdravje vseh, posebej dotaknili starostne skupine otrok in mladostnikov. Izkazalo se je, kako pomembno je nemoteno izvajanje šolskega vzgojno-izobraževalnega procesa. Mnogi otroci so namreč le v šolskem okolju deležni primernih spodbud za njihov celosten razvoj. Do kakšnih izjemnih upadov, posebej na telesnem in gibalnem področju, pa tudi na področju duševnega zdravja otrok in mladostnikov je prišlo v zadnjih treh letih izkazujejo številne nacionalne in tuje raziskave.

Odrasli smo dolžni z vso skrbnostjo varovati vsa področja razvoja naših otrok in mladostnikov. Pri načrtovanju ukrepov, omejitev in intervencij moramo skrbno pretehtati tako pozitivne kot negativne strani ukrepov. V času, ko se zdi, da so ukrepi zoper epidemijo COVID-19 ohlapnejši, Fakulteta za vede o zdravju Univerze na Primorskem organizira drugo konferenco na temo zdravja otrok in mladostnikov, s katerem želimo naslavljati številne probleme, ugotovitve in primere dobrih praks, ki se izvajajo v širšem regijskem okolju. Avtorji prispevkov so v prispevkih predstavili rezultate in primere dobrih praks v naslednjih tematskih sklopih: (1) psihosocialno zdravje v otroštvu in mladosti; (2) prehrana otrok in mladostnikov; (3) informacijsko-komunikacijske tehnološke rešitve in storitve za zdravje otrok in mladostnikov; (4) otrok in mladostnik – okolje ter (5) gibalna (ne)aktivnost otrok in mladostnikov.

Publikacija je namenjena raziskovalcem, visokošolskim učiteljem, študentom, strokovnjakom na področju zdravstva ter vzgoje in izobraževanja ter vsem, ki se zanimajo za dobro počutje otrok in mladostnikov. Želimo si, da bodo predstavljene teme in prispevki poglobili znanje poslušalcev ter prispevali k ozaveščanju javnosti o pomenu zdravja otrok in mladostnikov. Letošnja konferenca zaokroža drugi triletni cikel konferenc Univerze na Primorskem, Fakultete za vede o zdravju, povezanih z zdravjem različnih starostnih skupin.

*doc. dr. Matej Plevnik,
vodja programskega odbora konference*

Health of Children and Adolescents

The Covid-19 epidemic, which we have lived since the last conference „Health of Children and Adolescents 2019», has been a great test for all of humanity. We were faced with measures that we had never been familiar with until their announcement. In truth, hardly anyone imagined the extent to which social conditions could change in the course of merely three years. It seems that the implemented measures and restrictions during the Covid-19 pandemic, which were primarily intended to preserve and promote everyone's health, have particularly affected the age group of children and adolescents. The uninterrupted implementation of the school educational process has turned out to be of key importance in this regard. Indeed, many children receive appropriate incentives for all-round development only in the school environment. Numerous Slovenian and foreign studies have during the last three years evidenced considerable declines in children's and adolescents' physical development and physical activity, as well as their mental health.

As adults, we have a duty to conscientiously protect all areas of the development of our children and youth. When planning any kind of measures, restrictions and interventions, it should be ensured that we carefully consider both their positive and negative aspects. At a time when the measures against the Covid-19 epidemic seem to be laxer, the Faculty of Health Sciences of the University of Primorska is organizing its second conference on the topic of children's and adolescents' health, which addresses many problems, findings and examples of good practices deployed in the wider regional environment. The authors of contributions have presented their research findings and examples of good practices in the following thematic areas: (1) psychosocial health in childhood and youth; (2) nutrition of children and youth; (3) information and communication technology solutions and services for the health of children and youth; (4) the child and youth – the environment, and (5) physical (in)activity of children and youth.

The publication is intended for researchers, university teachers, students, experts in the field of health and education, as well as anyone interested in the well-being of children and adolescents. We hope that the discussed topics and presented contributions will deepen the knowledge of the audience and raise public awareness of the importance of children's and adolescents' health. This year's conference rounds off the second three-year cycle of conferences on the health of different age groups that have been organised by the Faculty of Health Sciences, University of Primorska.

*Assist. Prof. Matej Plevnik, PhD.,
chair of the Conference Programme Committee*

**Vabljeni
predavatelji
Invited lecturers**

Dona Hileti je predavateljica s področja prehrane in dietetike na Univerzi v Nikoziji in klinična pediatrična dietetičarka. Je koordinatorka magistrskega študijskega programa Športna prehrana in ima dolgoletne izkušnje s poučevanjem športne prehrane in klinične dietetike. Poleg akademskega in pedagoškega dela opravlja tudi klinično, ki vključuje oceno prehranskega stanja in prehransko obravnavo odraslih in otrok. Njena klinična in raziskovalna zanimanja se osredotočajo predvsem na pediatrično prehrano in dietetiko. Na Cipru trenutno vodi prospektivno študijo o vlogi zgodnjega prehranjevalnega vedenja in razvoja debelosti pri otrocih. Izvaja tudi mentorstvo doktorskim študentom, ki sodelujejo pri raziskavah o prehranjevalnem vedenju dojenčkov. Dr. Hileti ima akademske, pedagoške in klinične izkušnje tako v Združenem kraljestvu kot na Cipru. Delala je kot višja dietetičarka v londonski pediatrični bolnišnici Great Ormond Street Hospital, sodelovala pa je tudi pri raziskovalnih projektih in revizijah Inštituta za zdravje otrok. Dr. Hileti je avtorica poglavja v Učbeniku za pediatrično klinično dietetiko (*Textbook of Clinical Paediatric Dietetics*) in članka v Enciklopediji znanosti o hrani in prehrani (*Encyclopedia of Food Sciences and Nutrition*). Sodelovala je tudi s Ciperskim pediatričnim društvom, s katerim je pripravila informacije o otroški prehrani za starše, ki so postale del otrokove osebne zdravstvene evidence. Poleg tega je bila dr. Hileti vabljena predavateljica na temo prehrane v zgodnjih letih življenja na številnih konferencah doma in v tujini.

Dona Hileti is a lecturer in Nutrition and Dietetics at the University of Nicosia and a Clinical Paediatric Dietitian. She is the Coordinator of the MSc Sports Nutrition program and has experience in teaching Sports Nutrition as well as Clinical Dietetics for many years. Besides her academic and teaching work, Dr Hileti's clinical work involves the nutritional assessment and dietary management of adults and children. Her Clinical and research interests focus primarily on Paediatric Nutrition and Dietetics. She is currently leading a prospective study in Cyprus on the role of early nutrition behavior and the development of childhood obesity. She is also currently supervising PhD students partaking research studies on the eating behavior of infants. Dr Hileti has academic, teaching and clinical experience both in UK and in Cyprus. She worked as a Senior Dietitian at Great Ormond Street Hospital for Sick Children in London and also participated in research projects and audits in collaboration with the Institute of Child Health. Dr Hileti authored a chapter in the Textbook of Clinical Paediatric Dietetics and an article for the Encyclopedia of Food Sciences and Nutrition. She also worked with the Cyprus Paediatric Society to develop information on Childhood nutrition for parents which forms part of the child's personal health records. Furthermore, Dr Hileti has been an invited speaker on the topic of nutrition in the early years of life, in a number of conferences both locally and abroad.

Dragana Milutinović je redna profesorica zdravstvene nege na Medicinski fakulteti Univerze v Novem Sadu. Njene več kot tridesetletne delovne izkušnje obsegajo delo v različnih operacijskih enotah, kirurški kliniki, kliničnem centru, kot predavateljica je poučevala na Srednji zdravstveni šoli »7. april« v Novem Sadu. Od leta 2003 je zaposlena na Medicinski fakulteti, kjer predava na dodiplomskem, magistrskem in doktorskem študiju zdravstvene nege. Z mentoriranjem štirih doktorskih disertacij ter številnih magistrskih in diplomskih nalog je bistveno prispevala k razvoju mladih znanstvenikov. Je tudi gostujoča profesorica na Fakulteti za dentalno medicino in zdravstvo v Osijeku na strokovnem študijskem programu zdravstvene nege. Njen primarni znanstveni in strokovni interes je v razvoju, izobraževanju in raziskovanju zdravstvene nege. Objavila je več kot sto prispevkov v mednarodnih in domačih revijah ter zbornikih na znanstvenih konferencah. Poleg tega je avtorica učbenika o zdravstveni negi otroka. Sodelovala je pri projektih na področju izobraževanja, znanosti in bilateralnega sodelovanja, bila je predsednica Znanstvenega odbora Društva medicinskih sester in babic Srbije, in aktivno sodeluje pri številnih aktivnostih društva.

Dragana Milutinović is a full professor in Nursing at the Faculty of Medicine, University of Novi Sad. Her work life began more than thirty years ago in the Operating Room Units, Surgical Clinic, Clinical Centre, and then as a nurse lecturer in the Secondary Medical School »7 April« in Novi Sad. Since 2003 she has been employed at the Faculty of Medicine, where she taught in the baccalaureate, master's, and doctoral nursing programs. In addition, she contributed to the development of young scientists through the mentorship of four defended doctoral dissertations and many masters and graduate theses. Also, she is a visiting professor at the Faculty of Dental Medicine and Health in Osijek at the professional study of nursing. Her primary scientific and professional interest is nursing development, education, and research. She published over one hundred papers in international and national journals and proceedings at scientific conferences. In addition, she is the author of a textbook on pediatric nursing care. She has participated in projects in education, science, and bilateral cooperation, and she has been a president of the Scientific Board of Serbian Nurses and Midwives Association and participates in many activities for the nursing society in Serbia.

Johan FM Molenbroek je študiral strojništvo na politehniku HTS Enschede in biomedicinsko inženirstvo na univerzi Twente. Diplomiral je leta 1975 in magistriral leta 1978. Istege leta je začel delati kot docent za fizično ergonomijo na Tehnični univerzi v Delftu, na Fakulteti za industrijsko inženirstvo, Oddelek za ergonomijo izdelkov. Leta 1994 je doktoriral na Tehnični univerzi v Delftu. Leta 1995 je bil imenovan za izrednega profesorja industrijskega oblikovanja, specializiranega za fizično ergonomijo. V obdobju 2003-2011 je bil predsednik nizozemskega društva za ergonomijo. V letih 1998-2000 je bil predsednik, v letih 2000-2002 pa član izobraževalnega odbora za industrijsko oblikovanje. Bil je nizozemski predstavnik v svetu Mednarodnega združenja za ergonomijo (2003-2012) in član svetovalnega odbora Fundacije za raziskave kakovosti in uporabnosti za starejše in invalide med letoma 1996 in 2006. Je ustanovni član mednarodne skupine WEAR za 3D antropometrijo. Bil je ustanovitelj www.dined.nl, antropometrične platforme za oblikovalce in raziskovalce. Od leta 1979 je tudi član nacionalnih in evropskih odborov za standardizacijo na področju antropometrije (NEN, CEN in ISO) in šolskega pohištva. Na Tehnični univerzi v Delftu je poučeval predmete kot so uporabna ergonomija, antropometrija, vključujoče oblikovanje, varnost izdelkov in ergonomija športne opreme. Letno je mentor 10-20 študentov zaključnega magistrskega študija. Oktobra 2016 se je upokojil s poučevanjem, vendar ima še vedno sklenjeno raziskovalno pogodbo za obdobje 2016-2021. Od leta 2000 se njegove trenutne raziskave osredotočajo na poškodbe zaradi ponavljajočih se obremenitev ter na uporabnost ergonomskih in 3D-antropometričnih podatkov (3D-skeniranje) za oblikovalce. Med leti 2005 in 2011 je bil svetovalec na Politehniški univerzi v Hongkongu za projekt Size China Project (www.sizechina.com), v okviru katerega so 3D-skenirali oblike glave 2000 Kitajcev. Iz tega projekta je nastal doktorski projekt Rogerja Balla na TUDelftu, ki je leta 2008 prejel zlato nagrado IDSA.

Johan FM Molenbroek studied mechanical engineering at the Polytechnic HTS Enschede and after finishing this in 1974, he studied biomedical engineering at the University Twente. He received his bachelor degree in 1975 and master's degree in 1978. In 1994 he received his PhD from the Delft University of Technology. In Dec 1978 he started as an assistant professor in Physical Ergonomics at the Delft University of Technology, Faculty Industrial Design Engineering, Department Product Ergonomics. In 1995 he was appointed as Associate Professor Industrial Design Engineering specializing in Physical Ergonomics. He is active in the Dutch Society for Ergonomics and was President in the period 2003-2011. He was the Dutch representative in the Council of the International Ergonomics Association (2003-2012) and a member of the Advisory Board of The Foundation for Quality and Usability Research for Elderly and Handicapped (KBOH) from 1996-2006. He is a founding member of the International WEAR-group about 3D Anthropometry. He was founder of www.dined.nl, an anthropometric platform for designers and researchers. He was chair from 1998-2000 and a member of the Educational Committee Industrial Design Engineering from 2000-2002. He is also a member of the National and European Standardization Committees on Anthropometry (NEN, CEN and ISO) and School furniture since 1979. He is teaching courses including topics like Applied Ergonomics, Anthropometry, Inclusive Design, Product Safety, Human factors of Sports equipment. He is supervisor of 10-20 final MSc students per year. He retired from teaching in October 2016 but still has a research contract for the period 2016-2021 for 0.2fte. Since 2000 his current research focuses on Repetitive Strain Injury RSI and on the usability of ergonomical and 3D-anthropometrical data (3D scanning) for designers www.dined.nl 2005-2011 he is consultant at the Hong Kong Poly Technical University for the size China Project (www.sizechina.com), in which the head forms of 2000 Chinese people were 3D scanned. This project resulted into the PhD-project of Roger Ball at TUDelft with his daily supervision and an IDSA Gold Award 2008.

Željko Pedišić je profesor, ki vodi raziskovalno skupino Active Living & Public Health na Inštitutu za zdravje in šport Univerze Victoria, Melbourne, Avstralija. Njegovo raziskovanje je osredotočeno na preprečevanje kroničnih bolezni in spodbujanje zdravega življenjskega sloga skozi učinkovito upravljanje s časom. Njegovi interesi vključujejo preučevanje razširjenosti, determinant in posledic nezdravega upravljanja s časom, javnozdravstvenega nadzora, politik in intervencij, statističnih metod v epidemiologiji, ter merilnih metod. Je eden od avtorjev smernic za »Viable Integrative Research in Time-Use Epidemiology (VIRTUE)«. Je predsednik mednarodne mreže »The International Network of Time-Use Epidemiologists (INTUE)«.

Željko Pedišić, Professor, leads the Active Living & Public Health research group at the Institute for Health and Sport, Victoria University, Melbourne, Australia. His research is centred around chronic disease prevention and promotion of well-being through healthy use of time. His interests span: prevalence, determinants, and outcomes of unhealthy time use; public health surveillance, policies, and interventions; statistical methods in epidemiology; and measurement methods. He is one of the authors of the framework for Viable Integrative Research in Time-Use Epidemiology (VIRTUE). He is the President of the International Network of Time-Use Epidemiologists (INTUE).

**Plenarna
predavanja
Plenary lectures**

Plenarno predavanje

Vzajemna povezava med prehranjevalnim vedenjem in tveganjem za razvoj debelosti v otroštvu

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Izhodišča in namen: Razvoj debelosti sega v začetke življenja vsakega posameznika. Rodimo se s sposobnostjo samoregulacije vnosa energije, vendar genetski in okoljski dejavniki prispevajo k variabilnosti prehranjevalnega vedenja. Zgodnje otroštvo je kritično obdobje, ko se vzpostavi prehranjevalno vedenje. Ko je enkrat utrjeno, je prehranjevalno vedenje težko spremeniti. Zato je pomembno razumeti, kateri dejavniki prispevajo k povečani ali zmanjšani regulaciji apetita, z namenom da bi oblikovali ustrezne klinične intervencije za preprečevanje debelosti.

Predstavitev vsebine: Med prehranjevalno vedenje vključujemo tudi apetit. Pridobljene in razvite značilnosti apetita v zgodnjem življenju vplivajo na nagnjenost k debelosti in so povezane s povečanjem telesne mase v otroštvu. Pogosto uporabljeno orodje za oceno prehranjevalnega vedenja otrok je vprašalnik o prehranjevalnem vedenju otrok (CEBQ). Vprašalnik, v katerem odgovarjajo starši otrok, meri osem dimenzij prehranjevalnega sloga pri otrocih (odzivnost na hrano, uživanje v hrani, odzivnost na sitost, počasnost pri prehranjevanju, razburjenost, čustveno prenašanje, čustveno podhranjenost in želja po pitju). Lahko se uporablja za otroke, starejše od enega leta. Vprašalnik o prehranjevalnem vedenju dojenčkov (BEBQ) je bil razvit iz CEBQ za merjenje prehranjevalnega vedenja dojenčkov. Čeprav lahko značilnosti apetita v otroštvu vplivajo na kasnejši pojav debelosti in povečanje telesne mase, pa ni dovolj raziskano, ali lahko višja telesna masa v zgodnjem otroštvu vpliva na kasnejše značilnosti apetita. Na telesno maso ne vpliva samo prehransko vedenje, temveč so vplivi lahko tudi vzajemni. Na živalskih modelih je bilo ugotovljeno, da je nizki porodni teži sledilo hitro poporodno povečanje telesne mase, ki je vodilo v hiperfagijo. Prekomerno hranjenje ob in po rojstvu vodi do hitrejšega pridobivanja telesne mase v zgodnjem življenju in povečanega tveganja za debelost, kot predlaga »hipoteza pospeševanja rasti«. Možno je, da višji vnos hrane v zgodnjem življenjskem obdobju poveča apetit, kar vodi v hitrejšo rast in posledično povečano tveganje za debelost. Zelo malo študij je preučilo povezavo med povečanjem telesne mase v otroštvu in nadaljnjim razvojem povečanega apetita, medtem ko nobena študija ni preučila povezave med povečanjem telesne mase pri dojenčkih in nadaljnjim povečanim apetitom tekom razvoja. Da bi raziskali to področje in pokazali na ključne parametre, ki so povezani z rastjo dojenčka in kasnejšimi značilnostmi apetita, smo vzpostavili prvo kohortno študijo na Cipru. Preliminarni rezultati te študije so prvič pokazali, da lahko hitro povečanje telesne mase pri dojenčkih, tako kot pri živalskih modelih, spodbuja razvoj obesogenega prehranskega vedenja.

Sklepne ugotovitve: Zgodnje otroštvo je kritično obdobje, ko se vzpostavi prehranjevalno vedenje. Obojesmerna povezava med povečanim apetitom in zgodnjo rastjo ima pomembne klinične posledice pri preprečevanju debelosti pri otrocih.

Gljučne besede: apetit, prehranjevalno vedenje, vprašalnik CEBQ, vprašalnik BEBQ

Plenary lecture

The bidirectional association between eating behaviour and risk of obesity in infancy

Dona Hileti¹, Christiana Demetriou²

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Introduction and purpose: Obesity develops early in life. Infants are born with the ability to self-regulate energy intake but genetic and environmental factors contribute to variability in eating behaviour. Early childhood is a critical period where eating behaviours are established. Once established, eating behaviour can be difficult to change. It is therefore important to understand what factors contribute to the up-regulation and down-regulation of obesogenic appetite traits in order to design suitable clinical interventions to prevent obesity.

Content presentation: Eating behaviour includes appetite traits. Appetite traits in early life influence predisposition to obesity and are associated with weight gain in infancy and childhood. A widely used tool to assess children's eating behaviour is the Child Eating Behaviour Questionnaire (CEBQ). This parent reported questionnaire measures eight dimensions of eating style in children (food responsiveness, enjoyment of food, satiety responsiveness, slowness in eating, fussiness, emotional overeating, emotional undereating and desire to drink and it can be used for children older than one year of age. The Baby Eating Behaviour Questionnaire (BEBQ) was developed from the CEBQ to measure feeding behaviour in infancy. Even though appetite traits in infancy can influence adiposity and weight gain, whether early weight gain can influence later appetite traits has not been sufficiently researched. Weight may not only be affected by obesogenic eating behaviour but may also affect a reciprocal reinforcing mechanism. In animal models low birth weight is followed by rapid postnatal weight gain and leads to hyperphagia. In human, small-for-gestational age infants grow faster and have reduced satiety. Greater early post-natal nutrition leads to faster weight gain in early life and increased risk of obesity, as proposed by the 'growth acceleration hypothesis'. It is possible that higher nutrition in early life upregulates appetite, leading to faster growth and subsequent increased obesity risk. Very few studies have examined the association between weight gain in childhood and prospective development of appetite traits, while no studies have examined the association between weight gain in infancy and the prospective appetite development. To investigate the direction and other determinants of any association between infant growth and subsequent appetite traits, we set up the first infant cohort study in Cyprus. Preliminary results from this study showed for the first time that, as in animal models, rapid weight gain in infancy may be driving the development of appetite traits.

Conclusions: Early childhood is a critical period where eating behaviours are established. The bi-directional association between appetite traits and early growth has important clinical implications in the prevention of childhood obesity.

Keywords: appetite, eating behaviour, CEBQ, BEBQ

Plenarno predavanje

Povezava med zdravstveno pismenostjo in vedenji zdravega življenjskega sloga pri adolescentih

Dragana Milutinović

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Uvod: Zdravstvena pismenost je ključna za razvoj z zdravjem povezanega znanja, privzemanje zdravega življenjskega sloga ter optimalno koriščenje zdravstvenih storitev. V obdobju adolescence nastopijo številne spremembe telesnih, psiholoških in socialnih vidikov hitro in naenkrat. Zaradi teh sprememb predstavlja obdobje adolescence primeren čas za promoviranje zdravstvene pismenosti. Podpora adolescentom pri zadovoljevanju njihovih potreb po zdravstveni pismenosti je bistvenega pomena za razvoj zdravega življenjskega sloga v sedanjosti in prihodnosti. Pričujoča študija je zato skušala določiti razmerje med ravnmi zdravstvene pismenosti in vedenji zdravega življenjskega sloga na vzorcu srbskih srednješolcev.

Metode: Naša raziskava je bila opisna/analitična in primerjalna presečna študija, izvedli pa smo jo na priročnem vzorcu $n = 568$ adolescentov med 15. in 18. letom starosti. Uporabljeni raziskovalna orodja so vključevala test zdravstvene pismenosti za adolescente HELMA (Health Literacy Measure for Adolescents), profil življenjskega sloga adolescentov ALP (Adolescent Lifestyle Profile) ter socio-demografski vprašalnik. Zanesljivost testa HELMA je $\alpha = 0,93$, sestavlja pa ga 44 postavk, ki pokrivajo osem področij: dostop, branje, razumevanje, ocenjevanje, uporabo, komunikacijo, samoučinkovitost in računsko pismenost. Na osnovi mejnih vrednosti smo zdravstveno pismenost adolescentov rangirali na štiri ravni: na nezadostno in problematično (opredeljeni kot 'omejena' zdravstvena pismenost) ter zadovoljivo in odlično (opredeljeni kot 'zaželeni' zdravstvena pismenost). Lestvica ALP ima zanesljivost $\alpha = 0,87$, sestavlja pa jo 40 postavk in sedem podleštvic, ki vključujejo pozitiven pogled na življenje, gibalno dejavnost, prehrano, odgovornost za zdravje, obvladovanje stresa, medosebne odnose ter duhovno zdravje. Višji seštevek točk je nakazoval večjo pogostost vedenj, ki spodbujajo zdravje.

Rezultati: Povprečna vrednost skupnega seštevka točk na testu HELMA je znašala 77,2 (11,4) točk od stotih možnih; 4,1 % udeležencev raziskave je pokazalo nezadostno, 25,7 % problematično, 54,9 % zadovoljivo in 15,3 % odlično zdravstveno pismenost. Povprečje doseženega rezultata na lestvici ALP je bilo 2,82 (0,39) točke od štirih možnih. Z bivariatno analizo se je pokazala statistično značilna pozitivna korelacija med skupnim seštevkom točk na testu HELMA in tistim na lestvici ALP ($r = 0,48$, $p < 0,01$). Logistična regresija pa je razkrila, da kot napovedniki vedenj zdravega življenjskega sloga s $p = 0,01$ izstopajo raven zdravstvene pismenosti, odnos s starši, samoocena lastnega zdravja, zanimanje za teme, ki so povezane z zdravjem, ter odnosi s prijatelji.

Razprava in zaključki: Vrednotenje zdravstvene pismenosti in vedenj zdravega življenjskega sloga pri adolescentih z uporabo veljavnih in zanesljivih orodij je ključnega pomena za spodbujanje njihovega zdravja. Rezultati so pokazali, da so za 29,8 % adolescentov značilna omejena zdravstvena pismenost ter zmerna zdravstvena vedenja. Glede na velik pomen te problematike, je potrebno torej posvetiti več pozornosti problemu zdravstvene pismenosti med adolescenti z uporabo izobraževalnih ukrepov. Izvedba izobraževalnih programov na srednjih šolah z avdio-vizualnimi in kinestetičnimi intervencijami bi lahko povečala zanimanje adolescentov za zdravje ter izboljšala njihovo pismenost na tem področju. Za zagotovitev cilja povečanja zdravstvene pismenosti in zvišanja kakovosti zdravstvene oskrbe pa je potrebno tudi sodelovanje s starši.

Ključne besede: adolescenti, zdravstvena pismenost, vedenja spodbujanja zdravja, vprašalnik, zdravstvena nega

Plenary lecture

Association of health literacy and healthy lifestyle behaviours in adolescents

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Introduction: Health literacy is essential to developing health-related knowledge, adopting healthy lifestyles, and benefiting from healthcare services. During the adolescent period, many changes in physical, psychological, and social aspects occur together and rapidly. These changes make adolescence an appropriate time for improving health literacy. Supporting adolescents' health literacy needs is crucial to adopting a healthy lifestyle in the present and future. Therefore, this study aimed to determine the relationship between health literacy levels and healthy lifestyle behaviours in a sample of Serbian high school adolescents.

Methods: The research was a descriptive/analytical and comparative cross-sectional study with a convenience sample $n = 568$ adolescents aged 15–18. Instruments used in this study included: The health literacy measure for adolescents (HELMA), the Adolescent Lifestyle Profile (ALP), and a sociodemographic questionnaire. HELMA reliability has been approved by $\alpha = 0.93$, and it consisted of 44 items within eight areas: access, reading, understanding, appraisal, use, communication, self-efficacy, and numeracy. Based on the cut-off points, adolescents' health literacy ranked at four levels: inadequate and problematic (defined as 'limited' health literacy), sufficient and excellent (defined 'desired' health literacy). The ALP scale has a reliability of $\alpha = 0.87$ and consists of 40 items and seven subscales, including positive life perspective, physical activity, nutrition, health responsibility, stress management, interpersonal relations, and spiritual health. A higher score indicated a higher frequency of health-promoting behaviours.

Results: The mean of the total HELMA score was 77.2 (11.4) out of 100, 4.1% had inadequate, 25.7% had problematic, 54.9% had sufficient, and 15.3% had excellent health literacy. The total ALP score's mean was 2.82 (0.39) out of 4. The total HELMA score significantly positively correlated with the total ALP scores in bivariate analysis ($r = 0.48$, $p < 0.01$). In the logistic regression analysis, level of health literacy, relationship with parents, health self-assessment, interest in health topics and relationship with friends stood out as significant predictors of healthy lifestyle behaviours at $p = 0.01$.

Discussion and conclusions: Evaluating health literacy and healthy lifestyle behaviours in adolescents using valid and reliable instruments is essential for promoting adolescent health. According to the obtained results, 29.8% of the adolescents had limited health literacy, and their health behaviours were moderate. Therefore, due to the importance of this issue, it is necessary to pay more attention to the problem of adolescents' health literacy through educational interventions. Implementation of training programs within high schools that apply audio-visual kinesthetic interventions could increase adolescents' interest and improve their literacy. Cooperation with parents is also needed to meet this goal of improved health literacy and increased quality of care.

Keywords: adolescents, health literacy, health-promoting behaviours, questionnaire, nursing

Plenarno predavanje

Raziskave šolskega pohištva TUDleft od leta 1980

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Uvod: V članku je predstavljen pregled raziskav s področja oblikovanja, izvedenih na Nizozemskem v preteklih 44 letih z namenom izdelave kakovostnejših stolov za otroke. Naše raziskovalne izkušnje na področju šolskega pohištva se uporabljajo: 1) pri pripravi boljših standardov Evropske unije za šolsko pohištvo, 2) pri pripravi orodja, imenovanega Ellips, ki služi raziskovanju 2D antropometrije, 3) v financiranem projektu, ki vključuje merjenje 40 telesnih mer pri 2400 otrocih do 12. leta starosti.

Metode: Po zaključenih meritvah in stiku s šolskimi zdravniki smo pridobili informacijo o spremembah sekularne rasti. Slednje je predstavljalo pomemben dejavnik za oblikovanje šolskega pohištva, upoštevajoč rast nizozemskih otrok. Trend sekularne rasti na Nizozemskem je v povprečju znašal 1 mm/leto v preteklih 400 letih, medtem ko je med letoma 1960 in 1980 znašal 2,7 mm na leto. Omenjeni učinek se je znižal v 90. letih in ustavil leta 2000. Danes se telesna višina nizozemskih otrok ne povečuje, ampak pridobivajo na telesni masi in posledično indeksu telesne mase. 50 % je prekomerno težkih, kar ima vpliv na oblikovanje šolskega pohištva. Sekularna rast v telesni višini na Nizozemskem je bil razlog, da sem postal dejaven v komisiji za standarde šolskega pohištva, saj so me številni starši kontaktirali glede pritožb njihovih otrok, katerim niso ustrezale mere obstoječega pohištva.

Rezultati: Po zajemu smo podatke poskusili vključiti v standarde za šolsko pohištvo na tri načine. Strmenje k sedem namesto šest različnih velikosti z namenom izboljšanja udobja za visoke dečke, tako da so imeli dovolj prostora za noge pod mizo in na stolu. Strmenje k bolj enostavnim in razumljivim brošuram, namenjenim staršem in učiteljem, ki obravnavajo zapletene in za branje zahtevne vsebine CEN Standarda za splošno javnost. Strmenje k temu, da bo spodnji del noge ključna mera namesto zgradbe ali starosti, ki so bile uporabljena v preteklosti. Dosegli smo vse tri omenjene cilje. Končni izid je bil nov, enostavno uporaben instrument po imenu Leg Indicator (Beenmeter v nizozemščini), ki kaže, katera velikost je primerna za otroka. Renate de Bruin je sedaj izboljšala Leg indicator z vključevanjem razdalje od zadnjice do poplitealne jame. Drugi pomemben vidik je logistika šolskega pohištva, s katero se mora soočati šolska uprava. Antropometrične mere otrok se bodo namreč vsako leto raziskovale, zato bi bilo smiselno imeti razpoložljivo zalogo različnih velikosti šolskega pohištva.

Razprava in zaključki: Kot znanstvenik lahko povečaš udobje šolskih otrok z uporabo šolskega pohištva preko sodelovanja v komisijah Evropske unije za standard, sodelovanja z ostalimi deležniki in objavljanja lastnih znanstvenih raziskav o antropometriji in ergonomiji.

Ključne besede: otroci, šolsko pohištvo, antropometrija, standardi, ergonomija, človeški dejavniki

Plenary lecture

School furniture research TUDelft since 1980

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Introduction: This paper gives an overview of research and design studies done in the Netherlands in the last 44 years in relation to create better seats for children. Our experience in research of school furniture is used in: 1) creating a better EU standard for school furniture, 2) creating a tool called Ellips to study 2D anthropometry, 3) a grant request to measure 40 body dimensions from 2400 children 0-12 years of age.

Methods: After finishing the measurement study and our contact with school doctors we learned about secular growth shift. This was an important factor for long standing school furniture and the growth of the Dutch children. About secular growth trend, it was in average 1 mm per year during the last 400 years in the Netherlands but between 1960 and 1980 until 2.7 mm per year. This effect decreased in the 90th and stopped at 2000. Now the Dutch don't grow anymore vertically but they grow in weight and so also in BMI. 50% has overweight which has also consequences for the design of school furniture. In the Netherlands this secular growth in height has been the reason I became active in the standard committee for school furniture because several parents were calling about complaints about their young boys that would not fit with the existing school furniture.

Results: After we collected that dataset we tried to implement those data into the standard for school furniture in 3 ways. To strive at 7 in stead of 6 sizes for better comfort for the tall boys so they had enough room for their legs underneath the tables and on the chairs. To strive at a simple understandable booklet about the complex and uneasy to read content of the CEN Standard for the general public including the parents and the teachers. To strive the lower leg would be the best key dimension, better than the stature or age that was used in the past. The result was we reached all 3 above-mentioned goals. The result was a new easy to use instrument called the Leg Indicator (Beenmeter in Dutch) that indicated which size fits the children. Renate de Bruin has now improved this Leg indicator by including also the buttock-popliteal length. Another important aspect is the logistics of school furniture the school management has to cope with because the children will differ in anthropometry each year in such a way it would be comfortable to have some furniture in stock ready for usage if needed. Therefore measuring each child 2x per year is enough.

Conclusion: As a scientist, you can improve the comfort of schoolchildren using school furniture via participation in EU standard committees, cooperation with other stakeholders and publishing about your scientific research in anthropometry and ergonomics.

Keywords: children, school furniture, anthropometry, standards, ergonomics, human factors

Plenarno predavanje

(Ne)zdrava poraba časa med otroki in mladostniki: kaj že vemo in kako lahko izvemo več?

Željko Pedišić

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Poraba časa je z zdravjem povezan dejavnik, ki mu je vsak otrok in mladostnik neizogibno izpostavljen vsak dan, 24 ur na dan. Z vidika javnega zdravja je zato pomembno raziskati determinante, pojavnost, porazdelitev in učinke vzorcev porabe časa, povezane z zdravjem, med otroki in mladostniki ter metode za preprečevanje nezdrave porabe časa in za doseganje optimalne porazdelitve časa pri otrocih in mladostnikih. Telesna dejavnost, sedentarno vedenje in spanje so najpogosteje preučevane sestavine porabe časa, povezanega z zdravjem. V epidemioloških raziskavah so jih tradicionalno preučevali ločeno in jih obravnavali kot neodvisne dejavnike. Vendar smo v seriji nedavnih prispevkov podali metodološke argumente, da je treba telesno dejavnost, sedentarno vedenje in spanje obravnavati kot sestavne dele porabe časa in da jih je treba analizirati z analizo kompozicijskih podatkov (CoDA). S tem se je začela nova vrsta raziskav, ki jo danes imenujemo »epidemiologija porabe časa« in ki postaja vse bolj priljubljena na mednarodni ravni. Da bi olajšali raziskave na tem področju, smo razvili okvir »Viable Integrative Research in Time-Use Epidemiology (VIRTUE)«. Okvir vključuje raziskave o: [i] statističnih in merilnih metodah v epidemiologiji porabe časa; [ii] rezultatih porabe časa povezanega z zdravjem; [iii] (ne)zdravi porabi časa ter njeni razširjenosti in trendih v populaciji; [iv] determinantah (ne)zdrave porabe časa; in [iv] posegih v porabo časa. Ta predstavitev bo vključevala opis ključnih elementov okvira VIRTUE in primere naših nedavnih študij iz področja epidemiologije porabe časa, opravljenih pri otrocih in mladostnikih. Vključevala bo tudi pregled smernic za 24-urno gibalno vedenje za otroke in mladostnike, ki vključujejo priporočila za telesno dejavnost, sedentarno vedenje in spanje. Predstavitev se bo zaključila s priporočilom profesorja Alberta Einsteina v zvezi z zdravo porabo časa.

Ključne besede: epidemiologija porabe časa, telesna dejavnost, sedentarno vedenje, spanje

Plenary lecture

(Un)healthy use of time among children and adolescents: what do we know and how can we find out more?

Željko Pedišić

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Time use is a health-related factor that every child and adolescent is inevitably exposed to every day, 24 hours a day. From a public health perspective, it is therefore important to investigate determinants, incidence, distribution, and effects of health-related time-use patterns among children and adolescents, and methods for preventing unhealthy time use and achieving the optimal distribution of time for health in this population group. Physical activity, sedentary behaviour, and sleep are the most commonly studied components of health-related time use. In epidemiological research, they were traditionally examined in isolation and considered as independent factors. However, in a series of recent papers we provided methodological arguments that physical activity, sedentary behaviour, and sleep should be treated as integral parts of a time-use composition, and that they should be analysed using the compositional data analysis (CoDA). This started a new line of research that we now call »time-use epidemiology« and that is becoming increasingly popular internationally. To facilitate research in this area, we developed the Viable Integrative Research in Time-Use Epidemiology (VIRTUE) framework. The framework incorporates research on: [i] methods and measures in time-use epidemiology; [ii] outcomes of health-related time-use compositions; [iii] (un)healthy time use and its prevalence and trends in the population; [iv] determinants of (un)healthy use of time; and [v] time-use interventions. This presentation will include a description of key elements of the VIRTUE framework and examples of our recent studies in time-use epidemiology conducted among children and adolescents. It will also include an overview of the 24-hour movement guidelines for children and adolescents that integrate recommendations on physical activity, sedentary behaviour, and sleep. The presentation will conclude with a recommendation made by Professor Albert Einstein in relation to healthy use of time.

Keywords: time-use epidemiology, physical activity, sedentary behaviour, sleep

Konferenčni povzetki
Conference abstracts

Sekcija/Section
Gibalna (ne)aktivnost otrok in mladostnikov
Physical (in)activity of children and youth

Vabljeni predavanje

Ukrepi za preprečevanje telesne nedejavnosti otrok med pandemijo COVID-19

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Uvod: Negativne posledice izolacije, zaprtja in telesne nedejavnosti zaradi omejitev gibanja od začetka pandemije COVID-19 so dobro dokumentirane in vključujejo tudi ukrepe za ublažitev posledic telesne zmogljivosti otrok. V zadnjih dveh letih smo bili zaradi izolacije priča spremembam v fizičnem zdravju. Hkrati lahko izolacija vpliva tudi na duševno zdravje, predvsem dolgočasje, finančno izgubo, stigmatizacijo in poveča strah pred daljšim trajanjem karantene in strah pred okužbo. Člani raziskovalne ekipe SLOfit so zaradi teh sprememb uvedli več strategij za obveščanje in bolj proti negativnim spremembam 24-urnega gibalnega vedenja (24-UGV) v pediatrični populaciji.

Metode: V osrednjem govoru bo predstavljenih več trenutnih zbirk podatkov, evropskih projektov in objavljenih člankov, ki opisujejo ukrepe s katerimi pozitivno vplivamo na 24-UGV otrok. V metodologijo so vključen presečne in longitudinalne raziskave ter raziskave usklajenih vzorcev.

Rezultati: V zadnjih dveh letih so raziskovalci SLOfit: (1) oblikovali multidisciplinarno delovno skupino za pripravo nacionalnih smernic telesne dejavnosti v skladu s priporočili Svetovne zdravstvene organizacije in Nacionalnega inštituta za javno zdravje, (2) preučevali negativne učinke omejitve gibanja na 24-UGV otrok, (3) vzpostavili evropski spletni portal za brezplačno povratno informacijo o telesni zmogljivosti, (4) obdelali na tisoče pridobljenih podatkov o telesni dejavnosti otrok in odraslih, (5) oblikovali nacionalni barometer, in (6) svetovali Svetovni zdravstveni organizaciji o uspešnih strategijah, ki bi jih lahko uvedli na evropski ravni.

Razprava in zaključek: Nujno je, da se na nacionalni in mednarodni ravni uskladi pristope, ki omogočajo telesno dejavnost in jo spodbujajo za vse državljane v trenutnem času in v vseh prihodnjih valovih te svetovne pandemije. Državna politika mora državljanom zagotoviti dostop do zunanjih površin, vključno z zelenimi površinami, bistveno spremeniti učni načrt v šolah, in ohraniti odprto športno infrastrukturo predvsem za najbolj ranljive generacije, kot npr. otroci.

Gljučne besede: spremljanje telesne zmogljivosti, COVID-19, okoljska epidemiologija, vadba, 24-urno gibalno vedenje

Invited lecture

Countermeasures to Combating Child Physical Inactivity during the COVID-19 pandemic

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Introduction: The negative impact of isolation, confinement, and physical (in)activity due to pandemic movement restriction has been well-documented since the beginning of the COVID-19 pandemic, including the impact of mitigation policies on children's physical fitness. In addition to physical detriments observed during the past two years, confinement alone can cause negative psychological effects, including fears of longer quarantine duration, infection, frustration, boredom, financial loss, and stigma. With these concerns in mind, SLOfit researchers have implemented several strategies to combat, inform, and hopefully reverse negative trends observed in 24-hour movement behaviour (24-HMB) in the paediatric population.

Methods: This keynote address will describe several ongoing data collections, European projects, and published papers describing countermeasures to positively affect children's 24-HMB. Methodologies of the studies include cross-sectional, longitudinal, and matched-control works.

Results: Over the past two years, SLOfit researchers have: (1) created a multidisciplinary task force to draft a set of national physical activity guidelines for use during COVID-19, in-line with WHO and NIJZ recommendations, (2) examined the negative effect of lockdown measures on 24-HMB in children, (3) launched a free-for-use European fitness surveillance feedback web portal, (4) processed thousands of direct-measurement fitness tests on both children and adults, (5) created a national barometer for public health engagement, and (6) advised the WHO on successful policies which could be introduced at the European level.

Discussion and conclusions: Ultimately, there is an urgent need for national and international harmonized approaches to ensuring physical activity opportunities are both encouraged and accessible to all citizens now, and through any future rolling waves of this global pandemic. Government policies must ensure citizens are able to access outdoor space, including greenspaces, substantially modify classroom curricula, and keep sport infrastructure open, especially for those who are most vulnerable, like children.

Keywords: fitness surveillance, COVID-19, environmental epidemiology, exercise, isolation, 24-hour movement behavior

Aktivnosti v naravi za razvoj gibalnih in funkcionalnih sposobnosti otrok z avtizmom

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Uvod: Projekt Aktivnosti v naravi za razvoj gibalnih in funkcionalnih sposobnosti otrok z avtizmom se je odvil kot trimesečni interni projekt med CIRIUS Vipava in Pedagoško fakulteto Univerze v Ljubljani. Izvedbeni del projekta je potekal v okviru delavnic na domačiji Naglost, kjer sta nastanjena konja, primerna za terapevtske aktivnosti. Aktivnosti so potekale enkrat tedensko, v prostem času. Pred vsako izvedbo aktivnosti s konjem smo opravili gibalni poligon. Poligon je bil sestavljen iz šestih gibalnih nalog, pri katerih smo opazovali moč, hitrost, koordinacijo, gibljivost, ravnotežje in vzdržljivost udeleženca. Sestavljen je bil po zahtevnostnih stopnjah, od enostavnih do kompleksnejših gibalnih nalog. Po uspešno izvedenem poligonu je sledila aktivnost s konjem ali na njem. Aktivnosti smo stopnjevali in jih sprotno prilagajali otrokovim zmožnostim. Dejavnosti smo izvedli z večkratnimi ponovitvami, z namenom, da se jih otrok nauči, si jih zapomni in izboljša ter avtomatizira določene gibalne vzorce potrebne pri vsakodnevni opravih.

Metode: V projekt smo vključili šest otrok z avtistično motnjo in pridruženimi intelektualnimi ter drugimi primanjkljaji, dve udeleženci ženskega spola in štiri udeležence moškega spola, v starosti od 4 do 12 let. Otroci so bili testirani pred začetkom aktivnosti v naravi in bo zaključku. Testirani so bili s pomočjo inštrumentarija ABC gibanje 2, BOTMP, 3-min Kasch Pulse Recovery Test KPR test, ki so bili v preteklosti že preverjeni. Vključen je bil individualno sestavljen inštrumentarij za posamezne gibalne sposobnosti ter spretnosti. Merili smo: agilnost (tek), ravnotežje (stoja), dinamično ravnotežje (koraki), moč (skok v daljino z mesta), bilateralno koordinacijo (ista roka/ista noga) in koordinacijo rok (število uspešnih poskusov). Za analizo rezultatov smo zaradi majhnega in namenskega vzorca uporabili formulo izračuna individualnega napredka posameznika, tako imenovano relativno razliko. Zaradi številnih posebnosti otrok smo se odločili za primerjavo rezultatov, ki jih je posameznik dosegel, in ne za primerjavo rezultatov vseh otrok glede na začetno ter končno merjenje.

Rezultati: Rezultati so pokazali, da so vsi udeleženci napredovali na področju izbranih gibalnih aktivnosti. Največji napredek smo izmerili na področju koordinacije (3 primeri povečanje za 100%, v enem za 40%) in ravnotežja (v 3 primerih za 100%), najmanjšega na področju agilnosti (v 3 primerih izboljšali, v 3 primerih poslabšali).

Razprava in zaključek: Aktivnost v naravi s pomočjo konja je vplivala na posameznikovo gibalno učinkovitost in izboljšanje dobrega počutja z vrstniškim vključevanjem. Udeleženci so bili za projektne aktivnosti zelo motivirani, zlasti pri skrbi za konja in pri pravi na jahanje. Poleg izmerjenih gibalnih komponent, so bila ugotovljena pomembna opažanja na ravni izboljšanja splošnega počutja udeležencev in zadovoljstva njihovih staršev.

Ključne besede: terapija, terapevt, aktivnosti, konj

Nature activities for the development of motor and functional abilities of children with autism

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Introduction: The project Nature activities for the development of motor and functional abilities of children with autism was conceived as a three-month internal project in cooperation between CIRIUS Vipava and the Faculty of Education of the University of Ljubljana. The implementation part of the project took place at the Naglost farm, which accommodates two horses suitable for therapeutic activities. The selected activities took place once a week, during free time. Before each activity with the horse, we executed a movement polygon. The polygon consisted of six movement tasks, where we observed the participant's strength, speed, coordination, flexibility, balance and endurance. The polygon was structured according to difficulty levels, from simple to more complex movement tasks. After a successful completion of the movement polygon, an activity with or on a horse followed. We intensified and adapted the activities according to the abilities of the participant. We repeated the activities several times in order for the child to learn, remember and improve them and to automate certain movement patterns needed in everyday activities.

Methods: The project involved two female and four male participants with autism spectrum disorders and associated intellectual and other deficits, aged between 4 and 12 years. They were tested with the help of ABC2 instruments (Movement Assessment Battery for Children), BOTMP, 3-min Kasch Pulse Recovery Test - KPR test, which have been tested in the past. We prepared an individually composed instrument for individual motor skills and abilities. We measured: agility, balance, dynamic balance, strength, bilateral coordination and hand coordination. Due to the small and purposeful sample, we decided to use a formula for calculating the individual progress, the so-called relative difference, to analyze the results. Due to the many specificities of the children, we have chosen to compare the results achieved by each individual rather than comparing the results of all children on the initial and final measurements.

Results: The results showed that all participants made progress in their chosen motor test. We measured the greatest progress in the area of coordination (3 cases increase 100%, 1 for 40%) and balance (3 cases increase 100%), while we found less progress in the area of agility (3 cases improved, 3 cases worsened).

Discussion and conclusion: Being active in nature with the help of a horse had an impact on the individual's physical performance and improved well-being through peer involvement. The participants were highly motivated for all the project activities, especially in caring for the horse and preparing for riding. In addition to the measured exercise components, we concluded important findings at the level of improvement in the participant's general well-being the satisfaction of their parents.

Keywords: therapy, therapist, activities, horse

Kolo kot terapevtsko sredstvo

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Izhodišča in namen: Kolesarjenje je motorična aktivnost, ki omogoča zdrav način življenja, razvoj gibalnih spretnosti in funkcionalnih sposobnosti. Z njo pridobivamo različne informacije iz okolja in nove izkušnje. Namen prispevka je predstavitev kolesa in otroškega tricikla (trokolo/terapevtsko kolo) kot pripomočka pri delu z otroki in mladostniki s posebnimi potrebami, ki so gibalno ovirani in imajo motnjo v duševnem razvoju.

Predstavitve vsebine: Kolesarjenje kot del vsakodnevnega življenja ima znaten vpliv na zdravje in dobro počutje. Otrok in mladostnik na kolesu ali otroškem triciklu z vključevanjem v ožje in širše okolje pridobiva izkušnje organizacije in načrtovanja aktivnosti, sprošča čustvene napetosti, razvija komunikacijo z okoljem in postaja samozavestnejši. V terapevtski obravnavi se s pomočjo kolesa in otroškega tricikla razvija gibljivost, mišična jakost, koordinacija in ravnotežje. Spodbuja se vzdrževanje in spreminjanje osnovnega telesnega položaja ter stopnjevanje ritma in hitrosti kolesarjenja. Kolesarjenje izboljšuje respiratorno funkcijo in pretok krvno-žilnega sistema. Vpliva na zmanjševanje in preprečevanje nastanka kontraktur ter deformacij spodnjih okončin. Otroci in mladostniki s težjo in težko gibalno oviranostjo ne zmorejo oziroma se težje naučijo vožnje s kolesom. Zaradi želje po vožnji s kolesom se jih uči uporabe otroškega tricikla. Otroški tricikel je prilagojena različica kolesa, ki z dvema zadnjima kolesoma nudi otroku in mladostniku širšo podporno ploskev in večjo stabilnost. Otroški tricikel je medicinski pripomoček, ki ga predpiše zdravnik specialist. Otrok ali mladostnik ga dobi v izposoji za obdobje petih let, do starosti 15 let pri Zavodu za zdravstveno zavarovanje Slovenije.

Sklepne ugotovitve: Kolo oziroma otroški tricikel je pripomoček, ki je lahko tudi sestavni del terapevtske obravnave. Pri otroku in mladostniku s posebnimi potrebami povečuje motivacijo, samoiniciativnost in željo po gibanju. S tem pridobiva motorične spretnosti in nove gibalne vzorce. Namen terapevtskega učenja kolesarjenja je, da otrok ali mladostnik s posebnimi potrebami osvojen znanje prenese v domače okolje.

Gljučne besede: kolo, otroški tricikel, otroci in mladostniki s posebnimi potrebami, terapevtska obravnava, zdravje.

Bicycle as a therapeutic aid

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Introduction and purpose: Cycling is a motor activity that enables a healthy lifestyle, development of motor skills and functional abilities. It helps us to learn about our environment and gain new experiences. The aim of our contribution is to present the bicycle and the children's tricycle (trolley/therapy bicycle) as a tool for working with children and adolescents with special needs, who are physically disabled and have mental development disorders.

Content presentation: Cycling as part of everyday life has a significant impact on health and wellbeing. By getting involved in the wider and narrower environment, the child and young person on a bicycle or a children's tricycle gains experience in organizing and planning activities, releases emotional tensions, develops communication with the environment and becomes more self-confident. In the therapeutic treatment, mobility, muscle strength, coordination and balance are developed with the help of a bicycle and a children's tricycle. Maintaining and changing the basic body position and increasing the rhythm and speed of cycling are encouraged. Cycling improves respiratory function and the circulation of the circulatory system. It helps to reduce and prevent contractures and deformities of the lower limbs. Children and young people with severe and profound physical disabilities are unable to ride a bicycle or find it more difficult to learn to. Because they want to ride a bike, they are taught how to use a children's tricycle. A children's tricycle is a modified version of a bicycle which, with two rear wheels, offers children and young people a wider support surface and greater stability. A children's tricycle is a medical device prescribed by a specialist doctor. The child or young person borrows it from the Health Insurance Institute of Slovenia for a period of five years, until the age of 15.

Conclusions: The bicycle or children's tricycle is a device that can also be an integral part of therapeutic treatment. It increases the motivation, self-initiative and desire to move in children and young people with special needs. This helps them acquire motor skills and new movement patterns. The aim of therapeutic cycling lessons is to transfer the knowledge acquired by a child or young person with disabilities to the home environment.

Keywords: bicycle, children's tricycle, children and adolescents with disabilities, therapeutic treatment, health.

»Mali prostor« – pripomoček za razvoj otrokove prostorske predstavljenosti

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Uvod: Otroci z več motnjami imajo enake potrebe po aktivnostih, kot jih imajo zdravi otroci. Prek njih se učijo, razvijajo in spoznavajo svet okrog sebe, pridobivajo samostojnost. Okolje mora biti ustrezno prilagojeno in otroke z različnimi stimulisi spodbujati k lastnim aktivnostim, lastnemu gibanju. Pomembno je, da ciljno in sistematično razvijamo gibalne sposobnosti otrok. V CIRIUS Vipava smo izdelali in uporabili prilagojen »mali prostor«. Deluje kot senzorna soba v malem, ki z različnimi dražljaji na vseh ravneh spodbuja posameznika k lastnim aktivnostim. Modifikacija pripomočka omogoča prilagajanje posameznikovim potrebam in sposobnostim. Tako smo povečali njegovo uporabnost, saj vanj lahko namestimo tudi mladostnike.

Metode: Uporabnost »malega prostora« smo raziskovali s kvalitativno metodo. V »malem prostoru« smo opazovali heterogeno skupino desetih otrok (pet deklic, pet dečkov) z več motnjami (gibalno ovirani, slepi in slabovidni, otroci z razvojnimi zaostankom), starih od dveh do dvajset let. Razdelili smo jih glede na stopnjo gibalne oviranosti: na težko gibalno ovirane otroke, tj. tiste z omejenim gibanjem telesa, na otroke, ki se obrnejo na bok, in na otroke, ki zadržijo sedeči položaj. V pripomoček smo jih nameščali enkrat tedensko v časovnem obdobju petih mesecev. Aktivnosti in odzivnost otrok v pripomočku smo analizirali s pomočjo Likertove lestvice (nizka, srednja, visoka stopnja). Merili smo, kako se spremeni otrokova vztrajnost, aktivnost, sproščenost, premikanje telesa, uporaba čutil od prve do zadnje namestitve v pripomoček. S pomočjo polstrukturiranih intervjujev s specialno rehabilitacijskimi pedagoginjami in terapevti smo ugotavljali pozitiven vidik uporabe pripomočka pri otrocih z več motnjami. Statističnih analiz nismo opravili zaradi premajhnega vzorca.

Rezultati: Pri evalvaciji rezultatov opazovanj učinkovitosti pripomočka smo ugotavljali, kako se je spremenila stopnja aktivnosti otroka od prvega do zadnjega nameščanja v prostoru. Pri vseh opazovanih otrocih in mladostnikih smo ocenili, da se je njihova aktivnost na vseh opazovanih področjih povečala, posebej na področju gibanja.

Razprava in zaključki: S prilagojenim pripomočkom »mali prostor« ustvarimo ustrezno prilagojeno okolje, ki otrokom in mladostnikom z več motnjami omogoča širšo čutno zaznavo, jih spodbuja k različnim lastnim aktivnostim. Z rednim nameščanjem v ta pripomoček otroci pridobijo nove izkušnje, usvojijo znanje in spretnosti v okviru svojih zmoglosti. Pri mladostnikih pa redno nameščanje v ta pripomoček predstavlja enega od možnih načinov, s katerim lahko upočasnimo deterioracijo oziroma ohranjamo že usvojene spretnosti. Pomembno je, da obravnava posameznika v »malem prostoru« poteka ciljno in interdisciplinarno.

Gljučne besede: otroci z več motnjami, mali prostor, samostojna aktivnost, senzorna soba

The »Little room« - more than a tool

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Introduction: Children with multiple disabilities have the same needs for activities as healthy children. Through activities they learn, develop, explore the world around them and gain independence. Their environment has to be equipped with various stimuli which encourage them to be active, to move. Systematic, targeted development of children's motor abilities is very important. At CIRIUS Vipava we made and used an adapted »little room«. It works as a sensory room which encourages an individual to engage in activities of their own choice. Possible modifications to the tool allow it to be adapted to the needs and abilities of each individual. This increases its applicability, as it can be suitable for children as well as adolescents.

Methods: We used a qualitative research method to investigate the applicability of the »little room«. We observed a heterogeneous group of ten children (five girls, five boys) with multiple disabilities (mobility impaired, blind and partially sighted, children with intellectual disabilities) aged 2 to 20 years. We were distributed them into three groups: children with severe mobility impairment, i.e. limited mobility, children who can roll onto one side and children who can hold a sitting position. Each of the children was put into the tool once a week over a five-month period. The activities and responsiveness of the children in the tool were analyzed using a Likert scale (low, medium, high). We observed the change in the child's persistence, activity, relaxation, body movement, and use of senses. We carried out a semi-structured interview with special education and rehabilitation teachers and therapists to identify the positive aspects of using the tool with children with multiple disabilities. Statistical analyses were not performed due to insufficient sample size.

Results: We determined how the child's activity level changed, from the first to the last placement in the »Little room« by evaluating the efficiency of the tool. It was assessed that the activity of all the children and adolescents observed, increased in all the areas, in particular, in the field of movement.

Discussion and conclusions: By selecting a suitable tool like our »little room«, we try to create an adapted environment that allows children and adolescents with multiple disabilities to have a broader sensory perception and stimulates them to engage in their self-initiated. Regularly fitting into this tool, enables children acquisition of new experiences, knowledge and skills within one's abilities. In adolescents, regular use of the tool can be a way to slow down deterioration or maintain previously acquired skills. It is important that the treatment of an individual is targeted and interdisciplinary.

Keywords: children with multiple disabilities, little room, own-initiative activity, sensory room

Izmerjena količina in intenzivnost gibalne/športne aktivnosti skupine gimnastičark

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Uvod: Gibalna/športna aktivnost (GŠA) ima pozitivne učinke na zdravje otrok in mladostnikov, predvsem na uravnoteženo telesno maso, povečano kostno gostoto, preprečevanje pojava kronično nenalezljivih bolezni, izboljša kognitivne sposobnosti itd. V zadnjih tridesetih letih so merilniki pospeškov zelo uporabna in razširjena objektivna metoda za ugotavljanje gibalne/športne aktivnosti (GŠA) otrok in mladostnikov. Zato smo si kot cilj postavili ugotoviti ali izbrana skupina gimnastičark, ki so v popoldanskem času vključene v organizirano in vodeno vadbo v SK Salto, zadošča dnevnim priporočilom o GŠA. Nadalje smo želeli ugotoviti ali obstajajo razlike v povprečni količini in intenzivnosti GŠA med tednom in med koncem tedna, ter koliko časa v povprečju preiskovanke preživijo sede na dan.

Metode: V raziskavi je sodelovalo 29 gimnastičark, od tega smo pridobili 25 uporabnih podatkov. Preiskovanke so bile stare med 8 in 16 let ($12,26 \pm 2,21$; telesna višina $152,08 \pm 11,33$; telesna masa $43,74 \pm 8,69$; BMI $18,70 \pm 1,59$). Preiskovanke so nosile merilnike pospeška ActiGraph GT3X+, devet dni zaporedoma v obdobju od 3.10.2020 do 12.10.2020. Pridobljene spremenljivke o povprečni količini in intenzivnosti GŠA ter sedentarnosti smo uporabili za nadaljnjo analizo.

Rezultati: Z analizo dobljenih rezultatov smo ugotovili, da preiskovanke dosegajo dnevna priporočila o količini in intenzivnosti GŠA, tako med tednom kakor tudi med vikendom. V povprečju so na dan sodelovale $205,22 \pm 62,19$ min v srednje in visoki intenzivnosti (SVI-GŠA), kar znaša $3,42 \pm 1,04$ h/dan. Od tega so v srednji intenzivnosti sodelovale $156,62 \pm 42,22$ min, medtem ko so v visoki intenzivnosti GŠA sodelovale $30,03 \pm 15,35$ min. Pri ugotavljanju razlik smo ugotovili, da so gimnastičarke statistično značilno več časa sodelovale v SVI-GŠA, v primerjavi s koncem tedna ($t(24) = 6,57$; $p < 0,001$). Vzorec gimnastičark preživi tako med tednom kot koncem tedna več kot 9 ur na dan v gibalni neaktivnosti (sedentarnosti). Kljub temu nismo opazili statistično značilnih razlik ($p = 0,07$).

Razprava in zaključki: Rezultati kažejo, da preiskovanke iz SK Salto dosegajo dnevna priporočila o srednje in visoki GŠA. Kljub temu so bile več kot 9 ur na dan gibalno neaktivne tako med tednom kot med koncem tedna. GŠA, predvsem ženska gimnastika, lahko bistveno pripomore k dvigu priporočene dnevne količine GŠA in s tem pripomore k zmanjšanju posledic sedentarnosti.

Ključne besede: merilniki pospeška ActiGraph GT3X+, otroci in mladostniki, sedentarnost

Amount and intensity of physical activity of a group of gymnasts

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Introduction: Physical activity (PA) has many health benefits for children and adolescents and can contribute to adequate body mass, increase bone density, prevent as chronic noncommunicable diseases and improve cognitive skills. Accelerometers are valid and useful devices for assessing the intensity and volume of PA in children and adolescents. Therefore, accelerometry has become one of the most objective methods to measure PA in children and adolescents. The aim of our study was to investigate whether our sample of gymnasts achieved the daily recommendations of PA. We hypothesized that there would be differences in mean of moderate to vigorous physical activity (MVPA) between weekdays and weekends. We also hypothesized that our sample would be less sedentary than their peers, which has been found in several studies.

Methods: Twenty-nine female gymnasts (Salto club) participated in our study, from which we obtained 25 useful data. The participants were aged between 8 and 16 years (12.26 ± 2.21 years; body height 152.08 ± 11.33 ; body mass 43.74 ± 8.69 ; BMI 18.70 ± 1.59). Participants were measured with an accelerometer (GT3X+, ActiGraph, USA) for 10 consecutive days between 3.10.2020 and 12.10.2020 (from Saturday to Monday). The variables obtained on the average amount and intensity of PA and sedentary time, were used for further analysis.

Results: By analyzing the obtained results, we found that the participants achieved the daily recommendations of amount and intensity of PA during the week and at the weekend. On average, they participated in MVPA for 205.22 ± 62.19 minutes, which is equivalent to 3.42 ± 1.04 hours per day. They spent 156.62 ± 42.22 minutes at moderate intensity PA, while they spent 30.03 ± 15.35 minutes at vigorous PA. The dependent t-test showed that the participants spent statistically significantly more time in MVPA during the week than at weekends ($t(24) = 6.57$; $p < 0.001$). In addition, the sample of gymnasts tended to spend more than 9 hours per day in physical inactivity (sedentariness) during the week and at the weekend, but the analysis did not show statistical significance ($p = 0.07$).

Discussion and conclusions: The results of the present study show that the participants achieved daily recommendations for the amount and intensity of PA. In addition, sample of gymnasts tended to spend more than 9 hours, both during the week and at weekends. PA, especially gymnastics can help increase the recommended daily amount of PA and thus might reduce the consequences of a sedentarism.

Keywords: accelerometer ActiGraph GT3X+, children and adolescents, sedentarism

Učenje šolskih veščin skozi gibanje

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Izhodišča in namen: Otroci s posebnimi potrebami so del našega vsakdana in tudi del našega šolskega sistema. Z uvajanjem načel inkluzije se tudi v osnovnih šolah srečujemo z različnimi skupinami otrok s posebnimi potrebami. Otroci imajo tako drugačne potrebe in potrebujejo drugačne načine poučevanja. Naloga nas kot učiteljev pa je, da se tem potrebam prilagodimo ter učencem ponudimo takšno pomoč in takšne načine učenja, kot jih, glede na svoje potrebe, potrebujejo.

Predstavitev vsebine: Kot mobilna učiteljica nudim dodatno strokovno pomoč učencem v osnovnih šolah. Moje delo zajema premagovanje primanjkljajev, velik poudarek pa je tudi na učni snovi. Učencem poskušam pri podajanju učne snovi pomagati na način, ki je posameznemu učencu najbližji. Veliko šolskih veščin se lahko učimo tudi skozi gibanje. Takšno učenje je učencem zanimivo. Velikokrat se sploh ne zavedajo, da se učijo. Zanje je to namreč igra. Otroci v obdobju odraščanja potrebujejo veliko gibanja, šola pa je v veliki večini sedeče naravnana. Otroci se tako v šoli kot tudi izven nje premalo gibajo. Zato je še toliko bolj pomembno, da za gibanje izkoristimo vsak trenutek. Z malo domišljije se lahko skoraj vsako šolsko veščino in vsako učno snov uči z gibanjem. Pri urah dodatne strokovne pomoči tako na razredni stopnji črkujemo, glaskujemo in prepoznavamo črke z gibanjem. V gibanje vključujemo tudi računanje in utrjevanje poštevank. Zanimivo je tudi učenje pesmic, ki jih za lažjo zapomnitev ponazorimo z gibanjem. V višjih razredih osnovne šole je gibanje v učenje vključeno drugače. Z gibanjem se učimo besedišče pri tujem jeziku, pravil pri matematiki, ponazorimo pojave pri fiziki in podobno.

Sklepne ugotovitve: Gibanje pozitivno vpliva na razvoj in delovanje možganov, s tem pa tudi na procese učenja. Ker gibanje aktivira vse možganske podsisteme, je učenje z gibanjem bolj učinkovito. Poleg tega pa je za učence tudi zanimivo in zabavno, saj je večina pouka še vedno naravnana statično. Pri urah dodatne strokovne pomoči s takšnim načinom dela hkrati zasledujemo več ciljev, saj poleg utrjevanja učne snovi delamo tudi na koordinaciji, fini motoriki, grobi motoriki, gibljivosti, ravnotežju, slušni in vidni pozornosti, usmerjanju pozornosti in drugem, kar je, glede na posebnosti otroka, opredeljeno v njegovem individualiziranem programu.

Ključne besede: učenci s posebnimi potrebami, učenje, šolske veščine, gibanje

Learning school skills through movement

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Introduction and purpose: Children with special needs are part of our daily lives and also part of our school system. With the introduction of the principles of inclusion, we also meet different groups of children with special needs in primary schools. Children thus have different needs and require different ways of teaching. The teachers' task is to adapt to these needs and offer students the kind of help and learning they need, depending on their needs.

Content presentation: As a mobile teacher, I offer additional professional help to students in primary schools. My work involves overcoming deficits, and there is also a strong emphasis on learning. I try to help students with learning in the way that is closest to the individual student. Many school skills can also be learnt through movement. Such learning is interesting to students. Many times they are not even aware that they are learning. For them, this is a game. Children need a lot of movement during adolescence, and the school is mostly sedentary. Children do not get enough exercise both in and out of school. That is why it is all the more important to use every moment to move. With a little imagination, almost any school skill and any learning material can be learnt through movement. In the hours of additional professional help, we spell, vocalise and recognize letters with movement at the grade level. We also include calculation the movement. It is also interesting to learn songs that are illustrated with movement to make them easier to remember. In the upper grades of primary school, movement is included in learning differently. With movement we learn vocabulary in foreign languages, mathematical rules, illustrate phenomena in physics and the like.

Conclusion: Physical activity has a positive effect on the development and functioning of the brain and thus on learning processes. Movement activates all brain subsystems and makes learning more effective. In addition, it is more interesting and fun for students as the majority of lessons are still static. During the additional professional help lessons we pursue several goals at the same time using these methods, i.e. because in addition to revising the subject matter, we also work on coordination, fine motor skills, gross motor skills, mobility, balance, visual and auditory attention, focus and others which are specified in the student's individualized program.

Keywords: children with special needs, learning, school skills, physical activity

Telesna pripravljenost mladih plesalk

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Uvod: Trenutno razpoložljivi dokazi močno podpirajo potrebo po ocenjevanju telesne pripravljenosti (TP) pri otrocih. Čeprav različne športne dejavnosti vodijo k povečanju parametrov, ki bi lahko predstavljali dobro podlago za srčno-žilni in motorični razvoj, je bilo doslej le malo razprav o razlikah v TP glede na vključenost v športne dejavnosti. Cilj naše študije je bil razširiti znanje o TP in o razlikah med deklicami, ki se ukvarjajo s plesom, in deklicami, ki se s plesom ne ukvarjajo.

Metode: Vzorec je obsegal 53 deklic (starost $6,54 \pm 0,29$ let; višina $121,9 \pm 5,0$ cm; teža $24,4 \pm 4,5$ kg; ITM $16,3 \pm 2,23$ kg/m²), od katerih se jih je 21 redno udeleževalo treningov plesa, 31 pa ne-plesnih športnih dejavnosti. Baterija PREFIT je obsegala naslednje teste: antropometrija (teža, višina in obseg pasu; razmerje med obsegom pasu in višino je bilo predlagano kot alternativno merilo); PREFIT 20 m tek z obrati za oceno kardiorespiratorne pripravljenosti, stisk pesti in skok v daljino za oceno mišične jakosti in moči zgornjih in spodnjih udov), 4 x 10 m tek z obrati za oceno hitrosti in agilnosti.

Rezultati: Multivariatna analiza variance je pokazala, da so imele deklice v plesni skupini značilno boljšo telesno pripravljenost v primerjavi s kontrolno skupino ($p < 0,001$). Univariatna analiza variance je pokazala, da imajo deklice v plesni skupini bistveno boljše rezultate pri obsegu pasu ($p = 0,027$; $f = 5,16$; $g = -0,62$; 95 % CI = [-1,2, -0,04]); razmerju med obsegom pasu in višino ($p = 0,004$; $f = 9,013$; $g = -0,82$; 95 % CI = [-1,41, -0,23]); 4 x 10 m teku z obrati ($p = 0,016$; $f = 6,25$; $g = -0,68$; 95 % CI = [-1,26, -0,09]); skoku v daljino ($p = 0,000$; $f = 21,6$; $g = 1,29$; 95 % CI = [0,67, 1,91]); PREFIT 20 m teku z obrati ($p = 0,02$; $f = 5,76$; $g = 0,67$; 95 % CI = [0,08, 1,25]); PREFIT 20 m teku z obrati ($p = 0,018$; $f = 5,94$; $g = 0,68$; 95 % CI = [0,09, 1,26]). Pri stisku pesti ni bilo ugotovljene značilne razlike ($p = 0,596$; $f = 0,285$; $g = -0,14$; 95 % CI = [-0,71, 0,42]).

Razprava in zaključki: Rezultati študije kažejo, da deklice, ki se ukvarjajo s plesom, razvijejo boljšo TP v primerjavi z deklicami, ki se ukvarjajo z drugimi športnimi dejavnostmi. Telesna dejavnost, zlasti ples, lahko zagotavlja zdravo rast, kardiorespiratorni in motorični razvoj deklic. Ples kot šport bi bilo potrebno uvrstiti med dejavnosti z večdimenzionalnim pristopom, kar bi lahko bila odlična strategija v ne-šolskih okoljih.

Ključne besede: ples, zdravje, otroci, telesna pripravljenost

Physical fitness in young female dancers

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Introduction: Currently available evidence strongly supports the need to assess physical fitness (PF) in children. Different sport activities lead to increase parameters that could present good basis for cardiovascular and motor development. However, there has been little discussion on differences in PF according to their involvement in sport activities. Therefore the aim of our study was to extend knowledge of PF and differences between girls who participate in dance and non-dance girls.

Methods: The study sample comprised of 53 girls (e.g. 6.54 ± 0.29 years; height 121.9 ± 5.0 cm; weight 24.4 ± 4.5 kg; BMI 16.3 ± 2.23 kg/m²), of whom 21 participated regularly in dance training and 31 in non-dance sport activities. The PREFIT battery comprises the following tests: weight, height and waist circumference to assess anthropometry; Waist circumference to height ratio was been proposed as an alternative measure; PREFIT 20m shuttle run test to assess cardiorespiratory fitness, Handgrip strength and Standing long jump test to assess muscular strength (upper and lower limbs, respectively), 4x10m shuttle run test to assess speed and agility.

Results: According to multivariate analysis of variance children girls in the dance group had significantly better physical fitness compared to the control group ($p < 0.001$). Univariate analysis of variance indicate that children girls engaged in dance training have significantly better results in Waist circumference ($p = 0.027$; $f = 5.16$; $g = -0.62$; 95% CI = [-1.2, -0.04]); Waist circumference-to-height ratio ($p = 0.004$; $f = 9.013$; $g = -0.82$; 95% CI = [-1.41, -0.23]); 4x10m shuttle run ($p = 0.016$; $f = 6.25$; $g = -0.68$; 95% CI = [-1.26, -0.09]); Standing long jump ($p = 0.000$; $f = 21.6$; $g = 1.29$; 95% CI = [0.67, 1.91]); PREFIT 20m shuttle run ($p = 0.02$; $f = 5.76$; $g = 0.67$; 95% CI = [0.08, 1.25]); PREFIT 20m shuttle run level ($p = 0.018$; $f = 5.94$; $g = 0.68$; 95% CI = [0.09, 1.26]). No differences were detected in Handgrip strength ($p = 0.596$; $f = 0.285$; $g = -0.14$; 95% CI = [-0.71, 0.42])

Discussion and conclusions: The results from the present study indicate that children girls who participate in dance develop better PF than children girls who participate in other sport activities. Physical activity, especially dance could ensure healthy growth, cardiorespiratory fitness and motor development in young girls. Moreover, dance as sport should be listed as activity with multidimensional approach which could be excellent strategy in non-school settings.

Keywords: Dance, health, children, physical fitness

Kako spodbuditi spremljanje zadoščanja gibalne aktivnosti v izvedbenem kurikulumu predšolske vzgoje

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Izhodišča in namen: Vrtec Antona Medveda Kamnik v svoje oddelke vključuje 925 otrok. V zadnjih 12 letih smo delovanje vrtca usmerili v prilagoditev izvedbene ravni kurikula, ki naslavlja gibalno aktivnost predšolskega otroka kot izhodiščno platformo izvedbe kurikularnih področij. V letih 2018 in 2019 smo na vzorcu 56 oddelkov izvedli poglobljeno analizo izvedbe kurikularnih področij glede na vidik gibalne aktivnosti in sedentarnosti predšolskega otroka. Analiza izvedbene ravni kurikula je pokazala, da je gibalna neaktivnost prevladujoči element izvedbene ravni kurikularnih področij. Glede na izsledke analize in priporočila Svetovne zdravstvene organizacije (ang. World Health Organization - WHO, 2019), ki na eni strani opredeljuje priporočljivo količino in intenzivnost gibalne aktivnosti predšolskega otroka in na drugi strani predlaga smernice za omejevanje gibalne neaktivnosti (t. i. sedentarnosti) (WHO Global Plan of Action for Physical Activity 2018–30), smo izvedli akcijski načrt (2019–2023) spremljanja in zasledovanja realizacije priporočljive gibalne aktivnosti otroka v predšolskem obdobju ter spremljanja in intervencij na področju zniževanja gibalne neaktivnosti.

Predstavitev vsebine: v okviru prvega dela akcijskega načrta, ki postavlja prenos javno zdravstvenih priporočil za gibalno dejavnost otrok v predšolskem obdobju (WHO, 2019) v izvedbeno raven kurikulumu, smo v sodelovanju z Inštitutom za kineziološke raziskave, Znanstveno-raziskovalno središče Koper, izvedli raziskavo o količini in intenzivnosti gibalne/športne aktivnosti v različnih zunanjih okoljih (gozd, igrišče, prenovljeno igrišče). V raziskavo je bilo vključenih 63 otrok obeh spolov, starih od 3 do 6 let. Med 60-minutnimi spontanimi/prostimi aktivnostmi v gozdu in igrišču so otroci nosili merilnik pospeška (wGT3X-BT, Actigraph, USA). Pridobljeni rezultati so se referirali na celokupno gibalno aktivnost in odstotke časa v gibalni neaktivnosti, nizki, srednji in visoki gibalni aktivnosti (MVPA). Ob primerjavi dejavnosti v gozdu in na igrišču smo v gozdu ugotovili 27,6 % ($p < 0,001$) manjšo količino gibanja, 9,4 % ($p < 0,001$) daljši čas gibalne neaktivnosti, 1,8 % ($p = 0,045$) več nizke gibalne aktivnosti, 5 % manj srednje ($p = 0,003$) in 6,2% ($p < 0,001$) manj visoke gibalne aktivnosti, oziroma 11,2 % manj MVPA.

Sklepne ugotovitve: glede na dejstvo, da otroci v vrtcu v povprečju preživijo 2/3 budnega dela dneva, je treba stremeti k doseganju 2/3 priporočljive količine in intenzivnosti gibalne aktivnosti v času bivanja v vrtcu. Glede na izsledke naše raziskave so ukrepi za doseganje priporočil usmerjeni tako v spremljanje in zadoščanje količine; v našem primeru je to približno 3 ure bivanja v gozdu dnevno ali približno 2 uri bivanja na igrišču, oziroma se ukrepi lahko osredotočajo na izobraževanja strokovnega kadra z namenom pridobivanja znanj za izbiro ustreznega okolja in dejavnosti, ki facilitirajo zmereno do visoko gibalno/športno aktivnost, da se optimizira časovna komponenta gibalne aktivnosti.

Gljučne besede: predšolski otrok, metodologija, gibalna (ne)aktivnost, vrednotenje

Ways to promote monitoring sufficiency of physical activities in implementation of the National kindergarten curriculum (i. e. Preschool Curriculum)

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Background and purpose: Vrtec Antona Medveda Kamnik preschool institution integrates 925 children. For the past 12 years, the implementation of the National Curriculum has been continuously improved and upgraded in terms and for the purpose of putting physical activity at the forefront of all the curricular fields. Based on the sample of 56 preschool classes, an in-depth analysis has been done in 2018 and 2019 to figure out how implementation of the established curricular fields affects physical activity/capability or rather sedentary behavior of a child. The analysis of curricular implementation shows that the actual execution of the curriculum exhibits a great lack of physical activity. Based on the findings presented by the World Health Organization, which define the recommended amount and intensity of physical activity of a preschool child on one hand, and recommendations relating to physical inactivity (sedentary) on the other hand, (WHO, Global Plan of Action for Physical Activity 2018–30), an action plan (2019–2023) has been implemented with the purpose of monitoring and tracing the actual level of the recommended amount of physical activity in preschool children. Furthermore, the action plan is aimed at monitoring and taking measures in the field of decreasing the level of physical inactivity.

Content presentation: The first part of the action plan, which aims to transfer public health recommendations for physical activity of children in preschool (WHO, 2019) to the implementation level of the curriculum, comprised a study on the amount and intensity of physical activity in various outdoor environments (e.g. forest, playground, renovated playground), which was conducted in cooperation with the Institute for Kinesiology Research at the Science and Research Centre Koper. The study included 63 children of both sexes aged 3–6 years. During a 60-minute period of spontaneous/unconducted activities in the forest and playground, the children were provided with an accelerometer (wGT3X-BT, Actigraph, USA). The results obtained referred to the total physical activity and the percentages of time spent either in physical inactivity or at low, moderate and high levels of physical activity (MVPA). The comparison of the results recorded in the forest and on the playground showed that in the forest there was 27.6% ($p < 0.001$) less movement detected, 9.4% ($p < 0.001$) longer period of physical inactivity, 1.8% ($p < 0.045$) higher level of low physical activity, 5% lower level of moderate ($p = 0.003$) and 6.2% ($p < 0.001$) lower level of high physical activity, or 11.2% lower level of MVPA.

Conclusions: Given the fact that, on average, children are in the kindergarten 2/3 of the total time they are awake, it is necessary to aim for achieving 2/3 of the recommended amount and intensity of physical activity during their stay in kindergarten. Pertaining to the results of our research, measures to achieve the recommended levels are aimed at both monitoring as well as ensuring the appropriate quantity; which in our case it is approx. 3 hours per day spent in the forest or approx. 2 hours per day spent on the playground. The measures can also be taken in the direction of professional trainings for the purpose of acquiring knowledge providing the staff with sensibility for choosing appropriate environments and activities that facilitate moderate to high physical/sports activity in order to optimize the time spent for physical activity.

Keywords: preschool children, methodology, physical (in)activity, evaluation

Spremljanje in optimiziranje količine bivanja v zunanjih učnih okoljih v predšolskem obdobju

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Izhodišča in namen: v času sodobne družbe prevzema kognicija vodilno vlogo v razvoju predšolskega otroka, kar pa izpodriva zakonitosti, pri katerih ima gibalni razvoj temeljno vlogo v celostnem razvoju. Nadalje družbene smernice postavljajo razvoj sodobnega otroka, v nasprotju z ontogenetskim razvojnim izhodiščem, v pojavljanje gibalne neaktivnosti. Na nivoju vrtcev je posledično nujno spremljanje in optimiziranje dejavnikov, ki prispevajo k povečevanju vključevanja gibalne aktivnosti, saj le-ta predstavlja razvojno osnovo usvajanja kurikularnih področij predšolskega otroka.

Predstavitev vsebine: glede na sodobna spoznanja o tem, da naravna učna okolja pomembno vplivajo na gibalni razvoj in tako spodbujajo optimalen celostni razvoj predšolskega otroka, je Vrtec Antona Medveda Kamnik (VAMK) pred 12 leti pričel z uvajanjem sprememb v izvedbenem kurikulumu, ki so temeljile na spremljanju in optimizaciji bivanja v zunanjih učnih okoljih. V vzorec spremljanja števila dni v mesecu, ki jih otroci preživijo v zunanjem učnem okolju v odstotkih, je bilo vključenih 56 oddelkov v različnih časovnih obdobjih (pred in po uvajanju sprememb). V letu 2010 je bilo za opredeljeno časovno obdobje zabeleženih 66,71 % dni v mesecu, ki so jih otroci preživeli v zunanjih učnih okoljih, v letu 2011 pa 80 % dni za izbrano obdobje. V letu 2022 smo po 12 letih uvajanja sprememb v izvedbeni kurikulum, ki temeljijo na zmanjševanju sedentarnosti in povečevanju gibalne aktivnosti (GA) predšolskega otroka, opravili ponovno spremljanje in vključili še Vrtec pri OŠ Janka Modra, Dol pri Ljubljani, ki je na vzorcu 16 skupin ugotovil, da po uvajanju opredeljenih smernic skupine preživijo 81 % dni spremljajočega obdobja v zunanjih učnih okoljih. VAMK pa je v mesecu marcu leta 2022 spremljal količino časa, ki ga otroci dnevno preživijo v zunanjem učnem okolju. Rezultati so pokazali, da 20 oddelkov otrok 1. starostnega obdobja v zunanjem okolju preživi 60 min/dan ter 25 oddelkov 2. starostnega obdobja 120 min/dan. Pridobljeni podatki ustrezajo parametrom opredeljenega časa za bivanje na prostem v korelaciji z umestitvijo zunanjih učnih okolij v dnevno rutino, ki smo ga opredelili v sodelovanju s 131 strokovnimi delavci vrtca. Za 1. starostno obdobje smo priporočili 1–1,5 h dnevno in za 2. starostno obdobje 1,5–2 h dnevno ob ustrezno izbrani kurikularni vsebini, ki opredeljuje tudi intenzivnost GA.

Sklepne ugotovitve: Oba vrtca ugotavljata, da z vidika optimizacije GA v predšolskem obdobju predstavlja priporočena količina bivanja v zunanjih učnih okoljih ob ustrezno izbrani kurikularni vsebini, ki opredeljuje tudi intenzivnost GA, pomemben doprinos zmanjševanju celokupne sedentarnosti in povečevanju količine in intenzivnosti GA. Posledično je ključnega pomena izbira stimulativnih učnih okolij za izvajanje kurikularnih področij, pri katerih zavzemajo vodilno mesto zunanja učna okolja, ki s svojo raznovrstnostjo otrokom ponujajo razvojno platformo za gibalni razvoj.

Ključne besede: bivanje v zunanjih učnih okoljih, spremembe izvedbenega kurikula, predšolski otrok, gibalni razvoj

Monitoring and optimizing the amount of spending time in outdoor learning environments in the preschool period

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Background and purpose: In the age of modern society, cognition takes a leading role in the development of a preschool child. It is modern society that is displacing the laws stating that motor development has a determining role in integrated development. Furthermore, in contrast to the ontogenetic platform of development, social guidelines favour the development of the modern child based on motor inactivity. Therefore, it is necessary to monitor and optimize the factors that contribute to the promotion of striving after higher levels of physical activity in the preschool period, since this represents the developmental basis for a preschool child to achieve goals across all the curricular areas.

Content presentation: According to modern findings that describe natural learning environments as having a significant impact on motor development and thus promote optimal integrated development of preschool children, the Vrtec Antona Medveda Kamnik (VAMK), began introducing changes 12 years ago in the implementation of the curriculum, which were primarily based on monitoring and optimizing the time spent in external learning environments. The sample of children for monitoring the number of days-per-month that children spend in the outdoor learning environment included 56 departments in different time periods (before and after the introduction of changes). In 2010 the observations showed that 66.71% of the days per month were spent in external learning environments, while in 2011 the percentage amounted to 80%. In 2022, after 12 years of the first introduction of the changes to the implementing curriculum based on reducing sedentary activities and increasing physical activity of preschool children, another round of monitoring was carried out, upgraded and the Vrtec pri OŠ Janka Modra Dol pri Ljubljani joined the project, where the results showed that after the introduction of the guidelines proposed, 16 preschool classes (280 children) were spending 81% of the days (during the period September 20–September 22, 2022) in external learning environments. In 2022, the VAMK has carried out the monitoring of the amount of daily time spent in outdoor learning environments in March 2022. The results show that 20 classes of children aged from 1 to 3 spend 60 minutes/day outside and 25 classes of children aged from 3 to 6 spend at least 120 minutes/day outside. The data obtained correspond to the parameters of the time recommended for daily outdoor stay in correlation with the use of external learning environments in the daily routine. The daily time recommendations were defined by 131 preschool professionals. The recommendation for the classes of children aged from 1 to 3 was 1–1.5 hours/day, while the recommendation for children ages 3 to 6 was 1.5–2 hours/day accompanied by curricular contents that define the intensity of physical activity.

Conclusions: Both participating preschool institutions confirm that the time recommended for daily outdoor stay accompanied by curricular contents that define the intensity of physical activity in preschool period significantly to lowering the level of overall sedentary as well as to increasing the amount and intensity of physical activity. Consequently, it is crucial to choose stimulating learning environments for the implementation of curricular areas in which external learning environments play a leading role, since the diversity of such environments provides for an aid to achieve physical development.

Keywords: outdoor learning environment, practical changes to the curriculum, preschool children, motor development

Obogateno okolje v predšolskem obdobju

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Izhodišča in namen: sodobne generacije predšolskih otrok usvajajo razvojne faze ob znatnem upadu spontane fizične aktivnosti in povečevanju sedentarne oblike preživljanja prostega časa. Spremenjeno družbeno življenje v preteklih dveh letih je razvoj predšolskih otrok podvrglo visokim hipokinetičnim pogojem. Sedanje generacije predšolskih otrok so prve, ki bodo čutile in kazale posledice razvoja v znatno spremenjenih evolucijskih pogojih v odnosu do sile težnosti. Hitra odzivnost predšolskih zavodov v smislu namenjanja pozornosti gibanju v naravnih okoljih, ki prinaša pozitivne učinke na zmožnost prilagajanja sili težnosti, je z vidika preprečevanja negativnih posledic odraščanja v sedentarnih pogojih strokovno smiselna.

Predstavitev vsebine: Vrtec Antona Medveda Kamnik (VAMK) in Vrtec pri OŠ Janka Modra, Dol pri Ljubljani sta preoblikovala obstoječa igrišča pri vrtcih z namenom optimizacije obogatene zunanje okolja, ki posnema značilnosti naravnega okolja (gozd). Tako na starem kot na prenovljenem igrišču enote VAMK smo v sodelovanju z Inštitutom za kineziološke raziskave pri Znanstveno-raziskovalnem središču Koper izvedli raziskavo o količini in intenzivnosti gibalne/športne aktivnosti na obstoječem in prenovljenem igrišču. V raziskavo je bilo vključenih 14 vrtčevskih otrok (starih od 3 do 5 let, 50 % dečkov). V prvem terminu so imeli 85-minutne nevodene aktivnosti na starem igrišču (reprezentativen primer igrišča, zasnovanega za potrebe predhodnih generacij (tobogan, peskovnik, ravna tla, itd.)). Leto dni pozneje pa so bile nevodene aktivnosti ponovljene na novem igrišču, ki predstavlja obogateno in za otroke stimulatивnejše zunanje okolje. Pri tem so otroci uporabljali merilnik pospeška (wGT3X-BT, Actigraph, USA), nameščen na desnem boku, ki je beležil njihovo gibalno aktivnost (GA) v 15-sekundnih epohah. Po opravljenih meritvah smo izračunali celokupno gibalno aktivnost (sunki na minuto, cpm) in odstotke časa v gibalni neaktivnosti, nizki, srednji in visoki gibalni aktivnosti. Pri izračunu smo uporabili naslednje meje med posameznimi intenzivnostmi gibalne aktivnosti. Pri tem je bila meja gibalne neaktivnosti določena pod 800 cpm, meja nizke intenzivnosti med 801 in 1680 cpm, srednje intenzivnosti med 1681 in 3368 cpm ter meja visoke intenzivnosti nad 3368 cpm. Poročali smo aritmetično sredino s standardnim odklonom in primerjavo med okoljema naredili s t-testom za odvisne vzorce in se odločali pri $\alpha = 0,010$.

Sklepne ugotovitve: Na novem igrišču smo ugotovili 65,5 % ($p = 0,014$) večjo celokupno gibalno aktivnost, 9,1 % ($p = 0,082$) manj gibalne neaktivnosti, 7,6 % ($p = 0,034$) več časa srednje gibalne aktivnosti in 9,7 % ($p = 0,063$) daljši čas srednje in visoke gibalne aktivnosti, napram staremu igrišču. Glede na rezultate raziskave lahko potrdimo, da prenos značilnosti naravnega okolja v zasnovo igrišča pri vrtcih pozitivno vpliva na GA predšolskega otroka in posledično vpliva na preprečevanje negativnih posledic odraščanja v sedentarnih pogojih.

Ključne besede: predšolski otroci, obogateno okolje, igrišča pri vrtcih, gibalna aktivnost

Environmental enrichment in the preschool period

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Background and purpose: Modern generations of preschool children acquire developmental stages by a significant lack of spontaneous physical activity and increasingly high amount of the sedentary forms of leisure time activities. In respect to the general social changes in the past two years, when hypokinetic conditions were highly present, the current generations of preschool children are to be the first to feel the consequences of development in significantly changed evolutionary conditions as opposed to the well-established patterns. In terms of preventing adverse consequences of growing up in sedentary environments, the most appropriate possible response of pre-school education professionals is to incorporate the positive effects of the force of gravity through the activation of the system promoting well-balanced motorial behavior in order to avoid negative consequences of growing up in sedentary conditions.

Content presentation: The Vrtec Antona Medveda Kamnik (VAMK) Preschool Institution and the Vrtec pri OŠ Janka Modra, Dol pri Ljubljani Preschool Institution managed to refurbish the existing playgrounds for the purpose of optimizing an upgraded outdoor environment simulating natural features of the forest. In cooperation with the Institute for Kinesiological Research, Koper Science and Research Center, we conducted a survey on the amount and intensity of physical/sports activities on the existing as well as the adapted VAMK playground. Fourteen kindergarten children (aged 3 to 5 years, 50% boys) were included in the study. In the first session, they performed 85-minute free (non-guided) activities on the old playground (a representative example of a playground designed for the needs of previous generations (slide, sandpit, flat floor, etc.). A year later, non-guided activities on the new playground were carried out again, which provides preschool children with more stimulating outdoor environment. Meanwhile, the children wore an accelerometer (wGT3X-BT, Actigraph, USA) on their right side, which recorded their motor activity (GA) over 15-second epochs. Later, we calculated total motor activity (shocks per minute, cpm) and percentages of time in motor inactivity, low, medium, and high motor activity. The following limits between individual intensities of motor activity were used in the calculation, namely motor inactivity below 800 cpm, low intensity between 801 and 1680 cpm, medium intensity between 1681 and 3368 cpm and high intensity above 3368 cpm. We reported the arithmetic mean with standard deviation and made the comparison between the environments with the t-test for the dependent samples and decided at $\alpha = 0.010$.

Conclusions: At the new playground we found 65.5% ($p = 0.014$) higher total physical activity, 9.1% ($p = 0.082$) less physical inactivity, 7.6% ($p = 0.034$) more time of medium physical activity and 9.7% ($p = 0.063$) longer time of medium and high physical activity, compared to the old playground. According to the results of the research, we can confirm that the transfer of the characteristics of the natural environment in the design of the playground in kindergartens has a positive effect on the GA of preschool children and consequently affects the prevention of negative consequences of growing up in sedentary conditions.

Keywords: preschool children, environmental enrichment, kindergarten playgrounds, physical activity.

Zanesljivost Vprašalnika o spanju, sedenju in telesni dejavnosti med mladostniki

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Uvod: Količine udejstvovanja z različnimi gibalnimi in ne-gibalnimi vedenji skupno vplivajo na razvoj, zdravje in dobro počutje mladostnikov. Sodobne smernice združujejo priporočila, da naj mladostniki spijo 8 do 10 ur na noč, omejijo pristočasno rabo zaslonov na največ 2 uri na dan, ter da naj se ukvarjajo z zmerno-visoko intenzivno telesno dejavnostjo (ZVTD) vsaj 60 minut na dan. Namen naše študije je bil preveriti zanesljivost novega vprašalnika, ki omogoča oceno doseganja smernic za 24-urno gibalno vedenje med mladostniki.

Metode: V raziskavi so sodelovali dijaki iz Slovenije. Preiskovance smo prosili naj izpolnijo spletni Vprašalnik o spanju, sedenju in telesni dejavnosti (SST) ob dveh priložnostih in dodatna socio-demografska vprašanja. Z uporabo intraklasnega korelacijskega koeficienta (dvosmerni mešan model) in njegovim 95 % intervalom zaupanja (IZ) smo preverili absolutno strinjanje med prvim in drugim vprašalniškim zajemom količine spanja, časa pred zasloni in ZVTD. Dodatno, uporabili smo Cohen-ov kappa in preverili strinjanje glede ocene doseganja smernic za 24-urno gibalno vedenje med prvim in drugim vprašalniškim zajemom.

Rezultati: Zanesljivost vprašalnika smo preverjali na podlagi podatkov 58-ih preiskovancev (starih med 15 in 18 let, 34 deklet). Intraklasni korelacijski koeficienti za spanje, rabo zaslonov in ZVTD so bili 0.49 (95 % CI: 0.32, 0.63), 0.78 (95 % CI: 0.69, 0.85) in 0.66 (95 % CI: 0.57, 0.78). Glede na drugi vprašalniški zajem, je bil delež mladostnikov, ki dosegajo priporočilo o spanju 34 %, o rabi zaslonov 42 % in o ZVTD 38 %. Le en preiskovanec (2 %) dosega vsa tri priporočila hkrati. Strinjanje glede ocene doseganja priporočil med prvim in drugim vprašalniškim zajemom je bilo za priporočilo o spanju 69 % ($\kappa = 0.39$, 95 % CI: 0.15, 0.62), o rabi zaslonov 77 % ($\kappa = 0.52$, 95 % CI: 0.22, 0.81) in o ZVTD 88 % ($\kappa = 0.75$, 95 % CI: 0.58, 0.92).

Razprava in zaključek: Naši rezultati so pokazali, da je zanesljivost vprašalnika SST za oceno mladostnikovega časa spanja zmerna, medtem ko je odlična za oceno pristočasne rabe zaslonov in dobra za oceno količine udejstvovanja v ZVTD. Podobno je bilo ugotovljeno, da je zanesljivost glede ocene doseganja priporočil za spanje, rabo zaslonov in ZVTD zmerna, srednja in znatna. Zanesljivost vprašalnika SST je primerljiva z zanesljivostjo drugih že uveljavljenih vprašalnikov o gibalnem vedenju. Kakorkoli, vprašalnik SST je eden prvih vprašalnikov, ki omogoča vrednotenje 24-urnega gibalnega vedenja z uporabo enega vprašalnika, kar predstavlja njegovo pomembno prednost. Prihodnje študije bi morale preveriti še veljavnost vprašalnika SST med mladostniki.

Ključne besede: 24-urno gibalno vedenje, epidemiologija porabe časa, priporočila za telesno dejavnost, dijaki

Reliability of Daily Activity Behaviours Questionnaire among adolescents

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Introduction: Time spent in various movement and non-movement behaviours collectively impact the development, health, and well-being of adolescents. Modern guidelines recommend that adolescents should sleep for 8 to 10 hours per night, limit recreational screen time to no more than 2 hours per day and accumulate at least 60 minutes of moderate-vigorous physical activity (MVPA) per day. The aim of this study was to evaluate the reliability of novel questionnaire that enable to assess the adherence to the 24-hour movement guidelines among adolescents.

Methods: A convenience sample of Slovenian high-school students participated in our study. They were asked to complete a web-based Daily Activity Behaviours Questionnaire (DABQ) on two occasions and to provide a socio-demographic information. We evaluated absolute agreement between the test and re-test estimates of sleep, screen time, and MVPA using two-way mixed model intraclass correlation coefficients and their 95 % confidence intervals (CI). Additionally, Cohen's kappa was calculated to test the agreement between test and re-test adherence to the 24-hour movement guidelines.

Results: Fifty-eight participants (aged 15 to 18 years, 34 females) provided data to estimate test-retest reliability. Intraclass correlation coefficients were 0.49 (95 % CI: 0.32, 0.63), 0.78 (95 % CI: 0.69, 0.85), and 0.66 (95 % CI: 0.57, 0.78) for sleep, screen time, and MVPA, respectively. Based on the re-test estimates, the proportion of adolescents that met sleep, screen time, and MVPA recommendations were 34 %, 42 %, and 38 %. Only a single participant (2 %) met all three recommendations. The test-retest percentage agreement on adherence to sleep, screen time, MVPA, and all three recommendations were 69 % ($\kappa = 0.39$, 95 % CI: 0.15, 0.62), 77 % ($\kappa = 0.52$, 95 % CI: 0.22, 0.81), and 88 % ($\kappa = 0.75$, 95 % CI: 0.58, 0.92), respectively.

Discussion and conclusions: We found that test-retest reliability of DABQ to estimate adolescent's sleep time is fair, while excellent for screen time, and good for time spent in MVPA. Similarly, the test-retest reliability on adherence to sleep, screen time and MVPA recommendations were found to be fair, moderate, and substantial, respectively. Reliability of DABQ is comparable with reliability of other already established movement behaviours questionnaires. However, DABQ is one of the first questionnaires that enable assessment of 24-hour movement behaviours using a single questionnaire, which present its important advantage. Future studies should also examine the validity of DABQ among adolescents.

Keywords: 24-hour movement behaviours, time-use epidemiology, physical activity recommendations, high-school students

Vpliv učenja v naravi na zdravje učencev s posebnimi potrebami

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Izhodišča in namen: Članek se osredotoča na mladostnike z zmerno, težjo in težko motnjo v duševnem razvoju, z gibalno oviranostjo in pridruženimi motnjami. Predstavlja prednosti, slabosti, učinke učenja v naravi. Prikazano je delo z učenci v CIRIUS Vipava, zakaj smo začeli s tako obliko dela, do kje smo dejavnost razširili, kakšni so naši cilji in kaj smo ugotovili. Otroci in mladostniki s posebnimi potrebami so v življenju za marsikaj prikrajšani. Ne smemo dovoliti, da jim je prikrajšano tudi bivanje v naravi, ki predstavlja priložnost za razvoj, sprostitev, vir znanja in izkušenj. Bivanje v naravi predstavlja zdrav način življenja.

Predstavitev vsebine: Narava je zakladnica učenja na vseh nivojih, v vseh življenjskih obdobjih. Narava je ustrezno terapevtsko in razvojno okolje, ki spodbuja razvoj možganov, krepi otrokove sposobnosti in zdravje ter počutje. Narava ima pozitivne učinke tudi na otroke s posebnimi potrebami, saj imajo prav ti učenci največ težav na področjih, kjer ima narava pozitivne rezultate. Učenje izven učilnice izboljša koncentracijo, poveča ustvarjalnost, komunikacijske sposobnosti, sodelovanje pri delu v skupinah, poveča samozavest, samostojnost, razvija ljubezen do narave, razvija pozitiven odnos do zdrave prehrane, poveča telesno kondicijo, krepi zdravje, zadovoljstvo, umirjenost in skrbi za dobro počutje. Učenje v naravi ima pozitivne rezultate pri otrocih z avtističnimi motnjami, ADHD, zmanjšuje napadalno, agresivno vedenje. Učenje izven učilnice nudi nove izkušnje, izzive tako za učenca kot tudi za učitelja. Narava je prostor vseživljenjskega učenja za vse ljudi, tudi na osebe s posebnimi potrebami, saj poskrbi za psihofizično kondicijo in zdravje. Narava nudi terapevtsko pomoč, socialno rehabilitacijo, izobraževanje. Vedno gre za interakcijo elementov: narava, učitelj, posameznik, skupina.

Sklepne ugotovitve: Pri svojem delu smo ugotovili, da imajo učenci izredno radi tak način dela, so radovedni, motivirani, bolj aktivni. Gre za večje medpredmetno povezovanje, bolj individualno delo zaradi večjega števila mentorjev, torej za bolj kvalitetno delo v primerjavi z delom v razredu. Med učitelji in vzgojitelji smo izvedli tudi anke-to o izvajanju učenja izven učilnice, kar nam je bila osnova za nadaljnje načrte. V CIRIUS Vipava smo začeli s sistematičnim delom izven učilnice, ki sovpada z učnim načrtom Prilagojenega program za predšolske otroke, Prilagojenega programa z nižjim izobrazbenim standardom in Posebnega programa vzgoje in izobraževanja. Le tako lahko zagotovimo kontinuirano delo izven učilnice, zato lahko vidimo napredke ter rezultate dela zunaj.

Gljučne besede: učenje v naravi, zdravje, učenci s posebnimi potrebami

Learning in nature and impact on the health of pupils with special needs

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Introduction and purpose: The article focuses on adolescents with moderate and severe intellectual disabilities combined with physical disabilities. It presents the advantages, disadvantages and effects of learning in nature. It shows how we work with students at CIRIUS Vipava, why we started with such a form of work, what our goals are and what are our findings. Children and adolescents with special needs are disadvantaged in life. We must not allow them to be deprived of the experience of nature, which is an opportunity for development, relaxation, a source of knowledge and experience.

Content presentation: Living in nature represents a healthy way of life at all stages of life. Nature is a therapeutic environment that promotes brain development and enhances a child's abilities, health and well-being. These positive effects are even more pronounced when children with special needs are exposed to the therapeutic environment of the nature. Learning outside the classroom improves concentration, increases creativity, communication skills, group participation, increases self-esteem, develops a love of nature develops positive attitudes towards healthy eating, increases physical fitness, improves health, satisfaction and well-being. Learning in nature has positive results in children with autism disorders, ADHD, reduces aggressive behaviour. Teaching outside the classroom offers new experiences, challenges for the student and the teacher. Nature is a place of lifelong learning for all people, including those with special needs, because it provides psychophysical fitness and health. Nature offers therapeutic assistance, social rehabilitation, education. It's an interaction of nature, teacher, individual, group.

Conclusions: In our work we have found the students really like this work, they are curious, motivated, more active. It is about better connection between school subjects, more individual work due to the increased number of teachers, more quality work compared to classroom work. We have also carried out a survey among the teachers about the implementation of learning outside the classroom, which was the basis for further planning of lessons in nature. In CIRIUS Vipava we have started systematic work outside the classroom, which is linked to the curriculum of the Adapted Programme for Pre-School Children, Adapted Program with Lower Educational Standard and Special Education Programme. This is the only way to ensure continuous work outside the classroom, so we can see the progress and results of the teaching outside.

Keywords: teaching in nature, health, students with special needs

Izbira gibalnih vsebin in strojne opreme za razvoj video igre z gibalno vsebino

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Uvod: Trend preživljanja prostega časa pred različnimi zasloni je med mladimi zelo razširjen. Dolgotrajno sedenje, nizka raven lokalne vzdržljivosti trupnih mišic in igranje video iger so nekateri dejavniki tveganja za pojav bolečine v ledvenem predelu hrbta (BSH) pri otrocih in mladostnikih. Z namenom motiviranja otrok za redno gibalno aktivnost, so se na trgu pojavile gibalne video igre (ang. exergames), cilj prispevka je opraviti pregled literature na področju gibalnih vsebin za povečanje stabilnosti trupa in pregled strojne opreme za učinkovito sledenje gibanja. Z namenom bolj natančne določitve vadbenih vsebin, je bil drugi cilj ovrednotiti povezanost med največjo jakostjo trupa (v bočni in čelni ravnini) in uspešnostjo izvedbe testa stabilnosti ledvenega predela hrbta.

Metode: Osredotočili smo se na bazo Pubmed ter članke objavljene leta 2010 in novejšje. V študijo povezanosti je bilo vključenih je bilo 9 preiskovancev, starih $20,4 \pm 6,1$ let, visokih $178,8 \pm 6,1$ centimetrov in težkih $70,8 \pm 13,5$ kilogramov. Preiskovanci so bili v povprečju gibalno aktivni trikrat tedensko. Za analizo povezanosti smo uporabili Spearmanov korelacijski koeficient.

Rezultati: V analizo je bilo vključenih 40 člankov. Največja jakost tako v bočni kot v čelni ravnini ni značilno povezana s spremenljivko površine projekcije centra pritiska ($r < 0,10$, $p > 0,79$).

Razprava in zaključek: Raziskovalci so enotni, da je uspešen preventivno-kurativni pristop reševanja BSH sestavljen iz več faz. Pri pregledu strojne opreme so raziskovalci poudarili pomen zajemanja gibanja s senzorji brez markerjev, saj je njihova veljavnost pri izvedbi enostavnih gibov, primerljiva z zlatim standardom.

Gljučne besede: otroci, mladostniki, sedenje, video igrice

Selection of movement and hardware content for exergame development

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Introduction: The trend of spending leisure time in front of various screens is widespread among children and adolescents. Prolonged sitting, low level of local muscular endurance, and playing video games are some of the risk factors for low back pain development among children and adolescents. In order to motivate children for regular physical activity, exercise video games (exergames) have appeared on the market. The aim of this paper is to review the literature in the field of movement content to increase spine stability and hardware options for an effective motion tracking. In order to more accurately determine the game content, the second aim was to evaluate the correlation between maximal trunk strength (in the lateral and frontal planes) and the performance of the lumbar stability test.

Methods: We focused on Pubmed database, where we searched articles published since 2010. The correlation study included nine healthy participants (age $20,4 \pm 6,1$ years, height $178,8 \pm 6,1$ centimetres, weight $70,8 \pm 13,5$ kilograms) who were physically active 3 times per week. We used Spearman coefficient for correlation analysis.

Results: 40 articles were included in the analysis. Maximal trunk strength in sagittal and frontal planes did not significantly correlate with total centre of pressure area ($r < 0,10$, $p > 0,79$).

Discussion and Conclusions: In general, researchers agreed that a successful preventive-curative approach to manage low back pain consists of several phases. In reviewing the hardware, the researchers stressed the importance of motion tracking with marker-less sensors, as their validity in performing simple movements is comparable to the gold standard.

Keywords: childrens, adolescents, sedentary lifestyle, exercise video games

Terapevtske gibalne dejavnosti za otroke s posebnimi potrebami

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Uvod: Terapevtske gibalne dejavnosti za otroke s posebnimi potrebami, na kratko Tera/Gib, je individualno zasnovan gibalni program za pridobivanje novih gibalnih spretnosti pri otrocih, mladostnikih in odraslih in je rezultat sodelovanja CIRIUS-a Vipava in Pedagoške fakultete Univerze v Ljubljani. Program Tera/GIB temelji na izbranih terapevtskih aktivnostih, ki vključujejo posnemanje gibanja dvanajstih živali, kače, gosenice, raka, psa, mačke, žabe, zajca, konja, koale, slona, opice in žirafe. Za izbrane živali je značilna podobnost njihovega gibanja z gibalnimi vzorci, ki se pojavijo pri otroku v normalnem gibalnem razvoju. Upoštevali smo koncept razvojno nevrološke obravnave otrok (RNO koncept), na način, da smo spodbujali učinkovite vzorce gibanja, upoštevali kronološki razvoj gibanja in posameznika obravnavali celostno.

Metode: Za raziskovalne namene projekta smo uporabili namenski vzorec. Vključili smo deset mladostnikov z intelektualnimi primanjkljaji (vsi so opredeljeni kot zmerna motnja v duševnem razvoju) ter drugimi pridruženimi primanjkljaji (5-Motnja avtističnega spektra, 3-Downov sindrom, 1-sindrom Ruvacaba). Sodelovalo je šest posameznikov moškega spola in štiri posameznice ženskega spola, v starosti od 15 do 24 let. Aktivnost je trajala 3 mesece. Udeleženci so gibalni program Tera/GIB izvedli enkrat tedensko. Gibanja so sledila stopnjevanju zahtevnosti, prehajanju iz položaja v položaj, zadrževanju posameznega položaja in razvoju variabilnosti gibanja v posameznem položaju. Opravili smo inicialno in finalno testiranje, v začetku marca 2021 in konec maja 2021. Za merjenje gibalnih sposobnosti smo izbrali teste, ki so v predhodnih raziskavah pokazali ustrezno veljavnost in zanesljivost. Merili smo sedem sposobnosti, in sicer skok v daljino z mesta, modificiran predklon, hojo po ravni črti, hojo nazaj v opori po vseh štirih, stojo na eni nogi, dotikanje prstov rok za hrbtom in agilnost. Po vsaki aktivnosti smo s prilagojeno VAS lestvico merili počutje. S prilagojeno VAS lestvico, so mladostniki označili sliko obraza, ki je najbolj ustrezalo njihovem počutju (smešen, nevtralen, vesel obraz). Druga stran lestvice je numerična označena od 1 do 10 in terapevt je odčital pripadajočo numerično oceno.

Rezultati: Povprečne vrednosti pri drugem testiranju so bile večje, t-test pa je pokazal statistično pomembno razliko pri modificiranem testu sede, gibljivosti v ramenskem obroču in pri testu agilnosti. Z oceno počutja po dejavnosti, smo ugotovili, da je bila večina udeležencev (7 od 10) z izvedbo dejavnosti zadovoljna, dobro so se počutili in bili primerno razpoloženi.

Razprava in zaključki: Ugotovili smo, da je aktivnost Tera/GIB primerna za razvoj gibalnih sposobnosti. Otrokom in mladostnikom je omogočila, da so pridobili na zavedanju telesa, dobri drži, variabilnosti gibanja, občutku svobode in uresničili željo po gibanju. Posnemanje gibanja živali je spodbudilo razmišljanje o načinu, organizaciji, mehkobi in estetiki gibanja. Naslednja ugotovitev projekta je nakazala, da lahko udeleženci izbrana gibanja izvedejo v različnih okoljih, doma, na stadionu, na igrišču, itd. Udeleženci projekta so nove oblike gibanja sprejeli in izvajali z navdušenjem.

Gljučne besede: gibanje živali, fizioterapija, gibalna učinkovitost, razvojno nevrološka obravnava

Therapeutic movement activities for children with special needs

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Introduction: Therapeutic Movement Activities for Children with Special Needs, Tera/GIB for short, is an individually designed movement program for children, adolescents and adults to acquire new movement skills. It is the result of collaboration between CIRIUS Vipava and the Faculty of Pedagogy at the University of Ljubljana. The Tera/GIB program is based on selected therapeutic activities involving imitation of movements of twelve animals, a snake, a caterpillar, a crayfish, a dog, a cat, a frog, a rabbit, a horse, a koala, an elephant, a monkey and a giraffe. The selected animals are characterized by the similarity of their movements to the movement patterns that occur in a child during normal motor development. We have followed the approach of neurodevelopmental treatment of children (NDT) in a way that encourages efficient movement patterns, takes into account the chronological development of movement and treats the individual holistically.

Methods: We used a purposive sample. We included ten adolescents with intellectual (all participants are defined as moderate intellectual disability) and other associated deficits (5-Autism Spectrum Disorder, 3-Down Syndrome, 1-Ruvacaba Syndrome), six male and four female, aged between 15 and 24. The activity lasted three months. Participants executed the Tera/GIB exercise program once a week. The movements followed the progression of difficulty, movement from position to position, holding a position and development of the variability of movements in each position. We carried out initial and final testing, at the beginning of March 2021 and at the end of May 2021. We chose tests that had shown adequate validity and reliability in previous research. We measured seven skills: long jump from a standing position, modified forward bend, straight line walk, backward braced walk on all fours, standing on one leg, touching the fingers of the hands behind the back and agility. After each activity we used VAS scale to measure well-being. With a customized VAS scale, participants mark the image of the face that best suits their well-being (funny, neutral, happy face). The other side of the scale is numbered from 1 to 10. Therapist read number which belongs to the numerical grade.

Results: The mean values of the second tests were higher and the t-test showed a statistically significant difference for the modified sit test, shoulder flexibility and agility test. In the post-activity wellbeing assessment, we found that the majority of participants (7 out of 10) were satisfied with the activity, felt good and exhibited good mood.

Discussion and conclusions: We found that the Tera/GIB activity is suitable for developing motor skills. It enabled participants to gain body awareness, good posture, variability of movement, a sense of freedom and a desire to move. The imitation of animal movement stimulated thinking about the manner, organization, softness and aesthetics of movement. Another finding of the project was that participants can perform the selected movements in different environments, at home, in a stadium, on a playground, etc. The participants accepted and implemented the new forms of exercise with enthusiasm.

Keywords: animal movement, physiotherapy, motor efficiency, developmental neurological treatment

Statična posturalna stabilnost: razlike med gimnastičarkami in gimnastičarji

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Uvod: Gimnastika je šport, ki zahteva dober občutek za položaj in gibanje telesa v prostoru ter visoko posturalne stabilnosti (PS). Čeprav so vadbene vsebine različnih gimnastičnih disciplin podobne, med spoloma obstajajo določene razlike v smislu ravnotežja, stabilnosti in posturalne kontrole. Cilj naše raziskave je ugotoviti, ali obstajajo razlike v statični posturalni stabilnosti med gimnastičarkami in gimnastičarji.

Metode: Vzorec je sestavljalo 64 gimnastičarjev (20 deklic in 44 dečkov; starost $13,2 \pm 3,6$ let; teža $44,8 \pm 13,13$ kg; višina $152,9 \pm 13,1$ cm), ki redno sodelujejo in tekmujejo v različnih gimnastičnih disciplinah. Preverjali smo statično posturalno stabilnost v sonožni in enonožni stoji na tenziometrični plošči. Udeleženci so izvedli 3 poskuse 30-sekundne stoje (oba pogoja) z 2-minutnim premorom med vsakim poskusom. Spremenljivke PS so bile določene s serijo sistematičnih analiz površine in nihanja središča pritiska (COP) v medio-lateralni in anteriorno-posteriorni smeri.

Rezultati: Multivariatna analiza variance je pokazala statistično značilne razlike med spoloma v parametrih PS ($p < 0,001$). Vrednosti statične PS so bile značilno boljše pri gimnastičarkah ($p < 0,05$), in sicer v sonožni stoji v anteriorno-posteriorni smeri ($es = 0,7$; $p < 0,0001$); Površina COP desne noge ($es = 0,79$; $p < 0,0001$) in nihanje težišča v medio-lateralni smeri ($es = 1,0$; $p < 0,0001$) kot tudi površina COP leve noge ($es = 0,83$; $p < 0,0001$), nihanje težišča leve noge v anterio-posteriorni smeri ($es = 0,55$; $p < 0,0001$) in medio-lateralni smeri ($es = 1,08$; $p < 0,0001$) (enosmerna analiza variance). Nihanje COP v sonožni stoji v medio-lateralni smeri ter nihanje COP desne noge v anterio-posteriorni smeri se med spoloma ni razlikovalo.

Razprava in zaključki: Statistične analize so pokazale značilne razlike med gimnastičarji in gimnastičarkami, ugotovitve te študije pa kažejo, da imajo gimnastičarke boljšo PS v primerjavi s svojimi vrstniki. Prejšnje raziskave so pokazale, da ženske, ki se ukvarjajo z gimnastiko, kažejo boljši PS v različnih pogojih v primerjavi z moškimi. Vadbene vsebine različnih gimnastičnih disciplin so podobne, vendar obstajajo nekatere razlike med ženskimi in moškimi disciplinami. Vadba ženske gimnastike teži k popolnemu izvajanja sestav na gredi, preskoku, dvovišinski bradlji in parterju, ki imajo drugačne ravnotežne zahteve.

Ključne besede: gimnastika, ravnotežje, vadba, posturalna stabilnost

Static postural stability: differences between male and female gymnasts

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Introduction: Gymnastics is a sport that requires a great sense of body awareness, perception and high level of postural stability (PS). Although the training regimens of the gymnastic disciplines are similar, there are some differences between genders in term of balance, stability and postural control. Therefore, the aim of our study is to determine whether there is a difference in static postural stability between male and female gymnasts.

Methods: The study sample comprised of 64 gymnasts (20 girls & 44 boys; age 13.2 ± 3.6 years; weight 44.8 ± 13.13 kg; height 152.9 ± 13.1 cm), who regularly participate and compete in different gymnastics disciplines. Static postural stability in double and single leg stance was assessed with a Force plate. Participants performed 3 trials of a 30-second test with a 2-minute break between each trial. The following PS parameters were determined through a series of systematic analyses of the center of pressure (COP) surface and oscillation in medio-lateral and anterior-posterior directions.

Results: A multivariate analysis of variance showed significant differences on general level between male and female in PS parameters ($p < 0.001$). The values of static PS were significantly better in female gymnasts ($p < 0.05$) in Double leg Anterior-posterior oscillation ($es = 0.7$; $p < 0.0001$); Right Leg COP surface ($es = 0.79$; $p < 0.0001$) and Right Leg Medio-lateral oscillation ($es = 1.0$; $p < 0.0001$) as well in Left Leg COP surface ($es = 0.83$; $p < 0.0001$), Left Leg Anterior-posterior oscillation ($es = 0.55$; $p < 0.0001$), Left Leg Medio-lateral oscillation ($es = 1.08$; $p < 0.0001$) as determined by one-way analysis of variance. However, in Double Leg COP surface, Double Leg Medio-lateral oscillation and Right Leg anterior-posterior oscillation no differences between genders were detected.

Discussion and conclusions: The statistical analyses identified differences between the male and female gymnasts and findings of this study indicate that female gymnasts have better PS compared to their male peers. Previous research has shown that females engaged in gymnastic exhibit better PS in various conditions compared to males. Training routine of the gymnastic disciplines are similar, however there are some distinctions between genders. Female gymnastics training leads to perfect performance of the routines on the balance beam, vault, uneven bars, and floor.

Keywords: gymnastics, balance, exercise, postural stability

Učinek vadbe moči vdišnih mišic na ohranjanje plavalnih sposobnosti

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Uvod: Plavanje, predvsem tekmovalno, predstavlja za dihalne mišice enega izmed največjih izzivov. V vodoravnem položaju so mišice šibkejše, hidrostatski tlak zahteva večjo silo mišic pri vdihu, poleg tega pa dihalne mišice sodelujejo pri stabilizaciji trupa med plavanjem. Omejen čas za vdih pomeni še dodaten izziv. Namen naše raziskave je bil preveriti, ali vadba vdišnih mišic vpliva tudi na ohranjanje plavalnih sposobnosti v času plavalnega premora.

Metode: V raziskavi so sodelovali študentje prvega letnika programa Aplikativne kineziologije ($n = 19$), ki so bili razdeljeni v intervencijsko ($n = 11$) in kontrolno skupino ($n = 8$). V sklopu študijskega predmeta, so bili vključeni v program enajstdnevnega tečaja plavanja, po katerem smo opravili prve meritve. Druge meritve so bile izvedene deset dni po koncu tečaja. V vmesnem času je intervencijska skupina dvakrat dnevno izvajala vadbeni program za izboljšanje moči vdišnih mišic s pripomočkom Powerbreathe Plus. Med tem nihče od preiskovancev ni izvajal plavalnega treninga.

Rezultati: Rezultati so pokazali trend izboljšanja rezultata v maksimalni vdišni moči, toku, testu tolerance na CO_2 in zadrževanju diha po sproščenem izdihu (Buteykov test). Neznačilno se je izboljšal tudi rezultat zadrževanja diha pod vodo. Značilen učinek časa se je pokazal pri testih plavanja od 50–100 m in 0–100 m. Pri obeh testih se je rezultat poslabšal tako pri intervencijski kot pri kontrolni skupini, a smo zaznali pomemben trend, in sicer se je v obeh testih pri kontrolni skupini čas plavanja bolj podaljšal kot pri intervencijski.

Razprava in zaključki: V pregledani literaturi smo ugotovili, da hkratna vadba vdišnih mišic v trajanju vsaj štiri tedne, v večini primerov vpliva na izboljšanje dihalnih funkcij in rezultatov v različnih športnih disciplinah. Glede na rezultate naše raziskave, in pregledano literaturo, lahko povzamemo, da vadbeni program krepitev vdišnih mišic v obdobju brez plavalnospecifičnega treninga kaže trend pozitivnega učinka na ohranjanje plavalnega rezultata.

Gljučne besede: dihanje, vadba, plavanje, podpora

The effect of inspiratory muscle training on the maintenance of swimming abilities

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Introduction: Swimming, especially competitive, is one of the biggest challenges for the respiratory muscles. Muscles are weaker in the horizontal position, the hydrostatic pressure requires greater muscle force during inhalation, in addition the respiratory muscles are also involved in stabilizing the torso during swimming. Limited breathing time is an additional challenge. The purpose of our study was to examine whether respiratory muscle exercise also affects the maintenance of swimming abilities during a swimming break. According to the literature, increasing the strength of the inspiratory muscles has a major impact on improving respiratory and swimming efficiency and performance.

Methods: The study involved first-year students of the Applied kinesiology program (n = 19, age: 19.7 ± 0.9 years), who were divided into an intervention group (n = 11) and a control group (n = 8). They were included in the program of an eleven-day swimming course, after which we performed the first measurements. The second measurements were performed ten days after the end of the course. In the intervening period, none of the subjects performed any swimming training. The intervention group conducted an inspiratory muscle training program twice a day with the Powerbreathe Plus device.

Results: The results showed a trend of improving the results in maximal inspiratory strength, maximal inspiratory flow, test of CO₂ tolerance, breath holding after a relaxed exhalation (Buteyko test) and in under water breathe holding test. A statistically significant effect of time was shown in the 50-100 m and 0-100 m swimming test. In both tests the result deteriorated in the intervention and control group, but a significant trend was shown. Namely, in both tests the swimming time in the control group was longer than the swimming time in the intervention group.

Discussion and conclusion: In the literature reviewed, we found that simultaneous exercises of specific sports and inspiratory muscles for at least four weeks, in most cases, affect the improvement of respiratory functions and results in various sports. Based on the results of our research and the literature reviewed, we can conclude that the inspiratory muscle training in the period without swimming-specific training shows a trend of positive effect on maintaining swimming results.

Keywords: breathing, exercise, swimming, support

Razlike v poročanju telesne dejavnosti med različno zmogljivimi mladostniki

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Uvod: Zaznavanje intenzivnosti telesne dejavnosti (TD) je zelo subjektivno, saj se povezuje z zaznavo lastnega telesa, razumevanjem in poznavanjem telesa, dojetjem fizioloških odzivov telesa ter s samim razumevanjem koncepta TD in njene intenzivnosti. Za merjenje TD se tudi pri mladostnikih pogosto uporabljajo vprašalniki, ki pa so primerni za uporabo po 11. letu starosti, ko otroci lahko dovolj razumejo koncept TD. Posameznikova zaznava intenzivnosti TD je povezana z zaznavo napora, ki pa je povezan s telesno zmogljivostjo posameznika. S tem namenom smo preverili, ali prihaja do razlik v samoporočanju TD med različno zmogljivimi mladostniki.

Metode: V raziskavi je sodelovalo 118 učencev iz 9 slovenskih osnovnih šol. Vzorec je sestavljalo 48 fantov in 60 deklet, starih od 11 do 14 let ($12,4 \pm 1,1$). Za merjenje TD smo uporabili triosni pospeškometer UKK RM42, ki so ga udeleženci nosili 24 ur dnevno en teden. Po tednu dni nošenja pospeškometra so udeleženci samoporočali o TD z uporabo vprašalnika SHAPES (The School Health Action, Planning, and Evaluation System), njihovo telesno zmogljivost pa smo izmerili s tekom na 600m. Na podlagi rezultatov telesne zmogljivosti smo vzorec razdelili na tretjine in ustvarili skupine: nizko zmogljivi (NZ), srednje zmogljivi (SZ) in visoko zmogljivi (VZ).

Rezultati: Med TD izmerjeno s pospeškometrom in z vprašalnikom SHAPES je prihajalo do pomembnih razlik. Merjenci so bili zmerno do visoko telesno dejavni $97,8 \pm 35,6$ min. Na podlagi vprašalnika so svojo dejavnost ocenili na $117,3 \pm 55,7$ minut. Ne glede na skupine telesne zmogljivosti je bilo največ razlik pri poročanju intenzivne TD, kjer so merjenci poročali o 298% večji TD, kot je bila izmerjena s pospeškometrom. Največje in statistično značilne razlike med skupinami telesne zmogljivosti so prav tako bile pri poročanju intenzivne TD ($p = 0,51$): pri čemer so NZ poročali precej več od SZ in VZ, kjer so bile razlike med nizko zmogljivimi posamezniki in preostalima skupinama statistično značilne.

Razprava in zaključki: Pri uporabi vprašalnikov za spremljanje TD prihaja do poročanja o več TD, kot jo izmerijo pospeškometri, pri tem pa prihaja do večjih in statistično značilnih razlik med različno zmogljivimi posamezniki. Pri najmanj zmogljivih posameznikih prihaja do največje razlike med izmerjeno in samoporočano TD. V primerjavi z bolj zmogljivimi vrstniki smo pri njih s pospeškometrom izmerili najmanj TD, razlika med izmerjeno in samoporočano TD pa je bila največja. Ker so različne intenzivnosti TD v vprašalnikih opisane z različnimi fiziološkimi odzivi telesa, je poročanje o TD odvisno od razumevanja teh opisov. Hkrati pa so manj zmogljivi posamezniki prej zadihani in se hitreje utrdijo, ker so manj telesno dejavni. Predvidevamo, da je zaradi tega njihovo samoporočanje o telesni dejavnosti manj veljavno in prihaja do večjih razhajanj med izmerjeno TD in njihovim poročanjem, kar je potrebno upoštevati pri uporabi vprašalnikov in njihovem vrednotenju.

Ključne besede: mladostniki, samoporočanje, vprašalnik telesne dejavnosti, veljavnost, merske značilnosti, gibalne sposobnosti

Differences in physical activity self-reporting among differently fit adolescents

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Introduction: Perception of physical activity (PA) intensity is subjective, as it is strongly connected to perception of one's body, knowing and understanding the body, understanding physiological responses of the body and understanding the concept of PA and PA intensity. PA questionnaires are usually used for PA measurement in adolescents, but their use is appropriate only for children above the age of 11, when concept of PA is fully developed. Perception of PA intensity is connected to perception of physiological responses to physical strain, which is connected to adolescents' physical fitness and PA. Therefore, we conducted a study to determine, if there are differences in self-reported PA between adolescents in different fitness groups.

Methods: 118 pupils from 9 Slovene primary schools were included; 48 boys and 60 girls, aged 11 to 14 years ($12,4 \pm 1,1$). Triaxial accelerometer UKK RM42 was used for PA measurement, that participants wore 7 days for 24 hours. The School Health Action, Planning, and Evaluation System (SHAPES) was used as a PA self-report tool and physical fitness was assessed with 600m run. Based on the 600m run results we split the sample in three equal parts and have created physical fitness groups: low fitness group (LF), intermediate fitness group (IF) and high fitness group (HF).

Results: We found significant differences between accelerometer measured PA and self-reported PA. The participants were moderately to vigorously active (MVPA) for $97,8 \pm 35,6$ min. With the SHAPES questionnaire they self-reported their MVPA $117,3 \pm 55,7$ min per day. Between all 3 groups, Vigorous PA was the most overreported intensity, 298% more compared to accelerometer. Furthermore, we found the largest discrepancies between groups in vigorous intensity PA ($p = 0,51$): LF had more overreporting compared to IF and HF and the differences were statistically significant.

Discussion and conclusions: When using PA questionnaires for assessing the volume and intensity of the PA, overreporting is commonly observed. In this study, we found statistically significant differences in overreporting between groups of children with different fitness levels. We measured the lowest amount of PA among LF participants, but the difference between self-reported and measured PA was the largest, compared to the other two groups. As PA intensities in questionnaires are described using descriptions of physiological responses to strain, individuals understanding of them affects their reporting. Less fit children experience heavy breathing sooner since they are less active. This might be the reason for larger differences in measured and self-reported PA and lower validity of PA self-report in LF, which should be considered in future research.

Keywords: adolescents, self-report, physical activity questionnaires, validity, measurement characteristics, motor abilities

Prvi koraki v gibalno-športne aktivnosti

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Izhodišča in namen: Gibanje in športno-gibalne aktivnosti so pomembne celotno življenje. Učenje gibanja je za večino otroške populacije enostavno in pridobljeno vzporedno z vsakodnevnimi dejavnostmi. Za otroke z motnjo v duševnem razvoju, ki so ena izmed podskupin otrok, s posebnimi potrebami pa predstavlja gibanje vsakodnevno učenje z večkratnimi ponovitvami in minimalnim napredkom. Napredek je viden v daljšem časovnem obdobju. Zato je vloga ali naloga ljudi, ki delamo z otroci s posebnimi potrebami, da jim gibanje in športne aktivnosti približamo in prilagodimo njihovim potrebam in sposobnostim. V članku bo predstavljeno delo na področju gibalno-športnih aktivnosti pri predšolskih otrocih z motnjo v duševnem razvoju ter pri otrocih z več motnjami v naši ustanovi.

Predstavitev vsebine: V CIRIUS Vipava že več let izvajamo program Mladi športnik, ki v Sloveniji poteka pod okriljem Specialne olimpiade Slovenije. Program je namenjen otrokom z in brez motenj v duševnem razvoju od drugega do sedmega leta starosti. Program vključuje osem gibalnih spretnosti: osnovne motorične spretnosti, hoja in tek, ravnotežje in skoki, odbijanje in lovljenje, metanje, udarjanje, brcanje, sestavljene spretnosti. Vzporedno otroci razvijajo motorične, socialne in kognitivne spretnosti. Otroci s pomočjo aktivne igre, pesmi in prilagojenih gibalnih dejavnosti spoznajo, se učijo in osvojijo temeljne gibalne elemente. Ti temeljni gibalni elementi v nadaljnjem otrokovem življenju pomenijo prvi korak v svet športnih aktivnosti.

Sklepne ugotovitve: Program Mladi športnik spodbuja vključevanje predšolskih otrok in njihovih družin v gibanje specialne olimpiade in integracijo na področju gibalno-športnih aktivnosti v širše socialno okolje. V naši ustanovi smo v program vadbe vključili otroke iz prilagojenega programa za predšolske otroke in otroke iz Otroškega vrtca Vipava. Pri otrocih s posebnimi potrebami je pomembno, da začnemo z gibalno-športnimi aktivnostmi dovolj zgodaj, saj le te pozitivno vplivajo na kvaliteto življenja ne samo v otroštvu ampak tudi kasneje v času mladostništva in v odrasli dobi.

Ključne besede: otroci s posebnimi potrebami, gibanje, športna aktivnost

First steps in physical and sports activities

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Introduction and purpose: Movement and physical and sports activities are important throughout life. Learning to move is easy for the majority of children and is acquired in parallel with daily activities. For mentally handicapped children, which are one of the subgroups of children with special needs, movement means daily learning with multiple repetitions and minimal progress. Progress is visible over a longer period of time. Therefore, the role or task of people who work with children with special needs is to bring their movement and sports activities closer to them and to adapt these activities to their needs and abilities. The article will present work in the field of physical and sports activities in preschool mentally handicapped children and children with multiple disabilities in our institution.

Content presentation: For several years, CIRIUS Vipava has been implementing the Young athletes program, which takes place in Slovenia under the auspices of the Special Olympics Slovenia. The program is aimed at children with and without intellectual disabilities from the age of two to seven. The program includes eight movement skills: foundational skills, walking and running, balance and jumping, trapping and catching, throwing, striking, kicking, and advanced sport skills. In parallel, children develop motor, social and cognitive skills. Through active play, songs, and adapted movement activities children get to know, learn and conquer the basic movement elements. These fundamental motor skills in the child's future life represent the first step into the world of sports activities.

Conclusions: The Young athletes program promotes the inclusion of preschool children and their families in the Special Olympics movement and the integration of physical and sports activities into the wider social environment. In our institution, we included children from the adapted program for preschool children and children from the Vipava Kindergarten in the exercise program. For children with special needs, it is important to start physical and sports activities early enough, as they have a positive impact on the quality of life not only in childhood but also later in adolescence and adulthood.

Keywords: children with special needs, movement, sports activity

Vloga mišične in maščobne mase pri izražanju eksplozivne moči otrok v predšolskem obdobju

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Uvod: Motorični razvoj, motorične sposobnosti in raven telesne pripravljenosti pri otrocih so močan biomarker zdravja že od zgodnjega otroštva. Za oceno motoričnih sposobnosti in telesne pripravljenosti pri majhnih otrocih v šolah in športnih klubih so potrebni praktični in enostavni testi. Eksplozivna moč je opredeljena kot sposobnost izvajanja največjega napora v najkrajšem možnem času. Najpogostejši test za eksplozivno moč nog je skok v daljino z mesta. Telesna sestava pomembno vpliva na motorične sposobnosti ter posledično na motorični razvoj in na zdravstveni status. Z raziskavo želimo ugotoviti, kakšna je vloga mišične in maščobne mase pri izražanju eksplozivne moči pri otrocih v predšolskem obdobju glede na njihov status telesne teže.

Metode: Za pridobivanje podatkov je bila uporabljena kavzalna neeksperimentalna metoda. Vzorec predstavljajo 5-6 let stari otroci obeh spolov, razdelejen v tri skupine otrok na osnovi indeksa telesne mase (WHO BMI for age 5-19 years). Izmerjena je bila eksplozivna moč nog s testoma skok v daljino z mesta in skok z nasprotnim gibanjem na ARS ravnotežni plošči. Mišična in maščobna masa je bila izmerjena z analizatorjem telesne sestave Tanita DC 430-MA. Za primerjavo rezultatov med skupinami uporabljena ANOVA (Eta squared/Efect Size), za razlike med skupinami je bila izračunana Pearsonov korelacijski koeficient.

Rezultati: Otroci skupine normalna telesna teža so dosegli najboljše rezultate na testih eksplozivne moči nog, otroci skunine debelost pa najslabše rezultate. Vendar pa razlike med skupinami niso statistično značilne ($p > 0,05$), velikost učinka je srednja ($\eta^2 < 1,28$). Stopnja povezanosti eksplozivne moči in mišične mase je največja v skupini normalna teža ($r = -0,337$; $p < 0,05$), stopnja povezanosti eksplozivne moči in maščobne mase je največja v skupini prekomerna telesna teža ($r = 0,847$; $p > 0,05$).

Razprava in zaključki: Zmanjšanje deleža maščobne mase v telesu in povečanje deleža mišične mase v predšolskem obdobju je pomembno za dobro razvito eksplozivno moč. Otrokom je potrebno ponuditi dovolj gibalnih/športnih dejavnosti, ki vključujejo skoke in teke.

Ključne besede: mišična masa, telesna sestava, eksplozivna moč, predšolski otroci

The role of muscle and fat mass in the expression of explosive power in preschool children

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Introduction: Motor development, motor abilities, and physical fitness level in children are potent biomarkers of health from an early age. In order to assess motor abilities and physical fitness in young children practical and easy-to-perform tests are necessary. Explosive power is defined as the ability to perform a maximum effort in a minimum amount of time. Body composition has a significant impact on motor skills and consequently on motor development and health status. With this research we want to find out what the role is a muscle and fat mass in the expression of explosive power in preschool children according to their body weight status.

Methods: A causal non-experimental method was used to obtain the data. The sample consists of 5-6 year old children of both gender (N=75), divided into three groups based on body mass index (WHO BMI for age 5-19 years) – Normalweight (N=54), Overweight (N=5) and Obesity (N=16). The explosive power of the legs was measured with the motor test long jump from the site and the motor test counter movement jump tests on the ARS balance plate. Muscle and fat mass were measured with a Tanita DC 430-MA body composition analyzer. ANOVA (Eta squared / Effect Size) was used to compare results between groups and Pearson correlation for differences between groups.

Results: Children in the normal body weight group achieved the best results on explosive power tests, and children in obesity group achieved the worst results. However, the differences between the groups are not statistically significant ($p > 0.05$), Eta Squared was medium ($\eta^2 < 1.28$). The degree of correlation between explosive power and muscle mass is the highest in the group normal weight group ($r = -0.337$; $p < 0.05$), the degree of correlation between explosive power and fat mass is the highest in the overweight group ($r = 0.847$; $p > 0.05$).

Discussion and conclusions: Reducing the proportion of fat mass in the body and increasing the proportion of muscle mass in the preschool period is important for well-developed explosive power. Children need to be offered enough exercise and sports activities, including jumping and running.

Keywords: muscle mass, fat mass, explosive power, preschool children

Telesna zmogljivost slovenskih študentov z mersko baterijo SLOfit odrasli

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Uvod: SLOfit odrasli je nadgradnja uveljavljenega nacionalnega sistema spremljave telesnega in gibalnega razvoja otrok in mladine – Športnovzgojnega kartona, ki omogoča vseživljenjsko spremljanje telesne zmogljivosti. Za odraslo populacijo so pripravljene posebne merske naloge. V meritve smo v 2021 vključili tudi študente, ki lahko na ta način nadaljujejo spremljanje svoje telesne zmogljivosti iz šolskega obdobja. Na podlagi pridobljenih podatkov smo želeli primerjati njihovo telesno zmogljivost z njihovimi vrstniki po svetu.

Metode: V raziskavo je bilo vključenih 86 zdravih merjencev (moških=46), starih od 18 do 22 let ($\bar{x}=20,44 \pm 0,76$ let). Znotraj meritev SLOfit odrasli smo najprej izvedli meritve obsega pasu, telesne mase in višine, nato pa so sledile gibalne merske naloge v naslednjem vrstnem redu: tek v osmici, stisk pesti, dotikanje plošče z roko in 6-minutni test hoje.

Rezultati: Povprečen indeks telesne mase (ITM) (moški $\bar{x}=25,43 \pm 13,70$ kg/m²; ženske $\bar{x}=22,5 \pm 4,40$ kg/m²) in povprečen obseg pasu (moških $\bar{x}=83,13 \pm 7,64$ cm; ženske $\bar{x}=75,91 \pm 10,64$ cm) sta pokazala normalno prehranjenost udeležencev v raziskavi. Rezultati stiska pesti moške ($\bar{x}=50,86 \pm 9,74$ kg) uvrščajo v najvišji kvartil, ženske ($\bar{x}=29,90 \pm 4,31$ kg) pa dosegajo rahlo nadpovprečne rezultate. Nadpovprečne rezultate so študenti dosegli tudi pri merskih nalogah tek v osmici (moški $\bar{x}=5,67 \pm 0,72$ s; ženske $\bar{x}=6,21 \pm 0,61$ s) in 6-minutni test hoje (moški $\bar{x}=744,68 \pm 183,11$ m; ženske $\bar{x}=683 \pm 131,5$ m). Pri testu dotikanje plošče z roko so ženske dosegle v povprečju enake rezultate kot slovenske 18-letnice ($\bar{x}=45,83 \pm 4,77$), moški pa so bili v primerjavi s 18-letnimi dijaki za eno ponovitev boljši od povprečja ($\bar{x}=49,50 \pm 4,80$).

Razprava in zaključki: Slovenski otroci in mladostniki so v primerjavi s svojimi vrstniki po svetu bolj telesno zmogljivi, zato tudi primerjave na študentski populaciji ne presenečajo. Pri vseh gibalnih nalogah so tako moški kot ženske v našem vzorcu dosegali nadpovprečne rezultate v primerjavi z vrstniki iz drugih držav. Kljub temu, da so rezultati ITM pokazali nekoliko višje vrednosti pri moških, na podlagi dobrih rezultatov telesne zmogljivosti sklepamo, da so bili normalno prehranjeni, kar je pokazal tudi obseg pasu. Nekoliko višjo telesno težo pa lahko pripišemo večjemu odstotku mišične mase pri bolj zmogljivih posameznikih. Rezultate naloge dotikanje plošče z roko smo primerjali s povprečnimi rezultati dijakov zadnjih letnikov srednjih šol in ugotovili, da so rezultati študentov primerljivi s povprečjem slovenskih srednješolcev in srednješolk. Glede na zadnjo študijo telesne zmogljivosti študentske populacije ugotavljamo, da je uporabljen vzorec pristranski, ugotovitev ne moremo posploševati. Hkrati pa ugotavljamo, da sistem SLOfit sedaj ponuja izjemno priložnost za redno spremljanje podatkov o telesni zmogljivosti študentov, tako na ravni posameznika kot populacije.

Ključne besede: mladi, telesne značilnosti, razvoj, antropometrija, gibalne sposobnosti

Physical fitness of Slovenian students with the SLOfit adults fitness battery

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Introduction: SLOfit is an extension of established national surveillance system for monitoring the physical and motor development of children and adolescents – Sports Educational Chart which enables lifelong monitoring of physical fitness. Specific measurement tasks have been developed for the adult population. In 2021 students have been included in the measurements which means they can continue monitoring their physical performance after high school. Based on the data collected, we wanted to compare their physical fitness with their peers around the world.

Methods: 86 perfectly healthy adults (male=46) aged between 18 and 22 (\bar{x} =20,44 \pm 0,76 let) were included in the study. Waist circumference, body mass and height were measured at baseline, followed by the motor tests: figure 8 running, hand grip strength, plate tapping and 6-minute walk test.

Results: The mean body mass index (BMI) (men \bar{x} =25,43 \pm 13,70 kg/m²; women \bar{x} =22,5 \pm 4,40 kg/m²) and waist circumference (men \bar{x} =81,03 \pm 8,18 cm; women \bar{x} =73,93 \pm 9,32 cm) showed that participants were in the healthy weight range. The results of the hand grip test put men (\bar{x} =50,86 \pm 9,74 kg) in the top quartile, while women (\bar{x} =29,90 \pm 4,31 kg) scored slightly above average. Students also performed above average on the figure 8 running (men \bar{x} = 5,67 \pm 0,72 s; women \bar{x} = 6,21 \pm 0,61 s) and 6-min walk test (men \bar{x} =744,68 \pm 183,11 m; women \bar{x} =683 \pm 131,5 m). In the hand tapping test, females performed on average the same as 18-year-old women (\bar{x} =45,83 \pm 4,77), while males' score was on average one repetition better compared to 18-year-old men (\bar{x} = 49,50 \pm 4,80).

Discussion and conclusions: Slovenian children and adolescents are more physically fit compared to their peers around the world, hence results from the student population are not surprising. Compared to peers around the world, both males and females in our sample performed above average in all motor tasks. Although the BMI results showed slightly higher values for men, excellent physical performance results and waist circumference within the normal ranges suggest that they are in the healthy weight range. The slightly higher body weight can be attributed to the higher percentage of muscle mass in participants that performed better in motor tasks. We compared the results of the hand-tapping task with the results of students in their final year of secondary school and found that performance was comparable in both groups. Considering the last study on students' physical performance we conclude that the sample is biased, and the findings cannot be generalised. At the same time, we note that the SLOfit system now offers an excellent opportunity to regularly monitor data on the physical performance of students, both at the individual and population level.

Keywords: youth, physical characteristics, development, anthropometry, motor skills

RED-simptomi pri mladih slovenskih športnikih

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Uvod: Sindrom relativnega energijskega pomanjkanja v športu (RED-S) lahko ogrozi več telesnih sistemov, kar ima negativen vpliv na zdravje kot na telesno zmogljivost. V našem delu smo raziskovali prevalenco simptomov, povezanih z RED-S pri slovenskih tekmovalnih športnikih. Posebno pozornost smo namenili mlajšim športnikom, kjer smo športnike adolescente (14-17 let) primerjali s starejšimi mladimi športniki (18-21 let).

Metode: V retrospektivno raziskavo smo vključili 118 športnikov, starih od 14 do 21 let. Vključenih je bilo 61 žensk in 57 moških; od tega je bilo 84 športnikov mladih (14–17 let), 34 pa elitnih športnikov (18-21 let). Pridobljene podatke smo statistično analizirali. RED-S smo diagnosticirali s pomočjo orodja Relative Energy Deficiency in Sport Clinical Assessment Tool (RED-S CAT).

Rezultati: Večina športnikov je imela vsaj en simptom povezan z RED-S; samo 7 športnikov je bilo brez znakov RED-S. Število ogroženih telesnih sistemov je bilo pri športnicah ($3,0 \pm 0,2$) bistveno večje v primerjavi s športniki ($1,6 \pm 0,2$). Število ogroženih telesnih sistemov je signifikantno višje tudi pri športnikih adolescentih ($2,6 \pm 0,2$) v primerjavi s starejšimi mlajšimi športniki ($1,9 \pm 0,2$). Nadaljnja analiza je pokazala, da imajo adolescentne športnice najvišje število ogroženih telesnih sistemov in prav tako najvišje tveganje za razvoj RED-S.

Razprava in zaključki: Prevalenca z zdravjem povezanih simptomov RED-S pri mladih športnikih je zastrašujoča. Najbolj so ogrožene adolescentne športnice. Trenutne ugotovitve naše raziskave nakazujejo, da je potrebno v redne zdravstvene preglede športnikov vključiti tudi presejanje za simptome RED-S. Specifično in enostavno presejalno orodje, ki nam bo omogočilo identifikacijo športnikov s prehransko ogroženostjo oziroma športnikov, ki imajo tveganje za razvoj RED-S znakov, je zato velikega pomena in ga nameravamo razviti kot del našega nadaljnega dela.

Gljučne besede: energijski primanjkljaj, mladi športniki, športniki v mladostništvu, zdravniški pregled

RED-symptoms in young Slovenian athletes

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Introduction: Relative Energy Deficiency Syndrome (RED-S) can threaten multiple body systems, negatively impacting both health and performance. Our work investigated the prevalence of REDS-related symptoms in Slovenian competitive athletes. We paid particular attention to younger athletes, comparing adolescent athletes (14–17 years old) with older young athletes (18–21 years old).

Methods: We performed retrospective research based on a dataset of 118 Slovenian athletes aged 14 to 21 who had nutritional assessments as a part of their medical examination. Data were collected, refined and statistical analysis was performed. Sixty-one women and 57 men were included; 84 were classified as young athletes (14–17 years) and 34 as elite athletes (17–21 years). RED-S was diagnosed using the Relative Energy Deficiency Tool and the Sports Clinical Assessment Tool.

Results: Most athletes had at least one RED-S-related symptom; only seven athletes were without RED-S symptoms. The number of compromised body systems was significantly higher in female athletes (3.0 ± 0.2) compared to male athletes (1.6 ± 0.2). The number of compromised body systems is also significantly higher in adolescent athletes (2.6 ± 0.2) compared to older younger athletes (1.9 ± 0.2). Further analysis showed that adolescent female athletes have the highest number of compromised body systems and the highest risk of developing RED-S.

Discussion and Conclusions: The prevalence of health-related RED-S symptoms in young athletes is frightening. Adolescent athletes are most at risk. Current findings from our research suggest that screening for RED-S symptoms should be included in regular medical examinations of athletes. Therefore, a specific and simple screening tool that will enable us to identify athletes with nutritional risk or athletes who are at risk of developing RED-S signs is essential, and we intend to develop it as part of our further work.

Keywords: energy deficiency, youth athletes, adolescent athletes, medical examination

Gibalna neaktivnost postaja resen problem

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Uvod: Kar nekaj let že opažamo skromnejše dosežke otrok na gibalnem, vzdržljivostnem in na splošno na športnem področju. V zadnjem času je bilo izvedenih kar nekaj raziskav na področju gibalne aktivnosti otrok in kako vplivajo aktivnosti na samopodobo, učni uspeh itn. Kopova in Kikelova (2012) sta v svoji raziskavi katero sta opravljali na trinajstletnikih ugotovili, da med telesnimi značilnostmi, gibalnimi sposobnostmi ter samopodobo obstaja velik medsebojen vpliv. Vedul, Sigmundsson, Steindotter in Haga (2017), so glede na rezultate ugotovili in potrdili relacijo med gibalnimi in motoričnimi spretnostmi ter samopodobo, specifično splošno in telesno samopodobo ter športnimi kompetencami. Glede na vedno skromnejše rezultate športno vzgojnega kartona v Sloveniji, smo se odločili da izvedemo raziskavo, kjer smo poskušali ugotoviti ali je povezava med vzdržljivostjo in telesno samopodobo pomembna.

Metode: Leta 2019 smo izvedli raziskavo, katere namen je bil ugotavljanje razlik v posameznih parametrih telesne samopodobe med nizko, srednje in visoko vzdržljivimi merjenci. S pomočjo Beep testa smo testirali sposobnosti aerobne vzdržljivosti, oziroma njihovo maksimalno porabo kisika. Za ugotavljanje telesne samopodobe mladostnikov smo uporabili prevod francoskega vprašalnika PSI-SF – The Physical SelfInventory-short form (Maiano, Morin, Ninot, Monthuy-Blanc, Stephan, Florent idr., 2008), ter pridobili podatke, ki so nam pomagali pri oblikovanju ugotovitev na izbranem področju pri dečkih starih od 10 do 12 let. Anketni vprašalnik je bil razdeljen na šest sklopov in sicer splošno samopodobo, telesno samopodobo, vzdržljivost, športne kompetence, telesni videz in telesno moč. Vsak sklop je obsegal tri vprašanja na katera so učenci odgovarjali s številsko lestvico od 1–6. V raziskavi je sodelovalo 218 otrok 2. triletja osnovnih šol Severovzhodnega dela Slovenije.

Rezultati: Rezultati so pokazali, da imajo dečki z nizko aerobno vzdržljivostjo tudi precej nižjo telesno samopodobo, kot tisti dečki, ki imajo visoko raven vzdržljivosti. Med srednje in visoko vzdržljivimi dečki razlik ni. Razliko smo opazili samo pri telesni moči, kjer so se rezultati minimalno razlikovali med merjenci nizke, srednje in visoke vzdržljivosti, saj so tudi tisti z nižjo vzdržljivostjo vrednotili telesno moč visoko. Iz rezultatov lahko torej razberemo, da vzdržljivost močno vpliva na telesno samopodobo merjencev, saj imajo višjo samopodobo prav tisti merjenci z višjo vzdržljivostjo.

Zaključek: Rezultati raziskave nam dajejo tudi določene smernice kako postopati v praksi z učenci, ter jih spodbujati k športu in športnim udejstvovanjem. Iz raziskave lahko razberemo, da dečki, ki so visoko vzdržljivi višje vrednotijo svojo telesno samopodobo kot tisti dečki, ki so nizko vzdržljivi.

Gljučne besede: telo, gibanje, moč, vzdržljivost

Physical inactivity is becoming a significant problem

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Introduction: Children's achievements in physical activity and endurance in sport in general have been on decline for some years now. There has been a lot of research on children's physical activity and its impact on self-esteem, academic achievement, etc. conducted recently. A study was conducted among 13-year-olds by Kop and Kikel (2012). They discovered that there is a strong correlation between physical characteristics, motor skills and self-esteem. Vedul, Sigmundsson, Steindotter and Haga (2017) discovered and confirmed a relationship between motor and locomotor skills and self-esteem, specific, general, and physical self-esteem, and sport competences. According to the increasingly modest results of the physical education chart in Slovenia, we decided to conduct a study to find out whether the relationship between endurance and physical self-esteem is significant

Methods: In 2019 we conducted a study to determine the differences in individual body self-image parameters - between low, medium, and high endurance subjects. The Beep test was used to test aerobic endurance capacity, including their maximum oxygen consumption. We used a translation of the French questionnaire PSI-SF - The Physical Self-Inventory-short form (Maïano, Morin, Ninot, Monthuy-Blanc, Stephan, Florent et al., 2008) to measure adolescents' physical self-image and to obtain data that helped us to draw conclusions in specific areas for boys aged 10-12 years. The questionnaire was divided into six sections: general self-image, physical self-image, endurance, sport competence, physical appearance, and physical strength. Each set included three questions and were answered on a numerical scale from 1 - 6. The study involved 218 children in the 2nd trimester of primary schools in the North-Eastern part of Slovenia.

Results: The results showed that boys with low aerobic endurance also have significantly lower body self-esteem than boys with high endurance. There is no difference between boys with medium and high endurance. The only difference was in physical strength, where the results differed minimally among boys with low, medium, and high endurance. After all, those with lower endurance scored high on physical strength. Furthermore, the results show that endurance has a strong influence on body self-esteem, because higher self-esteem is significant for subjects with higher endurance.

Conclusion: The results of the survey also give us some guidelines on how to work with students in practice and how to encourage them to take part in sport and physical activity. The study shows that boys who are high in stamina, rate their body self-esteem higher than boys who are low in stamina.

Keywords: Body, movement, strength, endurance

Smernice za s šolo povezano sedentarno vedenje za otroke in mladostnike

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Izhodišča in namen: Mednarodno združenje za preučevanje sedentarnega vedenja (Sedentary Behaviour Research Network) je v začetku leta 2022 izdalo prve mednarodne smernice za s šolo povezano sedentarno vedenje za otroke in mladostnike. Smernice temeljijo na najboljših razpoložljivih znanstvenih dokazih, soglasju strokovnjakov in prispevku deležnikov. Njihov namen je izboljšanje zdravja in dobrega počutja šolajočih se otrok in mladostnikov.

Predstavitev vsebine: Snovanje smernic se je pričelo leta 2020, ko so avtorji izvedli pregled obstoječih smernic za omejevanje sedentarnega vedenja in sistematičen pregled znanstvene, strokovne in sive literature o vplivih (s šolo povezanega) sedentarnega vedenja na zdravje in učno uspešnost otrok in mladostnikov. Zasnovali so osnutek novih smernic, ki so ga v začetku leta 2021 predstavili strokovnjakom, odločevalcem, raziskovalcem in drugi zainteresirani javnosti ter jih pozvali h kritični presoji. Ob upoštevanju mnenj deležnikov so septembra 2021 sprejeli končno verzijo smernic, ki so bile aprila 2022 tudi javno objavljene. V začetku leta 2022 so avtorji smernic javno pozvali k prevodu smernic v različne jezike, na kar se je odzvala tudi naša raziskovalna skupina. Prevod smernic v slovenski jezik je potekal skladno z navodili za prevajanje dokumentov. Tri avtorice (N.P.L, K.K. in P.S.) smo smernice neodvisno prevedle iz angleškega v slovenski jezik ter ob kritični primerjavi prevodov oblikovale en poenoten prevod smernic. Nato je četrta avtorica (anglistka B.J.P.) poenoten slovenski prevod prevedla nazaj v izvirni jezik. Slednji dokument smo poslali avtorjem smernic, ki so preverili skladnost prevedenega (angleškega) in izvirnega dokumenta smernic (angleškega). Upoštevajoč njihove komentarje smo oblikovali končno slovensko verzijo smernic. Smernice vključujejo (1) opredelitev uporabljenih izrazov, (2) smernice za s šolo povezano sedentarno vedenje za otroke in mladostnike ter (3) usmeritve, kako smernice uresničevati v praksi. Ključna sporočila smernic so, da zdrav šolski dan vključuje: 1) prekinjanje dolgotrajnega sedentarnega vedenja z načrtovanimi in nenačrtovanimi gibalnimi odmori, glede na starostno skupino, 2) vključevanje različnih vrst gibanja kot del domače naloge, kadar je to mogoče, in omejevanje domačih nalog, ki zahtevajo sedentarno vedenje, 3) omejevanje s šolo povezanega časa, preživetega pred zasloni, ki naj bo preživet smiselno, miselno aktivno ali telesno dejavno, 4) nadomeščanje oblik učenja, ki zahtevajo sedentarno vedenje, z oblikami učenja, ki temeljijo na gibanju.

Sklepne ugotovitve: Otroci in mladostniki so v šolah in med s šolo povezanimi aktivnostmi pogosto izpostavljeni dolgotrajnemu sedenju, kar ima lahko številne negativne posledice na njihovo zdravje, razvoj in počutje. Z namenom spodbujanja zdravega življenjskega sloga šolajočih se otrok in mladostnikov so bile izdane prve smernice za omejevanje s šolo povezanega sedentarnega vedenja. Namenjene so učiteljem, strokovnim delavcem, odločevalcem, staršem/skrbnikom in zdravnikom, ki bi morali s pozitivno spodbudo, zagotavljanjem časovnih in prostorskih možnosti in ne nazadnje z lastnim zgledom, otroke in mladostnike podpirati pri doseganju smernic. Avtorice slovenskega prevoda si prizadevamo, da bi uresničevanje smernic zaživelo tudi v slovenskem prostoru.

Ključne besede: priporočila, sedenje, učenci, dijaki, zdravje, izobraževalne ustanove

School-Related Sedentary Behaviour Recommendations for Children and Youth

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Introduction and purpose: At the beginning of the year 2022, Sedentary Behaviour Research Network, the international association for research on sedentary behaviour, released the first international recommendations on school-related sedentary behaviour for children and youth. These recommendations are based on the best available evidence, expert consensus, and stakeholder input. The purpose of the recommendations is the improvement of health and wellbeing of school-attending children and youth.

Content presentation: The drafting of the recommendations began in 2020, when the authors conducted a review of the existing recommendations for limiting sedentary behaviour and a systematic review of scientific, professional and grey literature on the effects of (school-related) sedentary behaviour on health and learning performance in children and youth. The draft of the new recommendations was at the beginning of 2021 presented to experts and stakeholders. The finalised version of the recommendations, which incorporated the stakeholder's comments, was adopted in September 2021 and made public in April 2022. In the beginning of 2022, the authors of the recommendations issued a call for translations of the recommendations into various languages, to which our research group responded. The translation of the recommendations into the Slovenian language was done in accordance with the general guidelines for translating documents. Three of the authors (N.P.L., K.K. and P.S.) independently translated the recommendations from English to Slovenian. The three (Slovenian) translations of the recommendations were then critically compared and reconciled into a single unified translation. The latter was then back-translated into the original language by the fourth author (B.J.P., an English studies graduate). The document thus created was sent to the authors of the recommendations, who checked the translated (English) text's compliance with the original document of the recommendations (English). The finalised Slovenian version of the recommendations incorporated their comments. The recommendations provide (1) glossary of included terms, (2) guidelines on school-related sedentary behaviour for children and youth, and (3) guidance on how to implement these recommendations in practice. To summarise the key messages of the recommendations, a healthy school-day includes: 1) breaking up periods of extended sedentary behaviour with both scheduled and unscheduled movement breaks, whose duration depends on the age group, 2) incorporating different types of movement into homework whenever possible, and limiting sedentary homework, 3) limiting school-related screen time and making the latter meaningful, mentally or physically active, 4) replacing sedentary learning activities with movement-based learning activities.

Conclusions: Children and youth are frequently exposed to prolonged sitting at school and during school-related activities, which can have several adverse effects on their health, development, and wellbeing. The first recommendations for limiting school-related sedentary behaviour were released with the aim of promoting a healthy lifestyle among the school-attending children and youth. They are addressed to educators, school administrators, policy makers, parents/guardians, and physicians who should support children and youth to meet these recommendations. The authors of the Slovenian translation are endeavouring to ensure that the implementation of these recommendations will come to life in Slovenia, too.

Keywords: recommendations, sedentary lifestyle, children, youth, health

Predstavitev projekta SLOfit krivulje

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Uvod: Človeški razvoj je pospešen v razvojnih stopnjah dojenčka in malčka ter se nadaljuje od otroštva do odraslosti. Pomembno obdobje hitrega razvoja je puberteta. Ena od njenih ključnih značilnosti je pospešena stopnja rasti, tako imenovani »rastni sunek«, ki vpliva na razvoj gibalnih sposobnosti in telesno zmogljivost. Hkrati se v tem času pojavijo tudi intelektualni rastni sunki. Obdobje hitre rasti predstavlja izziv za mlado osebo, njegove starše in učitelje, saj izzivi ne zajemajo le telesnih sprememb posameznika, temveč tudi to, kako najbolje izmeriti in oceniti njegovo telesno zmogljivost ter spremembe vedenja in spoznavanja, ki so povezane z učnimi dosežki. Raziskovalna skupina SLOfit iz Fakultete za šport na Univerzi v Ljubljani je v preteklih letih, v sodelovanju z Inštitutom Jožef Štefan, s pomočjo umetne inteligence razvila metodo t.i. Primerjave krivulje rasti, s katero znotraj spletnega mesta Moj SLOfit omogoča uporabnikom napoved telesne višine in zrelosti v obdobju pubertete. Namen raziskave SLOfit krivulje je posodobiti to metodo, in sicer na vzorcu slovenskih mladostnikov, v 12-letni longitudinalni študiji. Tako bomo lahko bolj natančno ugotovili, kako proces dozorevanja vpliva na gibalno učinkovitost, vedenje, kognitivne procese mladostnikov in natančneje napovedali telesno zmogljivost v prihodnosti ter bolje prepoznali posameznike, pri katerih obstaja tveganje za škodljive zdravstvene izide. Želimo razviti napovedni model telesne zmogljivosti v prihodnosti, na podlagi sodobnih vzorcev telesne rasti, 24-urnega gibalnega vedenja in kazalnikov telesne zmogljivosti ter ga implementirati v aplikacijo Moj SLOfit.

Metode: Vzorec bo predstavljalo 640 učencev iz ljubljanskih šol obeh spolov, med 7. in 19. letom. Meritve bodo zajemale mesečno merjenje antropometrije in merjenje telesne zmogljivosti 4-krat letno, z uveljavljenim sklopom merskih nalog ŠVK (tek na 60m in 600m, upogibanje trupa, vesa v zgibi, predklon stoje, skok v daljino z mesta, premagovanje ovir nazaj in dotikanje plošč z roko 20 s). Dvakrat letno bomo s pametnimi zapestnicami spremljali 24-urno gibalno vedenje otrok. Kognitivne sposobnosti bomo ocenili enkrat letno, s pomočjo Testa pozornosti d2 in Testa prepoznavanja struktur. Družinsko okolje otrok bo ovrednoteno z veljavnimi merskimi instrumenti. Udeleženci bodo samoporočali o svojem socialno-ekonomskem statusu.

Zaključek: Pridobljeni rezultati bodo prvič zagotovili celovito in podrobno sliko razvoja sedanje generacije mladostnikov. Z longitudinalnim spremljanjem bomo ugotovili, kako pospeševanje rasti vpliva na telesno zmogljivost mladih in ali se poznejši učinki prenašajo na njihovo 24-urno gibalno vedenje ter kakšne so povezave s kognitivnim razvojem.

Ključne besede: puberteta, telesni in gibalni razvoj, telesna zmogljivost, otroci in mladostniki, telesna dejavnost, kognitivni razvoj, antropometrija

Presentation of SLOfit curves project

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Introduction: Human development is accelerated at different points across the lifespan as seen in infancy, through childhood and continuing into early adulthood. An important period of rapid development is adolescence. One of its key features is an accelerated growth rate, the so-called 'adolescent growth spurt'. Simultaneously, intellectual growth spurts also occur around this time, improving concentration and memory. The growth spurt period presents many challenges for a young person, their parents, and teachers, because the challenges young people experience encompass not only the physical changes of the child per se, but also how best to measure and evaluate a child's physical performance, as well as changes in their behavior and cognition, each associated with academic achievement. In recent years, the SLOfit research group of the Faculty of Sport at the University of Ljubljana, in collaboration with the Jožef Stefan Institute, has developed a method of the so-called »Sports Cardboard« using artificial intelligence. The Growth Curve Comparison, which can be seen on the My SLOfit website, allows users to predict height and maturity during puberty. The purpose of the SLOfit curve study is to update this method on a sample of Slovenian adolescents in the 12-year longitudinal study. This will help us more accurately determine how maturation affects adolescent movement performance, behaviour, and cognitive processes, to predict future fitness levels more accurately and hence better identify youth who may be at risk for future adverse health outcomes. Finally, we aim to develop a prediction model which estimates one's future physical fitness based on modern physical growth patterns, 24-hours movement behavior (HMB), and physical performance markers, and incorporate it into the My SLOfit application.

Methods: The sample includes 640 students of both sexes aged 7 to 19 years from schools in the Ljubljana district. Variables measured include standard monthly anthropometric procedures and children's physical fitness measured 4 times per year using established measurement methods (60 and 600-meter run, bent arm hang, stand and reach, standing broad jump, backwards obstacle course, 20-s arm plate tapping). We will monitor 24-HMB in children twice per year using wearable physical activity monitors. The following categories will be recorded: minutes of low, moderate, and vigorous physical activity, number of steps, minutes of sedentary behavior, and minutes of sleep. Children's cognitive abilities will be assessed using the »d2 test of attention« and the »Structure recognition test« once per year. The children's family environment will be evaluated using valid instruments. For socio-economic status assessment, self-report questionnaires will be used.

Conclusions: The results obtained in the proposed project will, for the first time, provide a comprehensive and detailed picture of development in the current generation of adolescents. By monitoring youth longitudinally, this study will unearth how growth accelerations impact physical fitness, and whether subsequent carry-over effects are present in young people's 24-HMB and what are the links with cognitive development.

Keywords: puberty, physical development, physical performance, children and adolescents, physical activity, cognitive development, anthropometry.

Zimski športi z učenci CIRIUS Vipava

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Izhodišča in namen: V CIRIUS Vipava si prizadevamo učencem pomagati, da bi preseгли omejitve zaradi številnih motenj in da bi se kljub šolanju v instituciji za usposabljanje čim več vključevali v širše socialno okolje. Šport ni samo najboljši način za učenje in psihosocialni napredek posameznika, temveč tudi most do inkluzije. Enotedensko bivanje na zasneženih hribih in učenje smučanja je za učence z motnjami v duševnem in gibalnem razvoju še posebno močna motivacija in koristna učna izkušnja.

Predstavitev vsebine: Na učenje pomembno vpliva učenčevo zavedanje o lastnih sposobnostih. Kadar je učenec uspešen na enem področju, se poveča motivacija in posledično lažje usvaja tudi druge vsebine. Naravno in sproščeno okolje, uporaba vseh čutil, različne dejavnosti, ki vključujejo um in telo, vse to vpliva na zadovoljstvo in uspeh učencev. Šola smučanja za osebe z motnjami v duševnem razvoju (MDR) temelji na slovenski šoli smučanja, ki je prilagojena potrebam in zmožnostim posameznikov. V CIRIUS-u Vipava organiziramo šolo smučanja vsako zimo od leta 1991. Vključujemo učence z lažjimi gibalnimi ovirami. Učenje poteka v majhnih skupinah, parih ali celo individualno, vadbo pa izvajajo strokovni delavci CIRIUS-a z licenco Učitelj smučanja. Osebe z MDR običajno potrebujejo daljši čas za usvajanje določenih gibalnih nalog in prilagojene metode in pristope dela. Potrebno je ustvarjati razmere, ki izzovejo zaželeno odzive. Učenje poteka preko igre in uporabe različnih pripomočkov, kot so obroči, palice, metlice, koli, barvne oznake, žogice ipd. Upoštevati je potrebno načelo postopnosti in usvojena znanja dolgo utrjevati. Ne glede na stopnjo znanja smučanja ima vsak posameznik možnost nastopiti na tekmovanju specialne olimpijade. Organizator mora izvesti tekmovanja v disciplinah, za katere so prijavljeni vsaj trije tekmovalci in sicer v disciplinah za različne nivoje sposobnosti in znanj. Uradne smučarske discipline zajemajo hojo na 10 m, drsenje ter slalom in veleslalom na treh težavnostnih nivojih.

Sklepne ugotovitve: Učenje smučanja je za učence z MDR lahko dolgotrajen, tudi večletni proces, ki pa z vztrajnim in dobro načrtovanim delom pripelje do rezultatov. Kate-
ra pot je pri učenju alpskega smučanja najučinkovitejša, je odvisno od vsakega posameznika, njegovih posebnosti, motoričnih sposobnosti, motivacije, stopnje znanja. Mnogi zaradi svojih gibalnih težav usvajajo smučarska znanja zelo počasi. Pogosto ne osvojijo smučarske tehnike v celoti, ampak izoblikujejo individualen način drsenja in smučanja po blagih terenih. Velikokrat pa srečamo osebe z MDR, ki obvladajo nadaljevalne oblike smučanja. Končni cilj učenja smučanja je varno in samostojno gibanje na snegu in uživanje v njem.

Ključne besede: učenci z motnjami v duševnem in gibalnem razvoju, alpsko smučanje, specialna olimpiada, inkluzija.

Winter sports with students from CIRIUS Vipava

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Introduction and purpose: In CIRIUS Vipava, we strive to help students overcome the limitations caused by multiple disorders and to integrate them as much as possible into the wider social environment, despite studying in the institution. Sport is not just the best way for an individual to learn and psychosocially progress but it is also a bridge to inclusion. A week-long stay in the snowy hills and learning to ski is a particularly strong motivation and useful learning experience for students with intellectual and motor disabilities.

Content presentation: Learning is significantly influenced by the child's awareness of their own abilities. When a student is successful in one area, motivation increases and as a result it is easier for them to master other content. A natural and relaxed environment, the use of all the senses, various activities involving the mind and body all affect the satisfaction and success of students. The ski school for people with intellectual disabilities (ID) is based on the Slovenian ski school which is adapted to the needs and abilities of individuals. CIRIUS Vipava has been organizing a ski school every winter since 1991. People with ID usually need a longer time to master certain motor tasks and adapted methods and approaches to work. It is necessary to create conditions that provoke the desired responses. Learning takes place through play and use of various aids such as rings, sticks, colored markers, balls, etc. The principle of graduality must be followed and the acquired knowledge must be repeated for a long time. Regardless of the level of skiing knowledge, each individual has an opportunity to participate in a Special Olympics competition. The organizer must conduct competitions in disciplines for which at least three competitors have applied, namely in disciplines for different levels of ability and knowledge. The official ski disciplines include 10 m walking, skating and slalom and giant slalom on three difficulty levels.

Conclusions: Learning to ski can be a time-consuming process for pupils with ID, it can also be a multi-year process, but with persistent and well-planned work it can lead to good results. The most effective way of learning alpine skiing depends on each individual, their specialties, motor skills, motivation, level of knowledge. Many pupils acquire their skiing skills very slowly due to their motor problems. Often, they do not master skiing techniques completely but form an individual way of skating and skiing on mild terrain. However, we frequently meet people with ID who master advanced forms of skiing. The ultimate goal of learning to ski is safe and independent movement on snow and enjoying in it.

Keywords: students with intellectual and motor disabilities, alpine skiing, Special Olympics, inclusion.

Povezanost indeksa telesne mase z nekaterimi motoričnimi sposobnostmi predšolskih otrok

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Uvod: Indeks telesne mase je sicer grob, a najpogostejši uporabljen kazalnik za ugotavljanje prehranjenosti otrok. Je pokazatelj telesne sestave, le ta lahko med drugim vpliva tudi na motorične sposobnosti, ki so v določeni meri prirojene, so pa zelo odvisne tudi od okolja, v katerem otrok živi. Namen raziskave je bil ugotoviti povezanost indeksa telesne mase (ITM) z eksplozivno močjo nog, ravnotežjem in koordinacijo otrok v predšolskem obdobju.

Metode: V vzorec je bilo vključenih petinsedemdeset 5–6 let starih predšolskih otrok, katerim smo s pomočjo motoričnih testov (skok v daljino z mesta, enonožni poskoki po levi nogi, enonožni poskoki po desni nogi, hoja skozi obroče nazaj, hoja vzvratno po gredi, vrtenje okrog svoje osi, stoja na eni nogi z odprtimi očmi) izmerili nekatere motorične sposobnosti in izračunali ITM. Ta predstavlja razmerje med vrednostjo telesne višine in telesne teže. Vrednost ITM smo skladno z doktrino Svetovne zdravstvene organizacije/WHO (BMI-for-age 5–19 years) razvrstili v tri kategorije: normalna telesna teža (N=54), prekomerna telesna teža (N=5) in debelost (N=16). Za analizo razmerji med ITM in rezultati motoričnih testov eksplozivne moči ter med rezultati motoričnih testov ravnotežja in rezultati motoričnih testov koordinacije smo izračunali Pearsonov koeficient korelacije.

Rezultati: V kategoriji normalna telesna teža pri izračunih motoričnih testov zaznamo med spremenljivkama ITM in rezultati motoričnih testov eksplozivne moči nog negativno neznatno povezanost ($r = -0,059$). Torej se z naraščanjem vrednosti ene spremenljivke (vrednost ITM), vrednosti druge (rezultat motoričnih testov eksplozivne moči nog) zmanjšuje. Negativno neznatno povezanost ($r = -0,013$) zaznamo v tej kategoriji tudi med spremenljivkama ITM in rezultatom motoričnih testov ravnotežja. Šibko povezanost ($r = 0,264$) je moč opaziti med spremenljivkama ITM in rezultatom motoričnih testov koordinacije v kategoriji prekomerna telesna teža. Prav tako v tej kategoriji zaznamo neznatno povezanost med spremenljivkami ITM in rezultatom motoričnih testov eksplozivne moči (nog) ($r = 0,012$) ter med ITM in rezultatom motoričnih testov ravnotežja ($r = 0,045$). V kategoriji debelost med spremenljivkama ITM in rezultatom motoričnih testov ravnotežja obstaja negativna šibka povezanost ($r = -0,21$). Torej se z naraščanjem vrednosti ene spremenljivke (vrednost ITM), vrednost druge spremenljivke (rezultat motoričnih testov ravnotežja) zmanjšuje. Med spremenljivkama ITM in rezultatom motoričnih testov koordinacije je v tej kategoriji zaznana negativna neznatna povezanost ($r = -0,129$).

Razprava in zaključki: Ugotovili smo, da višji kot je ITM, večji je standardni odklon pri rezultatih motoričnih testov tako eksplozivne moči nog, ravnotežja in koordinacije. Otroci z nižjim ITM so tako dosegali boljše rezultate pri motoričnih testih. Med omejenimi spremenljivkami rezultati sicer niso statistično značilni ($p > 0,05$). Iz dobljenih korelacij, ugotavljamo, da bi lahko obstajal določen vpliv indeksa telesne mase na motorične sposobnosti.

Ključne besede: ITM, motorične sposobnosti, predšolski otroci

Relationship of body mass index with some motor abilities of preschool children

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Introduction: The body mass index (BMI) is a rough, but the most commonly used indicator for determining children's nutrition. It is an indicator of body composition, which can also affect motor abilities, which are to some extent innate but are also highly dependent on the environment in which the child lives. The study aimed to determine the relationship between body mass index and explosive leg power, balance, and coordination of children in the preschool period.

Methods: The sample included seventy-five 5–6-year-old preschool children, for whom we measured some motor skills (long jump from the city, one-legged jumps on the left leg, one-legged jumps on the right leg, walking through hoops back, walking backwards on the shaft, rotating around its axis, standing on one leg with open eyes) with the help of motor tests and calculated BMI (body mass index). This represents the ratio between the value of body height and body weight. By the doctrine of the World Health Organization (BMI-for-age 5–19 years), BMI was classified into three categories: normal body weight (N = 54), overweight (N = 5), and obesity (N = 16). To analyze the relationship between BMI and the results of motor tests of explosive power, and between the motor balance tests and the results of motor coordination tests, we calculated the Pearson correlation coefficient.

Results: In the category of normal body weight, in the calculations of motor tests, a negative insignificant correlation was detected between the variables BMI and the results of motor tests of explosive leg power ($r = -0.059$). Thus, as the value of one variable (BMI value) increases, the value of the other (the result of motor tests of the explosive leg power) decreases. A negative insignificant correlation ($r = -0.013$) is also observed in this category between BMI variables and the result of motor balance tests. A weak correlation ($r = 0.264$) can be observed between BMI variables and the result of motor coordination tests in the overweight category. There is also a slight correlation in this category between the variables BMI and the result of motor tests of explosive leg power ($r = 0.012$) and between BMI and the result of motor tests of balance ($r = 0.045$). In the obesity category, there is a negative weak correlation between BMI variables and the result of motor balance tests ($r = -0.21$). Thus, as the value of one variable (BMI) increases, the value of the other variable (the result of motor balance tests) decreases. A negative negligible correlation was detected between the BMI variables and the result of motor coordination tests in this category ($r = -0.129$). We found that the higher the BMI, the greater the standard deviation in the results of motor tests of both explosive leg power, balance, and coordination.

Discussion and conclusions: Children with lower BMIs thus achieved better results in motor tests. Among the mentioned variables, the results are not statistically significant ($p > 0.05$). From the obtained correlations indicated that there could be some influence of BMI and motor abilities.

Keywords: BMI, motor abilities, preschool children

Socioekonomski in starševski dejavniki v povezavi s časom uporabe zaslona pri predšolskih otrocih

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Uvod: V prizadevanjih za zmanjšanje prekomerne telesne mase in debelosti pri otrocih in mladostnikih se uvajajo ukrepi za spodbujanje telesne aktivnosti in zmanjšanja časa preživetega v sedečem položaju. Svetovna zdravstvena organizacija in različne države so določile priporočilo o dnevni telesni aktivnosti pri predšolskih otrocih, ki zajema od 60 do 180 minut zmerne do visoko intenzivne telesne aktivnosti ob hkratnem čim večjem omejevanju časa preživetega v sedečem položaju. Pri predšolskih otrocih je priporočljivo omejiti čas rekreativne uporabe ekranov na 60 minut, pri starejših otrocih pa na 120 minut dnevno. Sedentarno vedenje, še posebej rekreativni čas uporabe zaslona, je prepoznano kot neodvisni dejavnik tveganja za več zdravstvenih stanj in prezgodnje umrljivosti. Objavljenih je bilo več pregledov, ki se osredotočajo na demografske, biološke, okoljske, socialne in psihološke povezave telesne aktivnosti pri mladostnikih. Povezave sedentarnega vedenja še niso bile obsežno raziskane. Hinkley in sodelavci (2010) so prikazali, da so dejavniki, kot so starost, indeks telesne mase, stopnja izobraževanja staršev in rasa imeli nedoločeno povezavo s časom zaslona. Poleg tega v nekaterih raziskavah ni bilo skupnih povezav, ki so vplivale na sedentarno vedenje tako pri fantih kot pri dekletih. Namen te študije je bil določiti socioekonomske in starševske dejavnike, ki so povezani s časom uporabe zaslona pri predšolskih otrocih.

Metode: V študiji je sodelovalo 1944 predšolskih otrok (52,6 % fantov, povprečna starost 5,17 let). Starši so izpolnili vprašalnik o sociodemografskem in sedentarnem vedenju (NPAQ). Skupni dnevni čas uporabe zaslona v minutah je bil merilna spremenljivka, starost otrok in spol, stopnja izobrazbe staršev, zaposlenost, dohodek, stanje telesne mase in telesna aktivnost so bile napovedovalne spremenljivke. Za določitev socioekonomskih in starševskih dejavnikov, povezanih s sedentarnim vedenjem, je bila uporabljena multivariatna regresijska analiza.

Rezultati: Regresijski model je bil statistično značilen ($R = 0,419$, $R^2 = 0,176$, $p < 0,01$). Starost, spol, stopnja izobrazbe matere in dohodek so bili statistično značilni pri stopnji tveganja $p < 0,01$. Omenjeni dejavniki so se izkazali za pomembne povezave sedentarnega vedenja. Starejši otroci in fantje so preživeli več časa pred zaslonom medtem, ko so otroci z bolj izobraženimi materami in tisti z večjim dohodkom, preživeli manj časa pred zaslonom.

Razprava in zaključek: Nedavne raziskave so pokazale podobne rezultate, da je izobrazba napovednik nezdravih prehranskih navad in visokega časa uporabe zaslona pri otrocih. Poleg omenjenega je kategorija z najnižjo izobrazbo matere povezana s povečanim tveganjem za preseganje 120 min uporabe zaslona na dan. Rezultati naše raziskave nakazujejo, da bi lahko otroci z nizko izobrazbo mater veljali za posebno ciljno skupino za intervencije, namenjene povečanju ozaveščenosti o pomembnosti zmanjšanja sedentarnega časa in povečanja telesne aktivnosti pri otrocih.

Ključne besede: sedentarno vedenje, telesna neaktivnost, povezava, mladina

Socioeconomic and parental correlates of screen time in preschool children

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Introduction: In efforts to reduce overweight and obesity in children and adolescents, actions are being made to promote physical activity and reduce sedentary time. World Health Organization and different countries set their recommendation on daily physical activity in preschool children from 60 to 180 minutes of moderate-to-vigorous physical activity, while limiting ST as much as possible. In preschool children it is recommended to limit recreational screen time to 60 minutes, while for older children to 120 minutes daily. Sedentary behavior, especially recreational screen time, is now recognized as an independent risk factor for several health outcomes and premature mortality. Several reviews focusing on demographic, biological, environmental, social, and psychological correlates of physical activity in youth have been published. Correlates of sedentary behavior have not been widely investigated. In Hinkley and associates review (2010) it was found that factors such as age, body mass index, parental education and race had an indeterminate association with screen time. Furthermore, in some research there were no common correlates that influenced sedentary behavior for both boys and girls. Purpose of this study was to determine socioeconomic and parental factors that correlate to recreational screen time in preschool children.

Methods: 1944 preschool children participated in this study (52,6% boys, average age 5,17 years). Parents filled sociodemographic and sedentary behavior questionnaire (NPAQ). Total daily screen time in minutes was criteria variable, while child's age and gender, parental education level, employment, income, weight status and physical activity level were predictor variables. To determine socioeconomic and parental factors related to sedentary behavior a multivariate regression analysis was used.

Results: Regression model was significant ($R= 0,419$, $R^2=0,176$, $p<0.01$). Age, gender, mother's education level and house income were significant at $p<0.01$ and considered significant correlates of sedentary behaviour in the present study. Older children and boys spent more screen time, while less screen time was found in children with more educated mothers and from home with larger house income.

Discussion and Conclusions: Recent research similarly showed that education is a predictor for unhealthy dietary habits and high screen time in children, and that being in the lowest maternal educational category was associated with an increased risk of exceeding screen time of 120 min per day. Our results suggest that children with low educated mothers might be considered a special target group for interventions aiming at rising awareness on importance of reducing sedentary time and increasing physical activity in children.

Keywords: sedentary behavior, physical inactivity, correlation, youth

Plavanje v CIRIUS Vipava – od rekreacije do tekmovanja

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Izhodišča in namen: Plavanje je pomembna življenjska veščina, saj ima gibanje v vodi pozitivne učinke na celo telo. Omogoča vključenost skoraj vseh mišic, je odličen aerobni trening in zaradi navidezne breztežnosti aktivnost brez obremenitev na sklepe in skelet. Plavanje vpliva na dobro počutje, zdravje, fizično kondicijo in ga zato uvrščamo med najbolj zdrave športne aktivnosti. Namen prispevka je predstaviti pomen plavanja za učence s posebnimi potrebami v CIRIUS Vipava. Na naši šoli deluje več interesnih dejavnosti med katerimi je tudi Plavanje.

Predstavitev vsebine: V trening plavanja so vključeni: gibalno ovirani, osebe z motnjami v duševnem razvoju, osebe z avtističnimi motnjami, čustveno vedenjskimi motnjami, osebe z več motnjami, osebe z govorno jezikovnimi motnjami, dolgotrajno bolni otroci in naglušni. Plavanje učencem poleg sprostitve omogoča prosto, nemoteno in samostojno gibanje, posebno učencem z gibalno oviranostjo. Z upoštevanjem njihovih posebnosti, z uporabo pravega pristopa in izbiro ustreznih metod učenja plavanja, zavedanjem postopnosti, upoštevanju zrelosti učenca, učenja elementov tehnik plavanja preko igre, sodelovanja, spodbujanja in tekmovanja v skupini, lahko plavanje iz sprostitvene dejavnosti v vodi preraste v šport in udeležbo na tekmovanju. Učenci se že ob vključitvi v CIRIUS seznanijo z vodo kot medij v terapevtske namene. Prve izkušnje gibanja v vodi in hkrati plavalne izkušnje dobijo ob pomoči terapevtov in učiteljev z znanjem koncepta učenja plavanja po Halliwicku. Preko iger v vodi, vzpostavitve kontrole dihanja, doseganja ravnotežja v vodi, obvladovanja rotacij, dosežejo bazo, ki predstavlja osnovo za učenje specifičnih plavalnih tehnik. Tudi v nadaljnjih fazah učenja plavanja in usvajanja plavalnih tehnik ostaja igra vodilo treningov in pridobivanja plavalnega znanja. Učiteljeva ustvarjalnost, sproščen pristop, domišljija, vzbuja v učencih radovednost in željo po igranju. Po drugi strani pa vodeno igralno učenje z jasnimi cilji in zaporedjem vaj, učenca nevede nauči gibanja v vodi za določeno plavalno tehniko in kondicijsko okrepi.

Sklepne ugotovitve: Z znanjem plavanja, vztrajnostjo in zagnanostjo postane plavanje ne le rekreacija, ampak pravo športno tekmovanje. Plavalec postane tekmovalac. Nekateri plavalci se redno udeležujejo tekmovanj v plavanju za osnovne šole s prilagojenim programom z nižjim izobrazbenim standardom, paraolimpijskih tekmovanj in tekmovanj v okviru gibanja Specialna olimpiada Slovenije, ki je opredeljen kot poseben športni in kulturni program za osebe z zmernimi in težjimi motnjami v duševnem razvoju in drugimi pridruženimi motnjami. Omogoča jim ne le učenje novih spretnosti in doživljanje uspeha, ampak krepi pogum, prijateljstvo, razvija sodelovanje, omogoča občutenje sreče in zadovoljstva ter delitev uspehov s prijatelji, trenerji, drugimi športniki in družinskimi člani.

Ključne besede: plavanje, sprostitve, učenje, tekmovanje, osebe s posebnimi potrebami

Swimming in CIRIUS Vipava – from recreation to competition

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Introduction and purpose: Swimming is an important skill, because movement in water has positive effect on the whole body. It allows the involvement of almost all muscles, is an excellent aerobic workout and, due to its apparent weightlessness it is an activity without straining the joints and skeleton. Swimming has a good effect on mood, health, physical condition and is therefore one of the healthiest sports activities. The purpose of this paper is to present the importance of swimming for students with special needs in CIRIUS Vipava.

Content presentation: There are several interesting activities at our school, including Swimming. Students who participate in swimming training are: people with reduced mobility, people with intellectual disabilities, people with autism, emotional and behavioral disorders, people with multiple disorders, people with speech and language disorders, long-term sick children and the deaf. Swimming allows students to move freely and independently which is great for students with reduced mobility. By considering their specifics, using the right approach and choosing appropriate methods of learning to swim, awareness of gradual learning, consideration of student maturity, learning elements of swimming techniques through play, participation, promotion and group competition, swimming can become a sport and participation in the competition. Upon joining CIRIUS, students become familiar with water as a medium for therapeutic purposes. They get their first experience of movement in water with help of therapists and teachers with knowledge of the concept of learning to swim according to Halliwick. Through games in the water, establishing control of breathing, achieving balance in the water, controlling rotations, they reach the base, which is basis for learning specific swimming techniques. Even in the further stages of learning to swim the game remains a guide for training and acquiring swimming knowledge. The teacher's creativity, relaxed approach, imagination, arouse students' curiosity and desire to play. On the other hand, learning through game with a clear goal and sequence of exercises, unknowingly teaches the student movements in water for a particular swimming technique and strengthens the condition.

Conclusions: With the knowledge of swimming, perseverance and enthusiasm, swimming becomes not only a recreation but a real sports competition. The swimmer becomes a competitor. Some swimmers regularly participate in swimming competitions for primary schools with a customized program, Paralympic competitions and competitions within the Special Olympics Slovenia movement, which is defined as a special sports and cultural program for people with moderate and severe mental disabilities and other additional disorders. It not only enables them to learn new skills and experience success, but also strengthens courage, friendship, develops cooperation, allows for a sense of happiness and satisfaction, and shares success with friends, coaches, other athletes, and family members.

Keywords: swimming, relaxation, learning, competition

Vpliv terapevtske vadbe Žoga bend na otroke s posebnimi potrebami

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Izhodišča in namen: Žoga bend je skupinska terapevtska vadba motoričnih, kognitivnih in perceptivnih spretnosti ob glasbi, ki se je razvila iz vadbe Drums Alive. Pri terapevtski vadbi Žoga bend z namensko izbranim terapevtskim ciljem otroci z bobnarskimi palicami udarjajo po velikih gimnastičnih žogah. Koreografija je vnaprej pripravljena za posamezno glasbeno ali ritmično spremljavo, pri čemer se upoštevajo psihofizične sposobnosti posameznika. Terapevtska vadba Žoga bend otrokom med drugim nudi tudi sprostitvev, druženje, socializacijo, smeh in izražanje samega sebe. S testiranjem sva želeli preveriti ali skupinska terapevtska vadba Žoga bend vpliva na motorične in gibalne spretnosti otrok s posebnimi potrebami.

Predstavitev vsebine: V skupinsko terapevtsko vadbo Žoga bend je vključenih 11 učencev od prvega do petega razreda prilagojenega programa z nižjim izobrazbenim standardom, od katerih je bilo testiranih 9 otrok z različnimi diagnozami. Terapevtska vadba Žoga bend poteka enkrat tedensko po 45 minut, otroci pa so redno vključeni tudi v fizioterapevtsko, delovno terapevtsko in logopedsko obravnavo. Cilj terapevtske vadbe Žoga bend je vzdrževanje in izboljšanje koordinacije, ravnotežja, sinergije mišičnih skupin, gibalnih spretnosti, gibljivosti sklepov, mišične moči, posturalne kontrole, psihofizične vzdržljivosti, percepcije, pozornosti, koncentracije, orientacije v prostoru in delovanja kardiovaskularnega sistema. V šolskem letu 2021/22 smo otroke, ki obiskujejo terapevtsko vadbo Žoga bend, testirali dvakrat; začetnemu testiranju je po treh mesecih vadbe sledilo končno testiranje. Ocenjevalni testi so bili izbrani glede na elemente motoričnih in gibalnih spretnosti, na katere terapevtska vadba Žoga bend vpliva: Test usklajenosti gibanja – koordinacije, Modificirani test funkcijskega dosega sede ali Dosega naprej v predročenu in Meritev gibljivosti sklepov – zgornjih okončin.

Sklepne ugotovitve: Ob končnem testiranju je bil ugotovljen napredek otrok pri koordinaciji, ravnotežju in gibljivosti sklepov zgornjih okončin. Meniva, da tovrstna terapevtska vadba vsekakor pozitivno vpliva na motorične in gibalne spretnosti otrok s posebnimi potrebami. Fizioterapevte vzpodbuja k nadaljnjemu razmišljanju in raziskovanju koristnega vpliva vadbe Žoga bend na telo kot celoto. Priporočava, da bi evalvacije potekale ob začetku in koncu šolskega leta, oziroma ob vidnih spremembah v napredku ali upadu motoričnih in gibalnih spretnosti.

Ključne besede: otroci s posebnimi potrebami, žoga bend, motorično učenje, motorične spretnosti, fizioterapija

Impact of therapeutic workout Žoga bend on children with special needs

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Introduction and purpose: Žoga bend is a group therapeutic workout of motor, cognitive and perceptive skills accompanied by music. It has evolved from Drums Alive Workout. Children attending therapeutic workout Žoga bend beat drums sticks on big gymnastic balls with a purposefully selected therapeutic goal. In addition to the choreography, which is pre-prepared for a particular music or rhythmic accompaniment, the psychophysical abilities of the individual are taken into account as well. Children taking part in therapeutic workout Žoga bend are also offered relaxation, socialising, socialization, laughter and self-expression. By putting the children with special needs to the test, we wanted to check whether group therapeutic workout Žoga bend affects their motor and movement skills.

Content presentation: Therapeutic workout Žoga bend includes 11 pupils that span first through fifth class of the customized educational programme with lower educational standard, 9 of them with various diagnoses were tested. Therapeutic workout Žoga bend takes place once a week for 45 minutes, additionally, children are regularly involved in physiotherapy, occupational therapy and speech therapy. The goal of therapeutic workout Žoga bend is to maintain and improve coordination, balance, synergy of muscle groups, movement skills, joint mobility, muscle strength, postural control, psychophysical endurance, perception, attention, concentration, orientation in the space and cardiovascular function. In 2021/22 school year, children attending the therapeutic workout Žoga bend were tested twice, the initial testing was followed by the final testing after three months of therapeutic workout. The assessment tests were selected according to the elements of motor and mobility skills affected by the therapeutic workout Žoga bend: Motor coordination test, Modified functional reach test or Functional reach test and Measurement of Upper Limb Range of Motion.

Conclusions: The final testing indicates children's progress in coordination, balance and mobility of upper limb joints. We believe that this kind of therapeutic workout certainly has a positive impact on the motor and mobility skills of children with special needs. Physiotherapists are encouraged to further think about and research on the beneficial impact of therapeutic workout Žoga bend on the body as a whole. We recommend evaluations to take place at the beginning and the end of the school year or if visible changes in the progression or decline of motor and mobility skills are detected.

Keywords: children with special needs, Žoga bend, motor learning, motor skills, physiotherapy

Uspešnost tabora »Moj izziv« po 14 dneh in šestih tednih spremljanja

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Uvod: Debelost otrok in mladostnikov je v zadnjih letih dosegla razsežnosti epidemije. V veliki meri vpliva doba modernizacije, saj se družba usmerja k lažanju napora za posameznika. Ob tem svoj delež prispevajo sedentarno vedenje, pomanjkanje spanja in zmanjšana gibalno športna aktivnost. Vse od naštetega lahko pripelje do debelosti, oslabiljenega srčno-presnovnega zdravja, upada stopnje telesne pripravljenosti in pro-socialnega vedenja. Med pandemijo SARS-CoV-2 je bil tako zabeležen nepresenetljiv porast debelosti pri otrocih.

Metode: Vzorec raziskave zajema 11 otrok in mladostnikov iz celotne Slovenije, ki so bili vključeni v dvotedenski program za prekomerno hranjene otroke »Moj izziv«. Stari so bili med 7 in 14 let. Antropometrične meritve smo izvedli z bioimpedančnim analizatorjem Tanita. Za testiranje telesnih sposobnosti smo uporabili naslednje teste: število sklec v 1 min, število sonožnih preskokov kolebnice v 1 min, zadrževanje položaja deske in premagovanje poligona. Za dokazovanje razlik smo uporabili parni t-test. Za vpogled v njihove prehranjevalne navade smo uporabili vprašalnik o prehranjevalnih navadah otrok z orodjem Odprta platforma za klinično prehrano. Ocenili smo tudi spalne navade.

Rezultati: Rezultat analize je pokazal, da je dnevni energijski vnos fantov ($\mu = 8805$ kJ vs. 7590 kJ) in deklet ($\mu = 10290$ kJ vs. 7113 kJ) višji od priporočenih vrednosti. Rezultati antropometričnih meritev pri fantih kažejo na statistično značilno razliko v povprečni vrednosti telesne mase ($\Delta = -3,83$ kg; $t = 12,824$, $p = 0,001$), obsega pasu ($\Delta = -10$ cm; $t = 7,385$, $p = 0,005$), količnika obseg pasu/višina in ITM v prvem opazovanem obdobju, kar se je pokazalo tudi pri dekletih ($\Delta TM = -2,8$ kg; $t = 6,006$, $p = 0,001$, $\Delta OP = -7,9$ cm; $t = 6,228$, $p = 0,001$). Pri testih telesne pripravljenosti so fantje v prvem opazovanem obdobju izboljšali rezultat poligona, v drugem pa rezultat zadrževanja položaja deske, medtem ko so dekleta vidno izboljšala rezultat zadrževanja položaja deske ($\Delta = +29,7$ s; $t = -1,632$, $p = 0,154$) v drugem opazovanem obdobju. Otroci in mladostniki v povprečju navajajo, da na noč spijo več kot 9 ur.

Razprava in zaključki: Antropometrične meritve so pokazale večji napredek v povprečnih rezultatih v prvem opazovanem obdobju. Ne smemo pa zanemariti tendence po napredku tudi v drugem opazovanem obdobju. Pri testih telesne pripravljenosti ni bilo zaznati večjih odstopanj. Pomemben napredek se kaže v pravilnosti izvedbe vaj. Glede na opaženo tendenco po izboljševanju rezultatov, bi bilo definitivno smiselno nadaljevati s testiranjem telesnih sposobnosti, tako bi dobili jasnejši vpogled v uspešnost spopadanja z vpeljevanjem gibalno športne aktivnosti v vsakdan otrok. Sodelujoči otroci in mladostniki na noč spijo zadostno število ur. Cilj je, da pridobljeno znanje iz tabora uporabijo, kot orodje za izboljšanje kvalitete življenja.

Gljučne besede: debelost, energijski vnos, gibalno športna aktivnost

The success of the »My challenge« camp after 14 days and six weeks of follow-up

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Introduction: Child and adolescent obesity has reached epidemic proportions in recent years. It is largely influenced by the age of modernisation as society is moving towards easing the effort for the individual. In addition sedentary behaviour, sleep deprivation and reduced physical activity are all contributing factors. All of these can lead to obesity, impaired cardiorespiratory health, declining fitness levels and prosocial behaviour. So, no wonder a large increase in childhood obesity was recorded during the SARS-CoV-2 pandemic.

Methods: The study sample consisted of 11 children and adolescents from all over Slovenia who were enrolled in a 2-week programme for overweight children »My Challenge«. They were 7 to 14 years old. Anthropometric measurements were performed using a Tanita bioimpedance analyser. The following tests were used to test physical abilities: number of push-ups in 1 min, number of rope jumps in 1 min, holding the plank position and overcoming the polygon. Paired t-test was used to demonstrate differences. To gain insight into their eating habits we used a questionnaire on children's eating habits using the Open Platform for Clinical Nutrition. We also assessed their sedentary and sleeping habits.

Results: The analysis showed that the daily energy intake of boys ($\mu = 8805$ kJ vs. 7590 kJ) and girls ($\mu = 10290$ kJ vs. 7113 kJ) is higher than the recommended values. The results of the anthropometric measurements in boys show a statistically significant difference in the mean value of body weight ($\Delta = -3,83$ kg; $t = 12,824$, $p = 0,001$), waist circumference ($\Delta = -10$ cm; $t = 7,385$, $p = 0,005$) as well as in girls ($\Delta BW = -2,8$ kg; $t = 6,006$, $p = 0,001$, $\Delta WC = -7,9$ cm; $t = 6,228$, $p = 0,001$), waist circumference/height ratio and BMI during the first observation period. In the fitness tests boys improved their polygon score in the first observation period and their plank hold score ($\Delta = +29,7$ s; $t = -1,632$, $p = 0,154$) in the second observation period. Girls showed a significant improvement in the plank hold score in the second observation period. Children and adolescents sleep more than 9 hours per night.

Discussion and conclusion: Anthropometric measurements showed a greater improvement in average scores during the first observation period. However, the tendency for progress in the second observation period should not be ignored. No significant deviations were observed in the physical fitness tests. Significant progress is shown in the correct execution of the exercises. In view of the observed tendency for improvement in the results it would definitely make sense to continue with the physical fitness tests. This would give a clearer picture of how well children are coping with the introduction of physical activities into their daily lives. Children and adolescents also get enough sleep daily. The aim is to use the knowledge gained at the camp as a tool to improve their quality of life.

Keywords: obesity, energy intake, physical activity

Vpliv mišične bolečine in penastega valjanja na pasivno togost in gibljivost zadnjih stegenskih mišic

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Uvod: Intenzivna vadba pogosto vodi v pojav zakasnjene mišične bolečine. Kljub pomanjkanju znanstvenih dokazov se predpostavlja, da je mišična bolečina povezana s povišano togostjo mišic. Z vadbo povzročena mišična bolečina ima lahko negativen vpliv na prihajajoče treninge. V kliničnem okolju so zaželeno intervencije, s katerimi bi izboljšali zmogljivost ob prisotnosti mišične bolečine. Namen raziskave je bil a) ugotoviti spremembe v togosti zadnjih stegenskih mišic in gibljivosti kolka v povezavi z mišično bolečino in b) ugotoviti, ali dodajanje penastega valjanja aerobnemu ogrevanju prispeva k zmanjševanju omenjenih sprememb lastnosti zadnjih stegenskih mišic.

Metode: Opravili smo eksperimentalno raziskavo na 14 preiskovancih (7 moških, 7 žensk), v kateri je pri posameznem preiskovancu ena noga služila kot intervencijska in druga kot kontrolna. Dominantnost noge in vrstni red meritev smo nasprotno uravnotežili s pomočjo metode latinskih kvadratov. Meritve togosti dolge glave m. biceps femoris in pasivnega obsega upogiba kolka smo izvedli na treh obiskih (začetni obisk, 24 in 48 ur po ekscentrični vadbi). Na prvem obisku (po začetnih meritvah) so preiskovanci opravili ekscentrično vadbo, ki je zajemala tri serije maksimalnih ekscentričnih iztegov kolena in nordijske vaje. Na začetku drugega in tretjega obiska so preiskovanci opravili aerobno ogrevanje na cikloergometru. Poleg tega je bila intervencijska noga deležna samomasaže s penastim valjem, ki je skupno trajala dve minuti. Opravili smo analizo variance za ponovljene meritve, pri čemer nas je zanimal učinek časa, skupine in interakcije.

Rezultati: Naši rezultati so pokazali značilen učinek časa za pasivno gibljivost ($p < 0,001$, $\eta^2 = 0,42$), medtem ko učinek časa ni bil značilen za pasivno togost dolge glave m. biceps femoris ($p = 0,09$, $\eta^2 = 0,09$). Nismo ugotovili značilnega učinka skupine ali interakcije za pasivno togost (skupina: $p = 0,76$, $\eta^2 < 0,01$; interakcija: $p = 0,74$, $\eta^2 = 0,01$) in pasivno gibljivost (skupina: $p = 0,89$, $\eta^2 < 0,01$; interakcija: $p = 0,78$, $\eta^2 = 0,01$).

Razprava in zaključki: Naše ugotovitve kažejo, da je togost dolge glave m. biceps femoris kljub prisotnosti mišične bolečine in izrazitemu upadu pasivne gibljivosti ostala nespremenjena. Slednje nakazuje, da subjektivno poročan občutek togosti ne sovpada z dejansko togostjo mišice. Poleg tega, se je izkazalo, da dodajanje penastega valjanja aerobnemu ogrevanju nima dodatnega učinka na togost mišic in pasivno gibljivost kolka ob prisotni mišični bolečini.

Ključne besede: mišična poškodba, miofascialno sproščanje, elastografija, m. biceps femoris, obseg giba

Effects of muscle soreness and foam rolling on hamstring stiffness and flexibility

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Introduction: Strenuous exercise often leads to the occurrence of delayed onset of muscle soreness. Although research is lacking, it is postulated that muscle soreness is associated with increased muscle stiffness. Moreover, exercise-induced muscle soreness can have a negative impact on upcoming training. Therefore, in clinical settings interventions that improve performance in the presence of muscle soreness are warranted. The aim of this study was to a) assess changes of hamstring muscle stiffness and flexibility associated with exercise-induced muscle soreness and b) establish whether adding foam rolling to an aerobic warm-up could ameliorate the aforementioned changes of hamstring properties.

Methods: We conducted a within-subject randomized controlled trial on 14 participants (7 males, 7 females), with one leg serving as the intervention and one as the control. Leg dominance and order of measurements were counterbalanced using the Latin square method. Measurements of biceps femoris long head passive stiffness and passive hip flexion range of motion were performed on three occasions (at baseline, 24 hours and 48 hours post eccentric training). During the first visit (following baseline measurements) participants completed an eccentric training protocol which comprised three sets of maximal eccentric knee extensions on an isokinetic dynamometer and Nordic hamstring exercise. At the beginning of the two follow-up visits participants engaged in an aerobic warm-up on a cycloergometer. Additionally, the intervention leg was foam rolled for a total of two minutes. We performed a repeated measures analysis of variance to check for time, group and interaction effects.

Results: Our results revealed a significant time effect for passive hamstring flexibility ($p < 0.001$, $\eta^2 = 0.42$), but not for biceps femoris long head passive stiffness ($p = 0.09$, $\eta^2 = 0.09$). Group and interaction effects were not significant neither for passive stiffness (group: $p = 0.76$, $\eta^2 < 0.01$; interaction: $p = 0.74$, $\eta^2 = 0.01$) nor for passive flexibility (group: $p = 0.89$, $\eta^2 < 0.01$; interaction: $p = 0.78$, $\eta^2 = 0.01$).

Discussion and conclusions: Our findings indicate that despite the presence of muscle soreness and large reductions in hamstring flexibility, passive stiffness of biceps femoris long head remained unchanged. This implicates that a subjective reported feeling of tightness does not coincide with actual muscle stiffness. Furthermore, it seems that adding foam rolling to warm-up does not affect biceps femoris muscle stiffness and passive hamstring flexibility in the presence of exercise-induced muscle soreness.

Keywords: muscle damage, self-myofascial release, elastography, m. biceps femoris, range of motion

Sekcija/Section
IKT rešitve in storitve za zdravje otrok
in mladostnikov
ICT solutions and services for children
and youth's health

Učenje temeljnih postopkov oživljanja odrasle osebe skozi igro pri predšolskih otrocih: Pregled literature

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Uvod: Nenadni srčni zastoj izven bolnišnice je globalni javnozdravstveni problem, ki ga vsako leto doživi približno 3,8 milijona ljudi na svetovni ravni. Najpogosteje se nenadni srčni zastoji izven bolnišnice zgodijo v domačem okolju, na delovnem mestu ali javnih mestih. Od leta 2015 Svetovna zdravstvena organizacija priznava projekt »Kids save lives« kot ključni projekt za promocijo konceptov kardiopulmonalnega oživljanja med otroci. V projektu je predlagano učenje temeljnih postopkov oživljanja (TPO) odrasle osebe pri otrocih, starih 12 let in več, en krat letno po dve uri. Pojavljajo pa se tudi dokazi o pozitivnih rezultatih že pri vrtčevskih otrocih, starih med 3 in 6 let. Za učenje TPO odrasle osebe se v večini uporabljajo komercialno dosegljive in cenovno dostopne simulacijske lutke. Otroci se ne bi smeli učiti vsebin iz TPO odrasle osebe na enak način kot odrasli, zato je potrebno učno gradivo posebej oblikovati in prilagoditi. Namen prispevka je prikazati izobraževalne pristope (npr. učenje skozi igro), ki se uporabljajo za posredovanje vsebin iz TPO odrasle osebe predšolskim otrokom.

Metode: V mesecu maju 2022 smo izvedli preliminarni pregled literature v iskalniku Google Scholar in v tuji podatkovni bazi PubMed/Medline. Z angleškimi ključnimi besedami »cardiopulmonary resuscitation«, »basic life support«, »kindergarten«, »primary school«, »schoolchildren« in »pupils« smo v končno analizo s pomočjo PRISMA diagrama vključili raziskave, ki so predšolske otroke, stare do 8 let, učile TPO odrasle osebe ter izključili raziskave, ki so predšolske otroke učile ostalih vsebin prve pomoči (npr. Heimlichov maneuver).

Rezultati: Na podlagi iskalnega niza smo dobili 321 zadetkov, s sekundarnim. oz. ročnim iskanjem pa dodatna 2 zadetka. V končno analizo smo vključili 5 raziskav (5/323; 1,5 %). Identificirane raziskave so bile izvedene v dveh državah, in sicer v Španiji (4/5; 80 %) in Koreji (1/5; 20 %), med leti 2015 in 2021. Predšolski otroci v raziskavah so bili stari med 5 in 8 let. Tri raziskave so uporabljale izobraževalne pristope za posredovanje vsebin iz TPO odrasle osebe v obliki igrač (plišasti medvedek, kocka in knjižica), ena raziskava je uporabljala kombinacijo igrač (otroške lutke) in odraslo osebo, preostala raziskava pa je uporabljala simulacijsko lutko z nizko stopnjo resničnosti podjetja BT Sherpa Manikin.

Razprava in zaključki: Raziskave so pokazale, da ima učenje skozi igro pomembnejšo vlogo kot komercialno dostopne simulacijske lutke pri posredovanju vsebin iz TPO odrasle osebe, saj se lahko otroci skozi ustvarjalno igro učijo in hkrati usvajajo nova znanja. Učenje otrok vsebin iz TPO odrasle osebe skozi igro tako povečuje njihov razvoj razumevanja korakov, ki so potrebni za reševanje nujnih primerov, kot je nenadni srčni zastoj, ter zmanjšuje njihov strah pred nudenjem pomoči. Študije prikazujejo, da je za smiselnost učenja določenih korakov (npr. stisi prsnega koša) TPO odrasle osebe nujno potrebno uvesti prilagojene izobraževalne pristope za posredovanje vsebin iz TPO odrasle osebe, tako za predšolske kot tudi šolske otroke, ter upoštevati njihove antropometrične predispozicije, kot sta starost in indeks telesne mase.

Ključne besede: temeljni postopki oživljanja, igra, predšolski otroci

Invited lecture

Teaching basic life support through play to pre-school children: a literature review

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Introduction: Out-of-hospital cardiac arrest (OHCA) is a global public health problem, affecting an estimated 3.8 million people worldwide every year. Most often, OHCA occur at home, at work, or in public places. Since 2015, the World Health Organisation has recognised the »Kids save lives« project as a key incentive to promote adult basic life support (BLS) among children. The project recommends that adult BLS should be taught to children aged 12 years and older once a year for two hours. There is also emerging evidence of positive results already in the pre-school phase for kindergarten children aged between 3 and 6 years. Most commercially available and affordable simulation manikins are used to teach BLS to adults. Children should not learn BLS in the same way as adults, therefore learning materials need to be tailored specially to their needs. This contribution aims to present educational approaches (e.g., teaching through play) used to deliver adult BLS to pre-school children.

Methods: A preliminary literature review was carried out in May 2022 in Google Scholar and the PubMed/Medline database. Using the English keywords »cardiopulmonary resuscitation«, »basic life support«, »kindergarten«, »primary school«, »school children« and »pupils«, studies that taught adult BLS to preschool children up to 8 years of age were included into the final analysis using the PRISMA diagram, while studies that taught other first-aid content (e.g., Heimlichov maneuver) to preschool children were excluded.

Results: The search string yielded 321 hits, and the secondary, i.e., manual search, yielded an additional 2 results. We included 5 studies (5/323; 1.5%) in the final analysis. The identified studies were conducted in 2 countries, namely Spain (4/5; 80%) and Korea (1/5; 20%), between 2015 and 2021. Preschool children in the studies were 5 to 8 years old. Three studies used educational approaches to deliver content from adult BLS in the form of toys (teddy bear, cube, and booklet), one used a combination of toys (baby dolls) and an adult, and the remaining study used a low-reality simulation manikin from the company BT Sherpa Manikin.

Discussion and conclusion: Studies have shown that teaching through play is more important than commercially available simulation manikins in delivering adult BLS, as children learn through creative play and acquire new skills at the same time. Teaching children adult BLS through play increases their development of understanding of the steps needed to deal with emergencies such as sudden cardiac arrest and reduces their fear of helping others. Studies show that to make it meaningful to teach certain steps (e.g., chest compressions) of adult basic life support, it is necessary to introduce tailored educational approaches to deliver adult BLS to preschool and school children, and to consider their anthropometric predispositions, such as age and body mass index.

Keywords: basic life support, game, pre-school children

Ocena prehranskega vnosa s pomočjo digitalnih fotografij

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Izhodišča in namen: Natančna ocena prehranskega vnosa z uporabo tradicionalnih metod beleženja (prehranski dnevnik na papirju, 24 h recall) je velik izziv, saj ljudje velikokrat napačno poročajo o vrsti in količini zaužite hrane, bodisi zaradi tega ker ne zapisujejo takoj, ne zapišejo vsega kar so zaužili, napačne ocene količine/velikosti, obremenitve s tehtanjem itd. Uporaba ocene prehranskega vnosa na podlagi poslanih fotografij iz mobilnih naprav, ki jih imamo danes ves čas pri roki, se kaže kot možen nov pristop pri prehranskih obravnavah, ki lahko zmanjša zgoraj naštetih napake. Do danes sta bila raziskana dva pristopa uporabe slik za oceno prehranskega vnosa: aktivni pristop ter pasivni pristop. Pasivni pristop se uporablja predvsem z namenom lažjega priklica živil ob uporabi tradicionalnih metod beleženja in rezultati študij kažejo, da je preračunan energijski vnos ob souporabi slik višji. Aktivni pristop pa lahko poleg ocene prehranskega vnosa služi tudi kot pripomoček pri spreminjanju prehranskih navad.

Predstavitev vsebine: Elektronska ocena prehranskega vnosa na podlagi pošiljanja slik podpira prej nedosegljive metodologije ocenjevanja vnosa, kot je ocena prehranskega vnosa v realnem času, takojšnje razjasnitev nejasnosti vnosa itd. Ena izmed uporabljenih, zanesljivih in validiranih metod je »Snap and send«. Ta temelji na treh korakih: fotografiranje obroka, pošiljanje slike z opisom preko aplikacije za sporazumevanje (npr. Messenger) ter preračun vnosa s strani dietetika. Vendar pri tem velja poudariti, da izračun temelji na natančnosti ocene velikosti porcije na podlagi slike. Rezultati nekaterih študij navajajo, da je manj kot tretjina usposobljenih dietetikov zmožna natančne ocene na podlagi slik, zato je zelo pomembno, da fotografiranje poteka na površini poznane velikosti npr. A4 list, pogrinjek, kjer je velikost lažje primerljiva, ter da stranka pod fotografijo priloži še besedni opis obroka. Postopek pregleda slik zahteva usposobljene osebe, ki imajo znanje s področja prehrane in le tako lahko posnete slike obrokov in morebitnih ostankov hrane zagotavljajo objektivne informacije, ki pomagajo pri oceni prehranskega vnosa. Po drugi strani obstajajo danes že avtomatizirani sistemi, ki samodejno prepoznavajo velikost porcije in hrano, vendar so ti zaradi kompleksnosti živil in obrokov zelo nezanesljivi. Opisano metodo lahko izkoristimo tudi za izobraževanje. Študije nam kažejo, da uporaba metode z namenom izobraževanja o prehrani daje boljše rezultate kot tradicionalne metode, saj lahko stranke poučujemo v realnem času, ko potrebujejo pomoč npr. že pri nakupu živila, odmerjanju porcije, umestitvi živila v dnevni ritem.

Sklepne ugotovitve: Uporaba klasičnega vodenja prehranskega dnevnika z zapisi je sicer še vedno zelo uporabna metoda, vendar študije kažejo, da je natančnost metode pri mladih, ki obvladajo sodobno telekomunikacijsko tehnologijo boljša ob uporabi posnetih fotografij, ki jih pregleda ustrezno usposobljena oseba.

Ključne besede: analiza fotografije, prehranski vnos, telefon, prehrana

Image assisted dietary assessment

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Introduction and purpose: Accurately estimating food intake using traditional recording methods (food diary, 24-hour recall) is challenging because people often misreport the type and amount of food consumed, either because they do not write it down right away, do not write down everything they ate, misestimate the amount/size, weigh loads, etc. The use of nutritional intake estimates based on sent photos from mobile devices is emerging as a potential new approach to nutritional treatments that can reduce the above-mentioned problems. To date, two approaches to using images to assess dietary intake have been studied: the active approach and the passive approach. The passive approach is mainly used to facilitate food intake using conventional recording methods. The results of the studies show that the recalculated energy intake is higher when image-assisted method is used. In addition to assessing food intake, an active approach can also serve as an aid in changing eating habits.

Content presentation: Electronic dietary intake assessment supports previously unachievable assessment methodologies, such as real-time food intake assessment, instant clarification of food intake uncertainties, and so on. One of the useful, reliable and validated methods is »snap and send«. It is based on three steps: taking picture of a meal, sending the picture with a description via a communication application (e.g. Messenger), and recalculation of the record by a nutritionist. However, it should be noted that the calculation is based on the accuracy of the portion size estimate based on the image. The results of some studies indicate that less than one-third of trained dietitians are able to make accurate estimates based on images. Therefore, it is very important that the image is taken on a surface of known size, such as an A4 sheet or a placemat, where the sizes are easier to compare, and that the client includes a description of the meal below the image. The process of image evaluation requires trained individuals with nutritional knowledge. Only then can the captured images of meals and possible food remnants provide objective information to evaluate food intake. On the other hand, advanced systems exist that enable automatic food recognition, portion size estimation, and nutrient content estimation, but they are very unreliable due to the complexity of food and meals. The described method can also be used in education. Studies show us that its use in nutrition education leads to better results compared to traditional methods, because we can teach clients in real time when they need help, e.g. already when buying food, dosing a portion, or introducing food into a daily rhythm.

Conclusions: The use of a classic food diary is still a very useful method, but studies show that the accuracy of the method is better in young people who have mastered modern information and communication technology using photographs examined by a suitably qualified person.

Keywords: image analysis, nutrition assessment, nutrition, mobilphone

Mobilna izobraževalna aplikacija za mlade WASABY – za zmanjševanje ogroženosti z rakom

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Izhodišča in namen. Zveza slovenskih društev za boj proti raku (Zveza) skrbi, da v naši družbi ne bi nihče zbolel ali umrl za rakom zaradi lastne nevednosti ali zaradi brezbriznosti države, in pri tem uporablja pripomoček - Evropski kodeks proti raku (Kodeks). Kodeks vsebuje 12 nasvetov, kako lahko posameznik z upoštevanjem enostavnih, na dokazih temelječih priporočil, pomembno poskrbi za svoje zdravje in zmanjša tveganje, da bo zbolel ali umrl zaradi raka. Mednarodna agencija za raziskovanje raka pri Svetovni zdravstveni organizaciji ocenjuje, da lahko z upoštevanjem teh 12 enostavnih priporočil Kodeksa preprečimo okrog 40 % vseh novih primerov raka in okrog polovico vseh smrti zaradi raka. Z nasveti za zdravo življenje brez raka moramo začeti čimbolj zgodaj, v otroštvu ali vsaj v mladostništvu. WASABY je izobraževalna mobilna aplikacija, ki mladim pomaga razumeti sporočila Evropskega kodeksa proti raku in se odločati za zdrave izbire.

Predstavitev vsebine. WASABY je aplikacija za mobilne naprave, ki jo je razvila Evropska liga za boj proti raku, prek katere najstniki na zabaven in interaktiven način spoznajo nasvete za zdravo življenje brez raka. Zasnovana je po načelu intervalnega učenja z igrifikacijo. Aplikacija ima 10 interaktivnih izobraževalnih modulov o možnostih preprečevanja raka. Vsak modul vsebuje video posnetke, praktične nasvete in interaktivne kvize. Ciljna skupina so mladostniki od 14 do 19 let. Ključna značilnost aplikacije WASABY je možnost, da uporabniki delijo svoj napredek in rezultate kvizov s svojimi prijatelji in drugimi igralci ter tako ustvarijo mednarodno lestvico najboljših učencev v Evropi. Na koncu vsakega uspešno opravljenega modula osvojijo nagradno značko. Vse naštete funkcionalnosti spodbujajo tekmovalnega duha, občutek uspešnosti in večkratno uporabo aplikacije. WASABY je prvo orodje te vrste učenja z igrifikacijo na zdravstvenem področju.

Sklepne ugotovitve. V evropskem prostoru si Evropska liga za boj proti raku, katere polnopravna članica je tudi slovenska Zveza, prizadeva, da bi Kodeks dosegel čimveč ljudi, torej da bi bila večina prebivalcev seznanjena o tem, kako si lahko zmanjšajo tveganje za raka. Prepoznavnost 12 priporočil naslavlja tudi Evropski načrt za obvladovanja raka (Europe's Beating Cancer Plan), ki je bil lansiran v letu 2021; eden izmed ciljev tega načrta je tudi, da bi z osveščanjem o 12 priporočilih do leta 2025 dosegli kar 80 % populacije. K vsem tem uresničitvam lahko veliko pripomorejo mladi tako z vrstniškimi spodbudami kot medgeneracijskim osveščanjem.

Ključne besede: mladostniki, rak, zdravje, mobilni telefon, igrifikacija, WASABY

Mobile educational application for the youth WASABY – decreasing the cancer risk

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Introduction and purpose. Association of Slovenian Cancer Societies (Association) aims to help building a society where nobody would get diagnosed with cancer or die of cancer because of his own ignorance or indifference of the national policy. European Code Against Cancer (The Code) is being used by the Association to disseminate the messages of cancer prevention. The Code aims to inform people about actions they can take for themselves or their families to reduce their risk of cancer. Leading cancer scientists from across Europe compiled The Code based on the latest scientific evidence on cancer prevention, coming up with twelve recommendations that most people can follow without any special skills or advice. World Health Organization's International Agency for Research on Cancer estimates, that more than 40% of all cancer cases and almost 50% of cancer deaths can be prevented following those recommendations. Promotion of healthy lifestyle should be educated already in childhood and in youth. WASABY is an educational app helping young people learn the messages within The Code and informing them about the importance of healthy lifestyle choices for cancer prevention.

Content presentation. WASABY is a mobile application developed by the Association of European Cancer Leagues (ECL) to help teenagers learn about The Code in a fun and interactive way. The app specifically targets young people aged 14 to 19 and is using spaced-repetition with gamification to enhance learning. The app is made up of 10 interactive modules, busting common cancer prevention myths. Each module contains videos, practical recommendations and interactive quizzes. A key feature of the WASABY app is the possibility for users to share their progress and quizzes results with their friends and other players, thus creating an international ranking list of 'top learners' around Europe. In addition, reward badges are unlocked at the end of each module. These features stimulate a competitive spirit, a sense of accomplishment and the repeated use of the app. WASABY represents the first digital tool in tackling non-communicable diseases.

Conclusions. In Europe, the ECL organisation (Slovenian Association being full member of the ECL) targets to reach as many people as possible with the messages of The Code, how to reduce individual cancer risk. Europe's Beating Cancer Plan, launched in 2021, addresses The Code, too, with the goal towards 80% awareness of the The Code in 2025. To achieve this ambitious milestone, every intervention of the youth with peer and intergenerational encouragement for cancer prevention is important.

Keywords: the youth, cancer, health, mobile phone, gamification, WASABY

COMFOCUS: evropska iniciativa za razvoj infrastrukture v podporo znanosti potrošništva na področju

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Izhodišča in namen: V evropskem prostoru se je v zadnjih letih oblikovalo več različnih raziskovalnih infrastruktur, preko katerih se združujejo domenski strokovnjaki in oblikujejo zbirke odprtih podatkov ter storitev in orodij za upravljanje s tovrstnimi podatki. COMFOCUS je evropski projekt iz programa Obzorij 2020 (COMFOCUS, 2022), katerega namen je oblikovati tovrstno infrastrukturo v podporo znanosti potrošništva na področju živilstva in prehrane (angl. Food consumer science). Koordinator projekta je Univerza z Wageningnu iz Nizozemske, Institut »Jožef Stefan« sodeluje kot partner projektne konzorcija 20 evropskih institucij. V projektu razvijamo platformo znanja (angl. Knowledge platform), preko katere bodo raziskovalci in ostali deležniki (npr. živilska industrija, odločevalci ipd.) dostopali do podatkov, orodij, različnih informacij (npr. o standardih za pripravo raziskovalnih podatkov) itd. Trenutno se oblikuje ontologija, ki formalno opisuje znanje s koncepti iz domene znanosti potrošništva ter relacijami med temi koncepti. Ontologija je ključna pri računalniško podprtem povezovanju raznovrstnih podatkov iz različnih domen, na osnovi česar je možno poiskati odgovore na kompleksna raziskovalna vprašanja.

Predstavitev vsebine: Pripravljen je standard za poenoteno zbiranje podatkov ključnih za razvoj znanosti potrošništva na področju živilstva in prehrane. V kratkem bo razpisan klic za zbiranje podatkov v skladu s tem standardom, kar bo omogočilo pridobitev ključnih podatkov. Z uporabo naprednih računalniških metod (npr. umetne inteligence) in orodij razvitih v projektu COMFOCUS bomo zbrane podatke analizirali in poskusili odgovoriti na zahtevna vprašanja.

Sklepne ugotovitve: Bližajoči se klic za zbiranje podatkov je lepa priložnost tudi za slovensko raziskovalno skupnost, ki deluje na področju živilstva in prehrane tako otrok in mladostnikov kot tudi drugih skupin prebivalstva. Ker bodo ti podatki usklajeni z ontologijo, bo njihovo povezovanje s podatki iz drugih domen (recimo z zdravstvenimi podatki), relativno enostavno, predvsem pa izvedljivo z uporabo računalniških metod. V prispevku bomo predstavili osnovne pojme, kot so npr. koncepti, terminologija, ontologija ipd., ki so ključni za razumevanje problematike. Namreč pri razvoju podporne tehnologije je ključno sodelovanje strokovnjakov računalništva in domenskih strokovnjakov, kar pa zahteva vzpostavitev 'skupnega jezika' in predvsem tesno sodelovanje. Bioinformatika je zgledna domena, kjer se je vzpostavilo tovrstno sodelovanje med strokovnjaki iz področij zdravstva, informatike in naravoslovja, čemur smo začeli slediti tudi na področjih živilstva in prehrane.

Ključne besede: odprti podatki, znanost potrošništva, povezljivost podatkov

COMFOCUS: European Initiative for Infrastructure Development in Support of Consumer Science in Food and Nutrition

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Introduction and purpose: In recent years, several different research infrastructures have been set up in Europe, bringing together domain experts to create databases of open data and services and tools for managing such data. COMFOCUS is a European project from Horizon 2020 (COMFOCUS, 2022), which aims to create such an infrastructure in support of food consumer science. The project coordinator is the University of Wageningen in the Netherlands, and the Jožef Stefan Institute is cooperating as a partner in a project consortium of 20 European institutions. In the project, we are developing a knowledge platform through which researchers and other stakeholders (e.g., food industry, policy makers, etc.) will access data, tools, various information (for instance, on standards for the preparation of research data), etc. An ontology is currently being developed that formally describes knowledge with concepts from the domain of consumer science and the relations between these concepts. Ontology is crucial in the computer-assisted integration of heterogeneous data from different domains, on the basis of which it is possible to find answers to complex research questions.

Content presentation: A standard for the unified collection of data crucial for the development of consumer science in the field of food and nutrition has been prepared. An open call for data collection in accordance with this standard will be launched shortly, which will enable the acquisition of key data. Using advanced computer methods (e.g., artificial intelligence) and tools developed in the COMFOCUS project, we will analyze the collected data and try to answer complex questions.

Conclusions: The upcoming open call for data collection is also a good opportunity for the Slovenian research community, which works in the field of food and nutrition for children and adolescents as well as other groups of the population. Because this data will be aligned with the ontology, linking it to data from other domains (e.g., health data) will be relatively easy, but above all feasible, using computer methods. In this paper, we will present basic concepts such as concepts, terminology, ontology, etc., which are key to understanding the issue. Namely, the cooperation of computer experts and domain experts is crucial in the development of assistive technology, which requires the establishment of a 'common language' and, above all, close cooperation. Bioinformatics is an exemplary domain, where such cooperation has been established between experts in the fields of health, informatics and natural sciences, which we have also started to follow in the fields of food and nutrition.

Keywords: open data, consumer science, data interoperability

Pregled informacijsko komunikacijskih tehnologij in njihov pomen pri vodenju prehranskega vnosa

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Uvod: V Sloveniji se kar 113.563 oseb starih od 16 do 24 let poslužuje informacijsko komunikacijskih tehnologij za izboljšanje svojega zdravja. Uporaba omenjene tehnologije predstavlja lepo priložnost za nove načine izvajanja prehranskih intervencij v populaciji mladostnikov s pomočjo raznih aplikacij. Na voljo so številne aplikacije, vendar končnim uporabnikom ni znano, katere od njih so dejansko primerne za uporabo.

Metode: Izveden je bil pregled in testiranje obstoječih prehranskih aplikacij, kjer smo primerjali: skladnost z referenčnimi vrednostmi za energijski vnos in vnos hranil ter prikaz le-teh, možnost vnosa, vnos živil in enote, podrobnosti sestave živil, funkcionalnosti v osnovni in plačljivi različici aplikacij.

Rezultati: Aplikacije za enako vnesene podatke podajo različne izračune prehranskih vnosov. Največje odstopanje med obroki je bilo pri kosilu, kjer so znotraj referenčnega območja 90 % in 110 % le tri aplikacije. Pri celodnevem energijskem vnosu so pod referenčno mejo 90 % štiri aplikacije. Pri celodnevih vnosih za: ogljikove hidrate – sta pod referenčno mejo dve aplikaciji; beljakovine – devet aplikacij nad 110 % referenčne vrednosti, ena pod 90 % ter le dve sta bili znotraj referenčnih vrednosti; maščobe – vse aplikacije, z izjemo dveh so pod referenčno mejo. Pregledali smo tudi funkcije, ki skrajšajo čas izpolnjevanja prehranskega dnevnika, s čimer je uporaba aplikacije še lažja in privlačnejša.

Razprava in zaključki: Omenjena odstopanja lahko povzročajo pri uporabnikih zmedo, zato je potrebno uporabnike, še posebej mladostnike, ustrezno usmeriti k uporabi preverjenih aplikacij. Obstajajo različni razlogi za uporabo ali neuporabo prehranskih aplikacij. Poleg tega ne obstaja poenoten pristop, ki bi ustrezal vsem uporabnikom za dolgotrajno uporabo. Potrebna je prilagoditev prehranskih aplikacij glede na ciljne skupine uporabnikov. Od situacije in konteksta je odvisno, ali bo njihova uporaba povzročila fiziološko pomembne učinke ter klinično pomembne izboljšave zdravja. Z vidika javnega zdravstva pa so že majhne spremembe na populaciji mladostnikov zelo pomembne.

Gljučne besede: mladostniki, e-zdravje, m-zdravje, prehranske aplikacije, prehranski dnevnik

Review of information and communication technologies and their importance in nutritional management

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Introduction: In Slovenia, 113,563 people in the age group of 16 to 24 years use information and communication technology for health purposes. The use of this technology provides a good opportunity to conduct nutrition interventions in the adolescent population using various apps. While there are a number of apps available, it is not yet known which ones are actually appropriate. *Methods:* A review and test of 12 apps was conducted in which we compared: adherence to recommended energy and nutrient intake, the ability to enter various dietary intake parameters with the corresponding units and nutrient composition. In addition, the functions of the basic and paid versions of the apps were also compared.

Results: The apps provided different food intake calculations for the same entered data. The greatest variation between meals was for lunch, where only three apps were within the reference range. For total energy intake, there were four apps below the reference range. For all-day intake of: carbohydrates – two apps are below the reference range; protein – nine apps above, one was below and only two were within the reference range; fat – all apps (except two) were below the reference range. We reviewed features that reduce the time required to complete the food diary and make it even easier and more attractive to use.

Discussion and conclusions: These discrepancies may cause confusion among users. Hence, users, especially adolescents, should be encouraged to use verified apps. There are several reasons for (non) use of nutrition apps. In addition, there is no single approach that is suitable for long-term use for all users. Nutrition apps need to be adapted to different user groups. It depends on the situation and context whether their use is sufficient to produce physiologically significant effects and clinically meaningful health improvements. From a public health perspective, even small improvements in adolescent nutrition are of utmost importance.

Keywords: adolescent, e-health, m-health, nutrition applications, food diary

Ozavestimo mladostnika o zdravih spalnih navadah

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Izhodišča in namen: Spanje je osnovna fiziološka potreba človeka, tako kot potreba po hrani, vodi in kisiku. Ne samo odrasli tudi mladostniki in otroci spijo premalo. Poleg zdrave prehrane in redne telesne vadbe je spanje ključen dejavnik za ohranjanje in krepitev zdravja. Med pandemijo se je spremenil ritem spanja in budnosti. Stroka ugotavlja, da so posledice okužbe s Covid-19 tudi nespečnost in motnje spanja. Naše izhodišče je bila anketa, ki so jo za raziskovano nalogo izvedle dijakinje na dveh šolah, in naša opažanja pri pouku. Rezultati ankete so pokazali, da mladostniki spijo premalo in nimajo ustreznih spalnih navad. Opažamo, da se mladostniki ne zavedajo posledic pomanjkanja spanja, pogosteje posegajo po energijskih pijačah in niso seznanjeni s priporočili za dobro spanje. Sklepamo, da informacije mladostnikov ne dosežejo tudi zaradi načina podajanja. Za namen osveščanja mladostnikov o pomenu spanja in o dobrih spalnih navadah smo razvili spletno aplikacijo.

Predstavitev vsebine: Aplikacija Spalko je namenjena učencem tretje triade osnovne šole in srednješolcem. Pripravljena je za uporabo na razrednih urah. V pomoč učitelju smo pripravili gradivo z navodili za delo, priporočili za dobro spanje in povzetki raziskav o spanju. Aplikacija je delno prosto dostopna, delno pa z uporabniškim imenom in geslom. Sestavljajo jo trije deli: dva sta namenjena uporabi v razredu, zadnji je namenjen individualni uporabi. Prvi del (uvodno testiranje) je namenjen poznavanju dejavnikov, ki vplivajo na spanje. Vsebuje tudi povratno informacijo s kratko strokovno razlago. Drugi del (skupinsko testiranje) je namenjen raziskovanju spalnih navad mladostnikov v razredu. Rezultati se sproti prikazujejo in omogočajo učitelju iztočnice za pogovor in odkrivanje dobrih spalnih navadah. Tretji del (individualno testiranje) je namenjen preverjanju, kako pomanjkanje spanja vpliva na spomin, koncentracijo in motorične sposobnosti. Aplikacija je primerna tudi za uporabo pri odraslih npr. v preventivnih delavnicah v zdravstvenih domovih in na delovnih mestih.

Sklepne ugotovitve: Navade v odrasli dobi težje spreminjamo, hkrati se posledice pomanjkanja spanja kopičijo. Mladostnikom želimo omogočiti razvoj zdravih spalnih navad, saj kvalitetno spanje preprečuje zdravstvene težave oziroma že nastalih ne poslabšuje, omogoča učinkovito učenje in opravljanje vsakodnevnih obveznosti. Predvidevamo, da zdrave spalne navade zmanjšajo odsotnosti zaradi zdravstvenih razlogov, preprečujejo izgorelost ter zmanjšajo potrebo po uporabi farmacevtskih sredstev, dovoljenih in nedovoljenih psihoaktivnih snovi in energijskih napitkov.

Ključne besede: zdravje, spanje, mladostnik

Adolescents and sleep: raising awareness of sleep as a healthy behaviour

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Introduction and purpose: Sleep is a basic physiological need. Physiological needs must be met for us to survive. Biological requirements for human survival are also food, drink, air. Not getting enough sleep is a problem not only for active adults, but also for adolescents and even children. In addition to a healthy diet and regular physical activity, sleep is a key factor for maintaining and enhancing health and wellbeing. During COVID-19 pandemic the sleep/wake circadian rhythm has changed. Experts note that among the consequences of COVID-19 infection are also sleep disorders and insomnia. The basis of our study and our starting point was a survey that was carried out on two schools and our observations during the lessons. The survey showed that adolescents do not get enough sleep. Furthermore, they do not have healthy sleeping habits. Our observations are that the adolescents are unaware of the consequences of sleep deprivation and are more likely to resort to energy drinks. They do not follow the guidelines, recommendations, and policy statements related to sleep health. The reason why the relevant information does not reach the adolescents lies in the method of passing this same information. The goal of the Awareness-Raising App is to raise awareness of the importance of quality sleep for life.

Content presentation: The target audience of our Awareness-Raising App are the students of third triad and secondary school students. It is ready for use in class. The app comes with teaching resources, such as materials that include instructions for work, recommendations for quality sleep and summaries of related research. A part of the app is intended for public use and another part demands a username and a password. It consists of three parts. Two are intended for use in the classroom and the last is intended for individual use. The first part, called introductory testing, informs and tests you on sleep quality factors. It also contains feedback with a brief expert explanation. The second part, which involves group testing, is dedicated to researching the sleeping habits of adolescents in the classroom. The results are streamed as they come in and they provide conversational points. The teacher can use these points for talking and learning about healthy sleeping habits. The third part, that is intended for testing of the individuals, is designed to examine how sleep deprivation affects memory, concentration, and motor skills. The app is also suitable for adults. We can use it for different workshops, health centres and workplaces.

Conclusions: Old habits die hard. It gets even harder as we get older. The consequences of sleep deprivation get worse since it is hard to break a habit. We would like to enable adolescents to develop healthy sleeping habits, since they prevent health problems and does not worsen the existing ones. Sleep also affects learning and fulfilling daily obligations. We believe that following recommendations for quality sleep could reduce sick leaves and prevent burn out. Furthermore, healthy sleeping habits would reduce the need to use pharmaceuticals, permitted and illicit psychoactive substances, and energy drinks.

Keywords: health, sleep, adolescent.

Moj SLOfit, diagnostično in izobraževalno orodje za gibalno pismenost

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Izhodišča in namen. Že od šolskega leta 1989/90 se v okviru podatkovne zbirke Športnovzgojni karton spremlja telesni in gibalni razvoj šolajoče populacije. Rezultati meritev so v pomoč učiteljem pri načrtovanju pouka športne vzgoje, učencem pri spoznavanju telesne zmogljivosti, odločevalcem pri uvajanju novosti na področju izobraževanja in staršem pri razumevanju otrokovega razvoja. Merske naloge so nespremenjene že od začetka Športnovzgojnega kartona, vendar pa se spreminja informacijska struktura podatkovne zbirke, ki se je razvila v napreden sistem, danes poznan kot SLOfit. V tem prispevku bomo predstavili spletno aplikacijo Moj SLOfit, ki je orodje za napredno vrednotenje rezultatov meritev in hkrati medij za prenos informacij med različnimi deležniki. Kot diagnostično in izobraževalno orodje ima potencial, da šolarjem ponudi veliko več kot le informacijo o telesni zmogljivosti ter tako pripomore k razvoju gibalne pismenosti.

Predstavitev vsebine. Moj SLOfit učiteljem omogoča vnos rezultatov neposredno v zbirko podatkov. Zaradi pametnih algoritmov čiščenja in obdelave podatkov v Moj SLOfit, so učiteljem kmalu po meritvah na voljo povratne informacije o telesnem in gibalnem razvoju na ravni šole, razredov ter posameznih učencev. Od leta 2016 se rezultati prikazujejo v centilnih vrednostih in s semaforjem zdravstvenega tveganja, kar omogoča intuitivno interpretacijo rezultatov. Učencem in staršem so takojšen vpogled, razlaga rezultatov in zbirka strokovnih, a poljudnih SLOfit nasvetov v pomoč pri skrbi za telesno zdravje in dobro počutje. Tako lahko pripomorejo h gibalni pismenosti, ki jo razumemo kot sklop motivacije, samozavesti, gibalne kompetentnosti, znanja in razumevanja, ki je potreben za vseživljenjsko telesno dejavnost. Čeprav na sistemski ravni povezava med Moj SLOfit in sistemom družinske medicine trenutno še ne deluje kot bi želeli, pa Moj SLOfit omogoča, da posameznik svoje podatke deli z izbrano osebo, kot je npr. pediater, družinski zdravnik ali kineziolog. Ko bo ta povezava sistematizirana, bodo ustvarjeni pogoji, da bo Moj SLOfit kot diagnostično orodje lahko pomembno prispeval tudi k zdravstveni pismenosti. Moj SLOfit stalno razvijamo na podlagi uporabniških izkušenj in novih raziskovalnih spoznanj. V sodelovanju s kolegi z Inštituta Jožefa Stefana smo razvili na umetni inteligenci temelječ model za napovedovanje končne (odrasle) telesne višine in biološke zrelosti. Nedavno smo sistem nadgradili tudi za spremljanje telesne zmogljivosti odraslih in starostnikov ter tako kot prvi na svetu na nacionalni ravni omogočamo pregled nad spremembami telesne zmogljivosti skozi celotno življenjsko obdobje. V prihodnosti načrtujemo še povezavo s pametnimi napravami, ki spremljajo 24-urno gibalno vedenje, ki poleg telesne dejavnosti vključuje še sedenje z uporabo zaslonkih elektronskih naprav in spanje. Tovrstne nadgradnje bodo omogočile naprednejše načrtovanje individualnih ali skupinskih intervencij, s pomočjo umetne inteligence pa tudi napovedovanje njihovih rezultatov.

Sklepne ugotovitve. Športnovzgojni karton učiteljem in staršem že več kot 30 let omogoča spremljavo razvoja otrok in mladostnikov. S tehnološko nadgradnjo in konceptualnim razvojem je ta sistem pridobil številne nove funkcije, ki bodo s pomočjo orodja Moj SLOfit pomembno prispevale k razvoju gibalne in zdravstvene pismenosti v šolskem prostoru in širše.

Ključne besede: otroci, mladostniki, zdravje, diagnostika, gibalna pismenost

My SLOfit, diagnostic and educational tool for physical literacy

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Introduction. In the Slovenian school population, physical and motor development has been monitored since the 1989/90 school year. The monitoring system is called Sports Education Chart. The results are useful for teachers in planning lessons, for children in understanding physical fitness, for decision makers in introducing innovations in the education system, and for parents in understanding the child's physical and motor development. Fitness tests have remained the same since the beginning, however the information infrastructure has been evolving and has developed into an advanced system, now known as SLOfit. Here we introduce the My SLOfit web-based application, a tool for advanced evaluation and visual presentation of results, as well as a platform for information sharing among stakeholders. As a diagnostic and educational tool, My SLOfit offers much more than just information about physical fitness; it also contributes to the development of physical literacy.

Content presentation. With My SLOfit, teachers can easily enter measurement results into the database on the spot. Thanks to smart algorithms for data checking and processing, they receive feedback on the results shortly afterwards. They gain insight into children's physical and motor development at the school level, at the class level, and at the individual level. Through My SLOfit, children and their parents also gain insight into the data, and together with the collection of SLOfit advice, they are empowered to take charge of their own health and well-being. In this way, they contribute to their physical literacy, which consists of motivation, self-confidence, physical competence, knowledge and understanding necessary for a lifelong physical activity. Although the connection between My SLOfit and the medical system is not yet as far along as we would like, there is an option for users to share their data with trusted individuals of their choice, such as pediatricians, physicians, or kinesiologists. When this connection becomes part of the national health system, SLOfit as a diagnostic tool will also be able to contribute to health literacy. Thanks to continuous development, SLOfit offers modern, technology-based features. In collaboration with the Jožef Stefan Institute, artificial intelligence-based models for predicting adult height and maturity status have been developed. Recently, we included adults and the elderly in the monitoring, and My SLOfit became the first system to provide nationwide fitness monitoring on a lifelong basis. We plan to connect My SLOfit with wearables that record 24-hour movement behavior, including sedentary activities, screen time and sleep. The upgrades presented will enable more advanced planning of individual or group interventions and, with the help of AI, prediction of their impact.

Conclusion. For more than 30 years, the Sports Education Chart has helped teachers and parents understand their children's physical and motor development. With technological upgrades and conceptual development, the system has added important features that are included in My SLOfit and contribute to physical and health literacy in the school environment as well as the broader community.

Keywords: children, youth, health, diagnostics, physical literacy

IKT orodja za učenje in poučevanje na področju reproduktivnega zdravja

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Izhodišča in namen: Število rojstev v Evropi se je v zadnjih desetih letih zmanjšalo. Glavni problem, ki povzroča nižjo rodnost, je odlašanje rojstva prvega otroka in pomanjkanje znanja o številnih dejavnikih tveganja za plodnost. Če se odločitev za rojstvo otroka preloži po optimalni plodni dobi, postane ključnega pomena ohranjanje reproduktivnega zdravja v tem obdobju. Trenutno mediji (spletne strani, članki v časopisih in revijah, knjige itd.) podajajo pogosto nejasne, kontroverzne in ne vedno zanesljive podatke o plodnosti. Poleg tega v učnih načrtih za zdravstvene delavce v Evropi področje reproduktivnega zdravja in skrbi zanj ni zadostno pokrito.

Predstavitev vsebine: V okviru projekta Erasmus+ KA2 »PreconNet – Reproductivno zdravje mladih: s pomočjo izobraževanja nad primanjkljaj znanja« smo razvili digitalna orodja za poučevanje in učenje ter samoučenje, predvsem pa usmerjanje vseh strokovnjakov, učiteljev in posameznikov, ki jih zanima področje reproduktivnega zdravja. Omenjena, na dokazih temelječa orodja so bila ustvarjena skladno z najnovejšimi priporočili in ugotovitvami zanesljivih študij s področja reproduktivnega zdravja in pred zanositvijo s strani učiteljev in študentov babištva in zdravstvene nege. Omenjena orodja lahko brezplačno uporabljajo vsi in so trenutno na voljo na spletni platformi projekta: <https://preco.tamk.fi>. Trenutno je na voljo 36 orodij, razvrščenih v osem kategorij, ki so povezane z vsebinami plodnosti in reproduktivnega zdravja: Starost in plodnost, Razumevanje reprodukcije, Obstoječa zdravstvena stanja, Dejavniki življenjskega sloga, Tveganja za okužbe, Okoljski dejavniki, Poklicno okolje in Socialno okolje. Na voljo so različne vrste orodij, od preprostih plakatov in kartic (razvitih za predstavitev situacije ali sprožitev razprave in refleksije) do animiranih videov, interaktivnih kvizov in na scenarijih temelječih vsebin. Vsa orodja so na voljo v angleškem jeziku, večina je tudi prevedenih in so na voljo v slovenskem, nemškem in italijanskem jeziku, nekaj orodij je na voljo tudi v hrvaškem in vietnamskem jeziku.

Sklepne ugotovitve: Da bi ta orodja dosegla svoj namen, je zelo pomembno jih dati na voljo ciljni populaciji in jih prevesti v različne jezike. Naši načrti so razviti še ostala orodja na tem področju glede na potrebe mladostnikov.

Ključne besede: plodnost, reproduktivno znanje, promocija zdravja, informacijsko komunikacijska tehnologija, digitalna orodja

Teaching and learning ICT tools about preconception health

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Introduction and purpose: The number of births in Europe has decreased during the last ten years. The main problem that causes lower birth rates is delayed parenthood and the lack of knowledge of fertility multiple risk factors. If the decision for a child is postponed after the optimal fertility age, it becomes crucial to maintain reproductive health during that period. Currently confusing, controversial and not always reliable data about fertility are too often provided by media (websites, newspaper article, journal articles, books, etc.). Furthermore, preconception health and care are absent or not sufficiently covered in European curricula for health professionals.

Content presentation: During the Erasmus+ KA2 project PreconNet - Preconception health of youth, bridging the gap in and through education, we've developed teaching and learning digital tools for self-study, teaching and guidance of all professionals, teachers and individuals who are interested in preconception health. All evidence-based digital tools were created following latest recommendations and reliable research findings from the field of preconception health and care by midwifery and nursing teachers and students. The teaching and learning digital tools are free to use by everyone and are currently available on the project's web platform available here: <https://preco.tamk.fi>. Currently there are 36 tools, which are organized in eight categories that are associated with fertility and reproductive health contents: Age and fertility, Understanding reproduction, Pre-existing medical conditions, Lifestyle factors, Infection risks, Environmental factors, Occupational environment and Social environment. There are different types of digital tools; from simple posters and cards (developed to present a situation or trigger a debate and/or reflection) to animated videos, interactive quizzes and scenario-based interactive contents. All tools are in English language. The majority of tools is translated and available in German, Italian and Slovenian language, some of them are in Croatian and Vietnamese language.

Conclusions: To make these tools effective it is very important to make them available to the target population and to translate them in different languages. Our plans are to develop other tools in this field according to the needs of adolescents.

Keywords: fertility, preconception health, health promotion, information and communication technology, digital tools

Eatvisor: nadgradnja Odprte platforme za klinično prehrano (OPKP) s sodobno mobilno aplikacijo

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Izhodišča in namen: Prehrana je pomemben del našega življenja in pri določenih posomeznikih zahteva posebno obravnavo. V podporo prehranski obravnavi se uporabljajo različna orodja, med drugim tudi spletne in mobilne aplikacije. V uporabi je več različnih aplikacij, katerim skupna pomankljivost je uporaba tujih baz podatkov o sestavi živil. Na Inštitutu »Jožef Stefan« razvijamo mobilno aplikacijo Eatvisor, ki temelji na Odprti platformi za klinično prehrano (OPKP), preko katere se zbirajo in urejajo tako podatki o sestavi živil iz slovenske baze, kot tudi znanstveno-potrjena priporočila za zdravo prehranjevanje različnih skupin zdravih in bolnih ljudi. Aplikacija temelji na naprednih računalniških tehnologijah za beleženje in analizo prehranskih navad (npr. avtomatsko prepoznavanje hrane iz fotografij), napovedovanje ciljev, receptov in prehranskih nasvetov na osnovi umetne inteligence itd.

Predstavitev vsebine: Eatvisor smo v sodelovanju s številnimi strokovnjaki tako iz področja računalništva, oblikovanja, kot tudi živilstva in prehrane zasnovali na sodoben način in omogoča beleženje in obravnavo prehranskih navad ter personalizirano načrtovanje prehrane. Podpira komunikacijo uporabnika z izbranim dietetikom in se sproti prilagaja uporabnikovim trenutnim potrebam. Na ta način smo združili zmogljivosti umetne inteligence z domenskim znanjem strokovnjakom, ki predstavljajo pomemben člen v prehranski obravnavi. Aplikacija omogoča tudi obravnavo prehrane otrok, kot pomoč staršem oz. njihovim skrbnikom. Eatvisor razvijamo za mobilni platformi iOS in Android.

Sklepne ugotovitve: Aplikacija Eatvisor je v zaključni fazi razvoja in bo jeseni 2022 na voljo za testiranje z različnimi skupinami uporabnikov, od zdravih do nosečnic in doječih mater, športnikov in sladkornih bolnikov. Zasnovana je tako, da se zlahka nadgrajuje tako s svežim znanjem, kot tudi z novimi podatki in algoritmi.

Ključne besede: mobilna aplikacija, načrtovanje prehrane, leksikon živil

Eatvisor: Upgrade of the open platform for clinical nutrition (OPKP) with a mobile application

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Introduction and purpose: Nutrition is an important part of our lives and requires special treatment for certain individuals. Various tools are used to support dietary treatment, including web-based and mobile applications. There are several applications in use, the common drawback of which is the use of foreign food composition databases. At the Jozef Stefan Institute, we are developing a new mobile app named Eatvisor, which is based on the Open Platform for Clinical Nutrition (OPKP) where compositional data on Slovenian foods and evidence-based dietary recommendations for various groups of the population are compiled. The app applies advanced computer technologies for food tracking and analyzing dietary habits (e.g., automated food image recognition), predicting goals, recipes and nutrition tips based on artificial intelligence, etc.

Content presentation: In collaboration with many experts from the domains of computer science, design, as well as food and nutrition, we have designed Eatvisor in a modern way in order to enable the recording and treatment of eating habits and personalized diet planning. The app supports a user to communicate with the selected dietitian and it constantly adapts to the user's current needs. In this way, we have combined the capabilities of artificial intelligence with the domain knowledge of experts, which represent an important link in nutrition. The app also allows the treatment of children's nutrition, as an aid to parents or their caregivers. We are developing Eatvisor for iOS and Android mobile platforms.

Conclusions: The Eatvisor app is in the final stages of development and will be available in the fall of 2022 for testing with a variety of user groups, from healthy users to pregnant and nursing mothers, athletes and patients with diabetes. It is designed to be easily upgraded with up-to-date knowledge as well as with new data and algorithms.

Keywords: mobile app, healthy eating planning, food lexicon

Posodobitev slovenske zbirke podatkov o sestavi živil

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Izhodišča in namen: Zbirke podatkov o sestavi živil predstavljajo pomemben vir informacij, ki se na področju prehrane in zdravja uporabljajo v različne namene. Dandanes je pričakovano, da so urejene kot podatkovne baze in dostopne preko programskih vmesnikov (angl. Application Programming Interfaces). Tovrstne zbirke zajemajo številne in raznovrstne podatke, s katerimi so živila opisana (npr. imena in fotografije živil) in klasificirana (npr. skupine živil, kode živil glede na različne standarde) ter nosijo informacijo o njihovi hranilni vrednosti in vsebnostih ostalih spojin v živilih. Ker je sestava živila odvisna tudi od geografskega porekla, vsaka država ureja svojo zbirko podatkov. Leta 2006 je Slovenija pripravila prvo bazo podatkov, ki je sprva vsebovala podatke o sestavi mesa in mesnih izdelkov in je bila kasneje nadgrajena s podatki o sestavi živil rastlinskega izvora. Baza je urejena v skladu z evropskim standardom CEN Food Data Standard, kar omogoča njeno povezljivost z drugimi bazami v t.i. porazdeljeni podatkovni ekosistem. To je ključnega pomena, saj je preko takšnih ekosistemov, ki so nadalje povezani s platformami, kot je na primer FNS oblak kot del Evropskega oblaka odprte znanosti, omogočen velik doseg podatkov.

Predstavitev vsebine: Na Inštitutu »Jožef Stefan« smo skrbniki slovenske baze podatkov o sestavi živil in v okviru projekta, ki ga sofinancira Ministrstvo za zdravje, posodabljammo tako podatke kot tudi sistem za upravljanje s podatki. V sodelovanju z Biotehniško fakulteto Univerze v Ljubljani smo pregledali in posodobili celotno zbirko podatkov živil analiziranih v Sloveniji (14.064 podatkov za 443 živil, vključno z živil, ki se prednostno vključujejo v prehrano otrok in mladostnikov) ter jih opremili z ustrežno dokumentacijo. S pomočjo sistema za upravljanje s podatki, ki je zasnovan kot napredna spletna aplikacija, smo slovenske podatke povezali z tujimi podatkovnimi zbirkami, iz katerih črpamo manjkajoče podatke.

Sklepne ugotovitve: V prispevku bomo natančno opisali celotni postopek posodobitve slovenske baze podatkov o sestavi živil ter predstavili možnosti uporabe sistema za njeno upravljanje in dopolnjevanje s strani različnih deležnikov, kot je npr. Društvo za zdravje srca in ožilja Slovenije, ki podeljuje znak varovalnega živila.

Ključne besede: podatki o sestavi živil, baze podatkov, povezljivost odprtih podatkov

Upgrade of the Slovenian food composition database

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Introduction and purpose: Food composition tables present an important source of information to be used for various purposes in the field of nutrition and health. Today, they are expected to be structured as databases and are accessible through Application Programming Interfaces (APIs). Such collections include numerous and diverse data that describe food items (e.g., by food names and photographs), classify them (e.g., by food groups, and terms and facets with respect to different standards), and provide information about their composition. As the composition of foods also depends on their geographical origin, each country regulates its own food composition database (FCDB). In 2006, Slovenia compiled the first FCDB, which initially contained data on the composition of meat and meat products and was later upgraded with data on the composition of foods of plant origin. The database is structured in accordance with the CEN Food Data Standard, which allows its connectivity with other databases in a distributed data ecosystem (EuroFIR, 2022). Through such ecosystems, which are further connected to platforms, like the FNS cloud that is part of the European Open Science Cloud (EOSC), data can be easily accessed.

Content presentation: At the Jožef Stefan Institute, we are the compilers of the Slovenian FCDB. In the project that is cofinanced by the Ministry of Health, both the data and the database management system (DBMS) have been upgraded. In cooperation with the Biotechnical Faculty of the University of Ljubljana, we reviewed and updated the entire database of food items analyzed in Slovenia (14,064 data for 443 foods, including foods that are primarily included in the diet of children and adolescents) and enriched them with relevant documentation. Using a DBMS designed and developed as an advanced web application, we connected Slovenian FCDB with foreign databases, from which we can borrow missing data.

Conclusions: In this paper, we will describe in detail the entire process of updating the Slovenian FCDB and introduce the possibilities of using the DBMS for data management and upgrading by various stakeholders, such as the Society for Cardiovascular Health of Slovenia, which awards the label of protective food.

Keywords: food composition data, databases, open data connectivity

Sekcija/Section
Otrok in mladostnik – okolje
The child and youth – the environment

Vabljeno predavanje

Otrok, mladostnik in družina med bolnišnico in domom

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Izhodišča in namen: Otroci in mladostniki s kroničnim obolenjem, ki so odpuščeni iz bolnišnice, so v stabilni fazi bolezni, vendar niso zdravi in je obseg njihovih potreb večji. Problem kroničnih bolezni ni samo v naraščanju števila otrok, ki so bolni, ampak tudi v kompleksnosti bolezni. Za potek zdravljenja teh bolezni je ključno, da jih čim prej prepoznamo in ustrezno zdravimo ter s tem zmanjšamo njihove zaplete in tudi izboljšamo kakovost življenja in čas preživetja pacientov. Uspeh zdravljenja je odvisen od sodelovanja vseh, ki pri njem sodelujejo, vključno pacienta in njegove družine. Celovita oziroma integrirana obravnava, v kateri zdravstveni delavci k pacientu pristopajo načrtovano in usklajeno, upošteva ob zdravstvenem stanju pacienta tudi socialne in druge okoliščine in si prizadeva za opolnomočenje pacienta oziroma njegove družine, da sami v največji meri prispevajo k uspehu zdravljenja. Namen prispevka je predstaviti pomen in dejavnike, ki vplivajo na sam potek opolnomočenja otrok in mladostnikov s kronično boleznijo ter njihovih družin.

Predstavitev vsebine: Z vidika otrokovega in mladostnikovega razvoja so poleg vrste bolezni pomembne tudi njene posledice. Otrok in mladostnik s kronično boleznijo potrebuje poleg medicinske oskrbe v primerjavi z zdravimi vrstniki tudi psihološko podporo in različne prilagoditve in pomoč tako v domačem okolju kot v vrtcu ali šoli. Pri tem je zelo pomembna poučenost otrokovega okolja o ustreznih razvojno psiholoških pristopih glede na raven otrokovega oziroma mladostnikovega razvoja. Njihove razvojne potrebe upoštevamo tudi pri organizaciji zdravstvene dejavnosti in bolnišnične oskrbe. Pričakovanja staršev v vlogi skrbi za bolnega otroka v bolnišnici in odnosi z medicinsko sestro so se dramatično razvila v zadnjih 40 letih. Starši pričakujejo, da bodo ostali s svojim otrokom in se v veliki meri vključili v zdravljenje in zdravstveno nego, kar pa omogoča dobro načrtovano poučevanje staršev pri aktivnostih za doseganje maksimalnega zdravja pri otroku in mladostniku. Glede na potrebe otroka in družine zdravstveni tim izdelava načrt, ki bo omogočal vrnitev v domače okolje in upošteva možnost potencialnih problemov ter reševanje le teh. Učenje izvaja tako dolgo, dokler otrok ali starši, aktivnosti ne izvajajo pravilno in samostojno ter razumejo pomen samoobvladovanja kronične bolezni. Ob tem je zadostna podpora okolja pomemben varovalni dejavnik, ki blaži delovanje stresorjev, pozitivno vpliva na proces zdravljenja in celostni razvoj otroka in mladostnika.

Sklepne ugotovitve: Zdravstvena nega usmerjena v družino je osnovno načelo, ki podurja dinamičen odnos med družinskimi člani in zdravstvenimi delavci ter poskuša ohraniti normalno delovanje družine, ko otrok zboli. Samo celovita obravnava omogoča varen prehod iz bolnišnice v domače okolje in kakovostno življenje celotne družine.

Ključne besede: zdravje, kronična bolezen, družina, otrok, mladostnik

Invited lecture

Child, adolescent and family between hospital and home

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Introduction and purpose: Children and adolescents with chronic illness who are discharged from the hospital are in a stable phase of the disease but are not healthy and their needs are bigger. The problem of chronic diseases is not only in the growing number of children who are ill, but also in the complexity of the disease. It is crucial for the treatment of these diseases to be identified and treated as soon as possible, thus reducing their complications and also improving the quality of life and survival of patients. The success of treatment depends on the participation of all those involved, including the patient and his family. Comprehensive or integrated treatment, in which health-care professionals approach the patient in a planned and coordinated manner, takes into account social and other circumstances in addition to the patient's health condition and strives to empower the patient or his family to contribute to the success of treatment. The purpose of this paper is to present the importance and factors that influence the empowerment of children and adolescents with chronic diseases and their families.

Content presentation: From the point of view of child and adolescent development beside the type of the disease, there are also important its consequences. In addition to medical care, a child and adolescent with a chronic illness needs psychological support and various adjustments compared to healthy peers and help in both - the home environment and in kindergarten or school. It is very important to teach the child's environment about appropriate developmental psychological approaches according to the level of the child's or adolescent's development. Their developmental needs are also taken into account in the organization of health care and hospital care. The expectations of parents in the role of caring for a sick child in the hospital and the relationship with the nurse have evolved dramatically over the last 40 years. Parents expect to stay with their child and become heavily involved in treatment and nursing, which allows well-planned parenting education in activities to achieve maximum health in the child and adolescent. Depending on the needs of the child and the family, the medical team plan that will enable them to return to their home environment and take into account the possibility of potential problems and solving them. Education is carried out as long as the child or parents do not perform the activities correctly and independently and understand the importance of selfmanagement of chronic illness. At the same time, sufficient environmental support is an important protective factor that alleviates the action of stressors, has a positive effect on the healing process and the overall development of the child and adolescent.

Conclusions: Family-oriented nursing is a basic principle that emphasizes the dynamic relationship between family members and health professionals and seeks to maintain the normal functioning of the family when a child is ill. Only comprehensive treatment enables a safe transition from the hospital to the home environment and the quality of life of the whole family.

Keywords: health, chronic disease, family, child, adolescent

Teaching to Be – za zdravje otrok in mladostnikov prek spodbujanja dobrega počutja učiteljev

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Izhodišča in namen: »Teaching to be« je triletni mednarodni projekt, ki se zaključi 2024 in je namenjen razvijanju in raziskovanju inovativnih strategij poučevanja in profesionalnega razvoja, ki podpirajo psihofizično dobro počutje učiteljev. Slednje je temelj pozitivnega emocionalnega ozračja in dobrih odnosov, ki so ključne sestavine spodbudnega učnega okolja, v katerem se učenci optimalno učijo in razvijajo.

Predstavitev vsebine: Juul (2014) je zapisal, da gre otrokom/mladostnikom v šolah tako, kot gre odraslim, s čimer je želel poudariti pomen (tudi systemske) skrbi in podpore psihofizičnemu dobremu počutju učiteljev. Tudi sami menimo, da v praksi prepogosto pozabimo, kako pomembno je govoriti o dobrih delovnih pogojih, klimi, profesionalnih kompetencah, asertivnosti in odpornosti na stres ter drugih komponentah psihofizičnega dobrega počutja učiteljev, ki posledično vplivajo tudi na (celostno) zdravje otrok/mladostnikov. V projektu zato skupaj z učitelji (s praktiki za praktike) razvijmo digitalno platformo, ki bo spodbujala razvijanje čustvenih, socialnih in drugih profesionalnih kompetenc pri učiteljih in tako prispevala k psihofizičnemu dobremu počutju le-tih. Izhajamo iz prosocialnega modela oddelka, ki poudarja pomen in sovplovanje različnih dejavnikov (zdravi odnosi med učitelji in med učitelji in učenci, uspešno vodenje in usmerjenje učencev, udejanjanje socialnih in čustvenih kompetenc (SEL kompetence), vpliv celotne šolske skupnosti) na zdravo oddelčno klimo in socialno/čustvene/kognitivne dosežke učencev, kar potrjujejo tudi številne druge raziskave. V prispevku bomo tako predstavili dosednji potek aktivnosti projekta v razvojni fazi, usmerjenih tako na subjektivne (osebne) kot poklicne (profesionalne) vidike psihofizičnega dobrega počutja učiteljev.

Sklepne ugotovitve: O zdravju otrok in mladostnikov ne moremo govoriti ločeno od zdravja njihovih staršev, vzgojiteljev, učiteljev in drugih pomembnih odraslih, zato se nam zdi projekt dober uvod v razpravo o psihofizičnem dobrem počutju vseh naštetih pomembnih odraslih in hkrati priložnost, da začnemo končno preventivo na področju duševnega (oz. celostnega) zdravja ljudi in družbe na sploh izvajati celovito.

Ključne besede: psihofizično dobro počutje, učitelji, učenci, duševno zdravje, šola

Teaching to Be – contributing to the health of children and adolescents through the promotion of well-being of teachers

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Introduction and purpose: »Teaching to be« is a three-year EU-funded project ending in 2024 and is aimed at developing and researching innovative teaching and professional development strategies that support the well-being of teachers. The latter is the foundation of a positive emotional climate and good relationships, which are key components of a stimulating learning environment in which students learn and develop optimally.

Content presentation: Juul (2014) wrote that children/adolescents perform in school the same way adults do, in order to emphasize the importance of (including systemic) care and support for the well-being of teachers. We also think that in practice we too often forget how important it is to talk about good working conditions, climate, professional competencies, assertiveness and stress resilience and other components of well-being of teachers, which consequently affect the (overall) health of children/adolescents. Therefore, in the project, we are developing a digital platform together with teachers (with practitioners for practitioners) that will encourage the development of emotional, social, and other professional competencies in teachers and thus contribute to their wellbeing. We start from the prosocial model of the department, which emphasizes the importance and interaction of various factors (e.g., healthy relationships between teachers and between teachers and students, successful leadership and guidance of students, implementation of social and emotional competencies (SEL competencies), influence of the whole school community) on a healthy classroom climate and social/emotional/cognitive achievement of students, as confirmed by numerous other studies. In this paper, we will present the current course of project activities in the development phase, focused on both subjective (personal) and occupational (professional) aspects of well-being of teachers.

Conclusions: We cannot talk about the health of children and adolescents separately from the health of their parents, educators, teachers, and other important adults, so we think the project is a good introduction to the discussion of well-being of all important adults, and at the same time the opportunity to start implementing prevention in the field of mental (or holistic) health of people and society in general comprehensively.

Keywords: well-being, teachers, students, mental health, school

Šolsko pohištvo kot dejavnik tveganja za razvoj bolečine v spodnjem delu hrbta – bilateralni projekt SLO-CRO, Faza I

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Uvod: Bolečine v spodnjem delu hrbta (BSH) so pogoste pri otrocih in mladostnikih. Ugotovitve, ki jih navajajo Domljan idr. (2010) so bile pobuda za bilateralni projekt Šolsko pohištvo kot dejavnik tveganja za razvoj bolečine v spodnjem delu hrbta: biomehansko vrednotenje in predlog oblikovne izboljšave (2020-2022) med slovenski in hrvaški raziskovalci. Cilj bilateralnega projekta je obravnavati razširjenost BSH med otroci in mladostniki ter predlagati prototipni šolski stol za analizo sedenja učencev med poukom, ki vključuje vgrajevane biološke senzorce v lesne kompozite, oblikovane kot sedalo oziroma naslonjalo šolskega stola. V tem prispevku so predstavljeni rezultati prve faze projekta.

Metode: Projekt je potekal v več korakih. Sprva je bila z uporabo Nordijskega mišično-skeletnega vprašalnika ocenjena razširjenost BSH med učenci v slovenskih šolah. Sočasno so bili razviti napredni karbonizirani senzorcji na biološki osnovi, vgrajeni v različne prototipe kompozitov, ki so bili zasnovani kot sedalo šolskega stola. Uporabljeni piezoelektrični senzorcji na biološki osnovi iz poli(vinil alkohola)/karboniziranega lesa so bili uporabljeni za spremljanje tlaka v kompozitih in oceno njihovih možnosti za uporabo v šolskih stolih.

Rezultati: V prvem delu raziskave je sodelovalo 96 učencev (starost $11,0 \pm 1,6$ let; 56 % žensk, 44 % moških). Skoraj petina učencev (19,8 %) je navedla, da so vsaj enkrat v življenju občutili BSH. Enoletna prevalenca BSH je bila 12,5 %, medtem ko je 10,4 % učencev navedlo, da so imeli v zadnjih sedmih dneh BSH. Dodatno je bilo izdelanih več prototipov šolskih stolov z vgrajeno tehnologijo karboniziranega senzorcja na biološki osnovi, ki bodo preizkušeni v drugi fazi projekta.

Razprava in zaključek: Ugotovljena je bila visoka razširjenost BSH med učenci v slovenskih šolah, kar kaže na potrebo po oblikovanju inovativnih rešitev šolskega pohištva za obravnavo BSH med učenci. V okviru projekta smo zasnovali prototip inovativnega šolskega stola, v katerega smo vgradili tehnologijo karboniziranih senzorcjev na biološki osnovi, s katerimi bi lahko zaznali gibanje učencev med sedenjem na šolskem stolu in na ta način pristopili k obravnavi BSH. Potrebne so nadaljnje raziskave za opredelitev zanesljivosti in veljavnosti senzorcjev ter izboljšave, vezane na umestitev senzorcjev v sedalo ali naslonjalo šolskega stola z vidika velikosti in piezoresistivnih lastnosti.

Ključne besede: otroci, bolečina v spodnjem delu hrbta, sedenje, senzorcji na biološki osnovi, šolsko pohištvo

School Furniture as Risk Factor for Low Back Pain – Bilateral project SLO-CRO, Phase I

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Introduction: Lower back pain (LBP) is a commonly noticed and observed problem in children and adolescents. The findings from Domljan et al. (2010) were the impetus for the Bilateral project School Furniture as Risk Factor for Low Back Pain: Biomechanical Evaluation and Proposed Design Solutions (2020-2022) conducted by Slovenian and Croatian researchers. The goal of the bilateral project was to address the prevalence of LBP among pupils and to propose prototype school chair to analyze pupil behavior while sitting. Also, the study performed preliminary work on utilizing embedded biobased sensors within wood-based composites that could serve as chair seats and backs to monitor pupil behavior while sitting. The results of the first phase of the project are presented here.

Methods: The project took place in several steps. Firstly, the prevalence of LBP among students in Slovenian schools was assessed using a modified Nordic musculoskeletal questionnaire. Additionally, advanced bio-based carbonized sensors were developed and embedded into several prototypes composites that have been designed to serve as a basis for testing school chair seats. Specifically, bio-based, poly(vinyl alcohol)/carbonized wood piezoelectric sensors were used to monitor pressure in the composites and to assess their potential for use in school chairs.

Results: A total of 96 pupils (age 11.0 ± 1.6 , 56 % female, 44 % male) participated. Almost one fifth of the pupils (19,8 %) reported suffering from LBP at some point in their life. The one-year prevalence of LBP was 12.5 % and 10.4 % of pupils stated to have LBP in the last seven days. In addition to these results, several school chair prototypes with embedded bio-based carbonized sensor technology are prepared to be tested in the second phase of the project. Results on piezoresistive changes in the embedded sensors and a prototype chair utilizing these sensors will be presented.

Discussion and Conclusion: Concerning prevalence of LBP among primary school pupils in Slovenian schools was identified, indicating there is a need to design innovative solutions of school furniture to address LBP among pupils. During the project we aimed to design a prototype of innovative school chair embedded with bio-based carbonized sensor technology which could help us to detect movement of pupils while sitting on a school chair. Further research is needed to define the feasibility, reliability, and validity of the sensors and to optimize their placement, size, and piezoresistive behavior.

Keywords: bio-based sensors, children, low back pain, school furniture, sitting, well-being

Pomen sistematičnega načrtovanja in izvajanja športa v prvem triletju osnovne šole

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Uvod: Namen prispevka je analizirati pomen sistematičnega načrtovanja in izvajanja športa v prvem triletju osnovne šole za razvoj vzdržljivosti. Pomen vzgojno-izobraževalnega dela v živo na področju športa se je v Sloveniji že pokazal v padcu splošne gibalne učinkovitosti učencev ob vrnitvi v šolo po njihovi daljši fizični odsotnosti. V tem prispevku pa analiziramo kolikšen pomen za razvoj aerobne moči ima sistematično načrtovanje in izvajanje predmeta šport.

Metode: V vzorec raziskovanja smo v ta namen vključili dve osnovni šoli, ki delujeta v podobnih geografskih okoljih (jezero, gore, bližina gozdov in travnikov, bližina in pestrost varnih poti ipd.), vendar imata različne načine načrtovanja in izvajanja predmeta šport. Prva je slovenska osnovna šola, ki ima vsako leto v letnem učnem načrtu sistematično načrtovanih in izvajanih 105 ur športa in 5 športnih dni, druga pa je avstrijska osnovna šola, ki ima v prvem in drugem razredu 105, v tretjem razredu pa 70 ur športa in v nobenem razredu nič športnih dni, poleg tega pa imajo ohlapen letni načrt za šport, brez priprav na posamezne ure športa. Vzorec predstavljajo le zdravi učenci iz obeh osnovnih šol, in sicer ob zaključku prvega triletja (t.j. 66 učencev tretjega razreda, od tega 33 iz Slovenije in 33 iz Avstrije). Vzorec spremenljivk predstavlja »beep test« za merjenje aerobne moči (Leger in Lampert, 1982). Vsi vključeni učenci so prostovoljno sodelovali pri testu. Izvedba in način motivacije je bil za vse enak. Učenci so morali čim večkrat preteči 20 metrsko razdaljo in pri tem upoštevati tempo teka, ki se je vsako minuto povečeval za 0,5 km/h z začetno hitrostjo 8,5 km/h. Rezultate smo zapisali kot seštevek vseh podstopenj, ki jih je bil učenec še zmožen preteči v vsiljenem tempu.

Rezultati: Slovenski učenci so v povprečju pretekli 33,4 (SD = 12,9) podstopenj testa, medtem ko so avstrijski učenci dosegli v povprečju 26,7 (SD=11,8) podstopenj. Analiza rezultatov je pokazala, da so slovenski učenci v povprečju pretekli skoraj 7 podstopnji več kot avstrijski. Dečki in deklice se med seboj niso razlikovali ne med slovenskimi ne med avstrijskimi učenci. Zaradi nenormalno porazdeljenih podatkov smo uporabili alnetrnativni neparametrični Mann Whitney U test, za ugotavljanje statistično značilnih razlik med učenci. Slovenski učenci so v primerjavi z avstrijskimi dosegli statistično značilno boljše rezultate, ($U = 373,0$, $p = 0,028$).

Razprava in zaključki: Na podlagi rezultatov sklepamo, da sistematično načrtovanje predmeta šport, ki zahteva od učitelja poglobljeno in sistematično izvajanje, pomembno prispeva k razvoju aerobne moči. Aerobna moč pa je kazalnik vzdržljivosti, ki je eden pomembnih dejavnikov zdravja. Kljub številnim posrednim vplivom na razvoj aerobne moči menimo, da ima učitelj morda pomembnejšo vlogo pri njenem razvoju, kot se je morebiti zaveda.

Ključne besede: vzdržljivost, aerobna moč, načrtovanje in izvajanje, prva triada

The importance of systematic planning and implementation of physical education in the first three years of elementary school

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Introduction: The purpose of this paper is to analyze the importance of systematic planning and implementation of physical education in the first three years of primary school for the development of endurance. The importance of physical education »in person« has already been proven in Slovenia by the fact that the general physical performance of students decreases when they return to school after a long period of distance learning. In this paper we analyze the importance of systematic planning and implementation of physical education for the development of aerobic power.

Methods: In this research sample, we included two elementary schools that are located in a similar geographic environment (lake, mountains, proximity to forests and meadows, proximity and variety of safe routes, etc.) but have different ways of planning and implementing physical education. The first is the Slovenian elementary school, where 105 physical education lessons and 5 sports days are systematically planned and included in the annual curriculum each year. The second is the Austrian elementary school, where there are 105 physical education lessons in the first and second grades and 70 physical education lessons in the third grade, however they have no sports days in any class and there is a loose annual plan for physical education, without preparation of individual physical education lessons. The sample consists only of healthy students from the two elementary schools at the end of the first three years (i.e. 66 third grade students, 33 from Slovenia and 33 from Austria). The sample of variables represents a »beep test« for measuring aerobic power (Leger and Lampert, 1982). All participating students volunteered for the test. The procedure and method of motivation was the same for all. Students had to run a distance of 20 meters as many times as possible, taking into account the running pace, which increased by 0.5 km/h every minute at an initial speed of 8.5 km/h. Results were recorded as the sum of all partial distances the student could still run at the forced pace.

Results: Slovenian students completed an average of 33.4 (SD = 12.9) stages of the test, while Austrian students completed an average of 26.7 (SD = 11.8) stages. Analysis of the results shows that Slovenian students completed on average almost 7 more stages than Austrian students. Boys and girls did not differ among either Slovenian or Austrian students. Because of the abnormally distributed data, we used the alternative non-parametric Mann Whitney U test to detect statistically significant differences between students. Slovenian students performed statistically significantly better than Austrian students ($U = 373.0$, $p = 0.028$).

Discussion and conclusions: Based on the results, we conclude that systematic planning of the subject of physical education, which requires in-depth and systematic implementation from the teacher, contributes significantly to the development of aerobic power. Aerobic power is an indicator of endurance, which is one of the most important factors for health. Despite the many indirect influences on the development of aerobic power, we believe that the teacher plays a more important role in its development than he may realize.

Keywords: endurance, aerobic performance, conception and implementation, first triad

Vključevanje osnovnošolcev v raziskovanje epidemiologije okolja preko načel ljubiteljske znanosti

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Izhodišča in namen: Aktivno vključevanje otrok in mladostnikov v raziskovalne dejavnosti, ki temeljijo na načelih ljubiteljske znanosti, omogoča pridobivanje praktičnih izkušenj, pomembnih za razvoj njihovega kritičnega mišljenja in sposobnosti reševanja problemov. V prispevku poročamo o pridobljenih izkušnjah pri izvajanju posameznih dejavnosti, kjer so se osnovnošolci ukvarjali z raziskovanjem kakovosti svojega življenjskega okolja.

Predstavitve vsebine: V ta namen je bil v Ljubljani organiziran tematski naravoslovni dan, na katerem je sodelovalo 180 učencev, starih od 14 do 15 let, iz osmih različnih razredov. Namen naravoslovnega dneva je bil spoznati poklic raziskovalca in proučiti značilnosti šolskega okoliša po načelih sooblikovanja in soustvarjanja po strukturnem okviru CitieS-Health (citieshealth.eu). Začeli smo s skupinsko razpravo o značilnostih šolskega okolja, ki lahko vplivajo na zdravje in dobro počutje. Pri tem smo se poslužili tudi uporabe spletnega vprašalnika in sodelujočim predstavili senzorske tehnologije za spremljanje stanja okolja. To nas je pripeljalo do raziskovalnih vprašanj in hipotez/predpostavk, ki so jih predlagali učenci. Ko so bila raziskovalna vprašanja postavljena, je sledila razprava o tem, kako se lotiti raziskovanja. Osrednje raziskovalno delo je bilo sestavljeno iz dveh faz. V prvi fazi, ko smo raziskovali onesnaženost zraka in stopnjo hrupa, so bili podatki zbrani na podlagi opazovanj in meritev. Vsaka skupina, ki je izvajala terensko delo, je bila opremljena z več napravami, ki spremljajo kakovost zraka in izpostavljenost hrupu. Vse meritve so bile na voljo na licu mesta, rezultate meritev pa smo z učenci prediskutirali, da bi se naučili prepoznali učinke urbane infrastrukture in vedenja posameznikov na izmerjeno izpostavljenost mestnim stresorjem (onesnaženost zraka in hrup). Druga faza je potekala v učilnici, na podlagi vnaprej obdelanih podatkov v obliki tematskih kart. Polovica učencev je raziskavo opravila ravno v obratnem vrstnem redu. Ob koncu dneva so učenci v skupinah povzeli svoje ugotovitve na plakatih, ki so jih svojim vrstnikom predstavili preko Zooma. Pred in po omenjenih dejavnostih je bila med učenci izvedena anketa, da bi ugotovili, koliko so že vedeli o obravnavani temi in koliko novega so se naučili v enem dnevu.

Sklepne ugotovitve: V tem prispevku se bomo osredotočili na dodano vrednost vključevanja načel ljubiteljske znanosti v šolski kurikulum ter na izzive izvajanja omenjenih dejavnosti, tako z vidika učencev kot raziskovalcev. Med dejavnostmi so učenci na primer pokazali sposobnost kritičnega razmišljanja s prepoznavanjem dejavnikov, ki bi lahko vplivali na spremembe kakovosti zraka in ravni hrupa. Jasen primer je bilo njihovo razumevanje protihrupnih ovir, kot so zgradbe in mestna vegetacija, ki drastično zmanjšajo raven hrupa na manjših razdaljah. Poleg tega so lahko smiselno povzeli in samostojno predstavili rezultate svojega dela. Po drugi strani smo bili soočeni s številnimi izzivi, kot je na primer raziskovanje velikim številom učencev v obdobju koronavirusa, ko združevanje otrok iz različnih razredov ni bilo mogoče. Da so dejavnosti lahko sinhrono potekale v ločenih skupinah, je moralo pri aktivnostih sodelovati veliko več raziskovalcev, nekatere dejavnosti, ki bi običajno potekale iz oči v oči, pa so bile prestavljene na splet.

Ključne besede: ljubiteljska znanost, šolski kurikulum, urbani stres, izpostavljenost, zdravje

Engagement of pupils in citizen science study in environmental epidemiology

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Introduction and purpose: Actively engaging children and adolescents in research activities based on citizen science principles enables gaining hands-on experience important for developing their critical thinking and problemsolving skills. In this contribution, we report lessons learned conducting respective activities where elementary school pupils were engaged in an investigation of the quality of their living environment.

Content presentation: To this end, a themed science day was organized with the participation of 180 pupils from eight classes aged 14-15 in Ljubljana, Slovenia. The aim of the science day was to learn about the profession of the researcher and to study the characteristics of the school district based on co-design and co-creation principles, following the CiteS-Health (citieshealth.eu) framework. We started by discussing different characteristics of the school environment that can affect health and well-being, by means of groups discussion and using an online questionnaire, including a demonstration of sensing technologies for monitoring of the environment. This led us to develop some research questions and hypotheses/predictions suggested by the students. Once they had been identified, a discussion on how to investigate them followed. The core research work consisted of two phases. In one air and noise pollution field data was collected based on observations and measurements. Each group conducting fieldwork was equipped with several devices that monitor air quality and exposure to noise. All of the measurements were available on the spot and were communicated with the pupils to open up discussions on the effects of urban infrastructure and layout, and the behaviour of individuals, on the measured exposure to urban stressors (air pollution and noise). The other phase was carried out in the classroom, based on data prepared in advance in form of thematic maps. Half of the pupils made the research in reverse order. At the end of the day, pupils worked in groups to summarise their findings in a form of a poster and present it to their peers over Zoom. Before and after the aforementioned activities, a survey was carried out among the pupils to find out how much they already knew about the topic and how much they had learned in the course of a day.

Conclusions: In this presentation, we will focus on added value of incorporation of citizen science principles in the school curriculum, as well as challenges conducting the aforementioned activities, from both pupils' and researchers' perspectives. For example, during the activities, pupils demonstrated a capacity for critical thinking by identifying factors that could potentially influence changes in air quality and noise levels. A clear example was their understanding of noise barriers, such as buildings and urban vegetation that drastically reduce noise levels at a small distance. Moreover, they were able to meaningfully summarise and independently present the results of their work. On the other hand, there were challenges related to conducting activities with such a large group of students during the COVID period. Namely, combining all students from different classes for a group activity, such as an introduction or presentation was not possible, and consequently, a large number of researchers were needed to supervise activities in different groups and some activities which would normally take place face to face were moved online.

Keywords: citizen science, school curriculum, urban stress, exposure, health

Novi tobačni in nikotinski izdelki ter njihova uporaba med mladimi v Sloveniji

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Izhodišča in namen: V času, ko v številnih državah zaostrejo ukrepe nadzora nad tobakom, znižujeta pa se potrošnja tobačnih izdelkov in odstotek kadilcev, je tobačna industrija začela ponujati alternativne tobačne izdelke in izdelke z nikotinom (elektronske cigarete, tobačni izdelki, v katerih se tobak segreva, nikotinske vrečke), popularni postajajo tudi tobačni izdelki za oralno uporabo. V prispevku želimo predstaviti različne izdelke in njihovo uporabo med mladimi v Sloveniji.

Predstavitve vsebine: Novi izdelki so zasnovani tako, da še posebej privlačijo otroke, mladostnike in mlade odrasle (v nadaljevanju mlade). Ključne pri tem so številne privlačne arome, ki zmanjšujejo zaznavanje škode in povečujejo pripravljenost poskusiti izdelke. Odstotki uporabnikov novih izdelkov so v tujini in Sloveniji med mladimi višji kot v splošni populaciji, uporaba se povečuje izraziteje med mladimi. Po podatkih raziskave Z zdravjem povezano vedenje v šolskem obdobju 2020 je med učenci 9. razredov osnovnih šol elektronske cigarete (tobačne izdelke, v katerih se tobak segreva) kadarkoli v življenju uporabilo 13 % (4 %), med dijaki 4. letnikov srednjih šol pa 25 % (11 %), v zadnjih 30 dneh pa 4 % (2 %) učencev 9. razredov in 5 % (4 %) dijakov 4. letnikov. Po podatkih Nacionalne raziskave o zdravju in zdravstvenem varstvu 2019 je med prebivalci Slovenije, starimi 15 let in več, 4 % (3 %) oseb uporabilo te izdelke kadarkoli v življenju in 2 % (1 %) v zadnjih 30 dneh. Tobak za oralno uporabo je v 2020 uporabljalo 2 % učencev 9. razredov osnovnih šol in 9 % dijakov 4. letnikov srednjih šol, medtem ko po podatkih Nacionalne raziskave Z zdravjem povezan vedenjski slog med prebivalci, starimi 18 do 74 let, beležimo 2 % uporabnikov. Na trgu se pojavljajo vedno novi izdelki, med zadnjimi so t.i. nikotinske vrečke. Uporaba izdelkov, ki vsebujejo nikotin, je med mladimi še posebej zaskrbljujoča zaradi razvoja zasvojenosti, škodljivih učinkov na hitro razvijajoče se možgane in povečanega tveganja za začetek kajenja ter uporabe drugih psihoaktivnih snovi. Novi izdelki pa vsebujejo tudi številne druge zdravju škodljive snovi, ki lahko vodijo v različne bolezni in zdravstvene težave. Učinki dolgoročne uporabe na zdravje še niso raziskani, saj so v uporabi še premalo let.

Sklepne ugotovitve: Uporaba novih tobačnih izdelkov ali izdelkov z nikotinom med mladimi ima lahko pomembne negativne učinke na javno zdravje. Ključno je, da uporabo teh izdelkov med mladimi preprečujemo in zmanjšujemo, ne le uporabo klasičnih tobačnih izdelkov. Doseči moramo visoko ozaveščenost in znanje tako mladih kot tudi staršev in vseh, ki delajo z mladimi, o lastnostih, škodljivih učinkih in razširjenosti uporabe teh izdelkov. Elektronske cigarete in tobačni izdelki, v katerih se tobak segreva, so z zakonodajo regulirani podobno kot klasični tobačni izdelki, nekateri, npr. nikotinske vrečke, pa niso regulirani, kar kliče tudi po posodobitvi zakonodaje.

Ključne besede: mladi, tobak, nikotin, zdravje

New tobacco and nicotine products and their use among young people in Slovenia

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Introduction and purpose: While tobacco control measures are being tightened in many countries and the consumption of tobacco products and the percentage of smokers are declining, the tobacco industry has started offering alternative tobacco and nicotine products (electronic cigarettes, heated tobacco products, nicotine pouches), and tobacco products for oral use are also becoming popular. In this article we want to present various products and their use among young people in Slovenia.

Content presentation: The new products are designed to attract children, adolescents and young adults (hereinafter referred to as youth). One of their most important characteristics are many attractive flavours that reduce the perception of harm and increase the willingness to try these products. The percentages of users of new products abroad and in Slovenia are higher among youth than in the general population, and also the use is increasing more markedly among youth. According to the study Health Behavior in School-Aged Children 2020, 13% (4%) of 9th-graders in primary schools and 25% (11%) of 4th-year high school students used e-cigarettes (heated tobacco products) at any time in their lives, while in the last 30 days 4% (2%) of 9th-graders and 5% (4%) of 4th-year high school students used them. According to the European Health Interview Study 2019, 4% (3%) of the population of Slovenia aged 15 and over used these products at any time in their lives and 2% (1%) in the last 30 days. Tobacco for oral use was used by 2% of the 9th-graders in primary schools and 9% of 4th-year high school students, while according to the CINDI Health Monitor Study 2020 there were 2% current users among the population aged 18 to 74. New tobacco or nicotine products are emerging, nicotine pouches are among the latest. The use of nicotine-containing products is of particular concern to youth due to the development of addiction, adverse effects on the rapidly developing brain and the increased risk of smoking initiation and the use of other psychoactive substances. These products also contain many other harmful substances that can lead to various diseases and health problems. The effects of long-term use of these products on health have not yet been studied, as they are in use for a limited number of years.

Conclusions: The use of new tobacco products or nicotine-containing products among young people can have significant negative effects on public health. It is crucial to prevent and reduce the use of these products among young people, not only the use of traditional tobacco products. High awareness and knowledge of young people, parents and all those who work with young people about the properties, harmful effects and prevalence of the use of these products is necessary. In Slovenia, electronic cigarettes and heated tobacco products are regulated similarly to conventional tobacco products, while some, e.g. but nicotine bags are not regulated, which also calls for legislative updates.

Keywords: adolescent, tobacco, nicotine, health

Ozaveščenost staršev ob pojavu vročinskih krčev in povišani telesni temperaturi

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Uvod: Veliko staršev je prepričanih, da je telesna temperatura prek 39,0°C škodljiva, da otroka ogroža in jo je potrebno takoj zniževati. Povišana telesna temperatura je le simptom, ne bolezen. Povišana telesna temperatura je izrednega pomena za premagovanje boleznih otroka. Vročinski krči so najpogostejša oblika krčev v otroškem obdobju, starše prestrašijo saj so podobni epileptičnim napadom. Pomembno je, da starši osvojijo znanje o stopnjah povišane telesne temperature, o njenih pozitivnih in negativnih učinkih in kako zniževati povišano telesno temperaturo. Poznavanje le-teh je ključ do uspešnega preprečevanja nastanka vročinskih krčev in njihovega poteka.

Metode: Izvedli smo kvantitativno empirično raziskavo s tehniko zbiranja podatkov. Podatke smo pridobili z vprašalnikom, ki smo ga oblikovali s pomočjo pregleda literature. V vzorec raziskave smo zajeli 50 naključnih staršev otrok.

Rezultati. Ob analizi rezultatov smo ugotovili, da so starši dokaj dobro seznanjeni s pojavom povišane telesne temperature. Večina staršev pozna načine zniževanja povišane telesne temperature, vendar več kot polovica staršev prične z zniževanjem povišane telesne temperature prehitro ter telesu ne dovoli, da se z boleznijo bori samo. V raziskavi smo namenili poudarek poznavanju vročinskih krčev. Iz raziskave je razvidno, da bi le 10 % vseh anketiranih staršev otroka med vročinskim krčem obrnilo na bok, manjši delež staršev bi otroku med vročinskim krčem apliciralo zdravila skozi usta. Glede na pridobljene podatke sklepamo, da starši dobro poznajo znake vročinskih krčev in bi pojav takoj prepoznali. Zaskrbljujoč je podatek, da kar 54 % anketiranih staršev trdi, da v otroško šolskem dispanzerju niso bili poučeni o pojavu vročinskih krčev.

Razprava in zaključki: Starši se s povišano telesno temperaturo pri otroku srečujejo skozi vse njegove otroške dni. Veliko ponujenih informacij o povišani telesni temperaturi je nepreverjenih, pomanjkljivo napisanih kar lahko staršem povzroči veliko zmedo. Staršem bi bilo informacije potrebno predati s strani zdravstvenega osebja. Zdravstveni delavci so strokovno usposobljeni tudi na področju zdravstveno vzgojne dejavnosti. Starši zdravstvenemu osebju večinoma zaupajo in se radi zanesejo nanj. Kakovostno znanje in dobra informiranost lahko staršem olajšata srečanje z vročinskimi krči, saj bi dogodek prepoznali in vedeli, da ob pravilnem ukrepanju to ni življenjsko ogrožajoče stanje. Za starše bi moral biti najbolj kakovosten vir informacij zdravstveno osebje, vendar je pomembno, da znajo staršem predati ključne informacije in izbrati pravi način za predajo le-teh.

Ključne besede: povišana telesna temperatura, vročinski krči, starši

Parent awareness about the onset of febrile seizures and fever

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Introduction: Many parents believe that a body temperature of 39.0°C is harmful, puts their child at risk, and must be reduced immediately. But fever is merely a symptom, not a disease. In fact, it is essential for a child to successfully recover from their disease. Febrile seizures, which are the most common type of convulsions among children, often raise concern among parents since they resemble epileptic seizures. It is important to raise awareness among parents about the different stages of fever, the positive and negative effects of fever, and the methods used to reduce fever. This knowledge is the key to the successful prevention and treatment of febrile seizures.

Methods: We conducted a quantitative empirical study based on data collection. The data was acquired by means of a questionnaire, which was drawn up following a literature review. The research sample included 50 randomly selected parents.

Results: Upon analyzing the results, we found that parents are relatively well acquainted with the occurrence of fever. Most are familiar with the different methods of reducing fever, but more than half of them start reducing it too early, which ultimately prevents the body from fending off the disease on its own. Our study focused on parents' familiarity with febrile seizures. The results indicate that only 10% of parents participating in the study would turn their child on the side during a febrile seizure, and that only a small percentage would administer oral medications to their child during a febrile seizure. Based on the data acquired, we conclude that parents are well acquainted with the symptoms of febrile seizures and that they would immediately recognize its onset. Raising concern is the finding that 54% of parents participating in the study claim that the outpatient department for children and schoolchildren failed to provide any information on febrile seizures.

Discussion and conclusions: Parents are faced with fever in their child throughout the entire childhood. Much of the available information on fever is non-fact-checked and incomplete, which may stir confusion among parents. Such information should be provided to parents by healthcare professionals, who are also professionally trained in health care education. Parents mostly trust healthcare professionals and are quick to rely on their guidance. In-depth knowledge and awareness can facilitate encounters with febrile seizures for parents, since it makes it easier for them to recognize the onset of the condition and reassures them such convulsions are not life-threatening. Healthcare professionals should be the most reliable source of information for parents; however, it is vital that healthcare professionals are able to provide the key information and choose the most suitable method of passing it on.

Keywords: fever, febrile seizures, parents

Vpliv izobraževanja Rominj o reproduktivnem zdravju na zdravje njihovih otrok

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Uvod: Vpliv izobraževanja o reproduktivnem zdravju Rominj – žensk s svojstvenim načinom življenja v posebnih skupnostnih razmerah – na zdravje njihovih otrok, je v Sloveniji malo raziskan. Namen raziskave je bil analizirati zaznane posledice zdravstveno-vzgojne intervencije na osveščenost Rominj o reproduktivnem zdravju in s tem posledično na zdravje romskih otrok.

Metode: V raziskavi smo uporabili kvalitativni raziskovalni pristop. Pri izvedbi treh fokusnih skupin, julija in avgusta 2015, je sodelovalo 11 zdravstvenih delavk, ki se pri svojem delu srečujejo s skrbjo za reproduktivno zdravje Rominj in zdravjem otrok.

Rezultati: Izdvojenih je bilo 10 kategorij, v katerih smo ugotovili 147 kod s skupno frekvenco 187. Združili smo jih v 4 teme. Te so: (1) Splošna izobrazba Rominj in njihovo izobraževanje na področju reproduktivnega zdravja. (2) Koristnosti zdravstveno-vzgojnega letaka in pričujoče raziskave. (3) Skrb za reproduktivno zdravje in zdravje otrok. (4) Zdravstvene težave in obiskovanje zdravnika.

Razprava in zaključek: Priložnosti napredka pri skrbi za reproduktivno zdravje Rominj se nakazujejo s pomočjo osveščanja o možnostih dostopa do reproduktivnih storitev in obravnave, ki jo ponujajo zdravstvene službe in vključevanja v zdravstveno-vzgojne programe. Pomanjkljiva osnovna izobrazba Rominj, ki obiskujejo zdravstveni dom oziroma ginekološki dispanzer, je tesno povezana z odklanjanjem izobraževanja o reproduktivnem zdravju. Izobraževanje mora biti prilagojeno njihovem razumevanju, z uporabo slikovnega materiala in enoznačnih sporočil. Dodatno se jih da pritegniti z obiski oziroma organizacijo predavanj v njihovem domačem okolju, z veliko mero empatije in izkazane pozornosti ter upoštevanju organizacije časovnih terminov. Rominje še vedno premalo vedo o nosečnosti in porodu, tudi zato, ker se znanje o pomenu in skrbi za reproduktivno znanje med generacijami prenaša slabše kot v preteklosti. Pri negi otroka po porodu pa je zaznati določen napredek, predvsem pri higieni in izboljševanju življenjskega standarda. Večjo težavo predstavlja nezdrav slog življenja, predvsem kajenje mater v času nosečnosti, bivanje otroka v zakajenih prostorih in nekatovostna prehrana tako mater kot otrok. Problematično je tudi (ne)upoštevanje nasvetov, ki jih dobijo ob obiskih ginekološkega dispanzerja in negativnih izkušenj, sicer redkih, v načinu komunikacije in občutka diskriminiranosti.

Ključne besede: Rominje, reproduktivno zdravje, osveščenost, intervencijska raziskava, izobraževanje

The influence of Roma women's education regarding their reproductive health on the health of their children

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Introduction: The influence of education regarding their reproductive health on Roma women with a unique way of life in special community conditions - on the health of their children has been little researched in Slovenia. The objective of the research was to analyse the perceived consequences of health education intervention on the awareness of Roma women regarding their reproductive health and consequently on the health of Roma children.

Methods: Qualitative research approach was used. In July and August 2015 three focus groups were created; 11 health professionals, who deal with the reproductive health of Roma women and the health of children, participated.

Results: 10 categories were identified, in which 147 codes with a total frequency of 187 were identified. They were grouped under 4 topics. These are: (1) General education of Roma women and their knowledge in the field of reproductive health. (2) The benefits of a health education leaflet and this research. (3) Care for reproductive health and children's health. (4) Medical problems and doctor's appointments.

Discussion and conclusion: Opportunities for progress in Roma women's reproductive health care lie in raising their awareness of the possibilities of access to reproductive services, the treatment offered by health services, and their inclusion in health education programs. Roma women's lack of general education is closely linked to their rejection of reproductive health education. Education must be adapted to their understanding, using pictorial material and straightforward messages. Furthermore, using a great deal of empathy and time considerations, they can be encouraged by visits or organization of lectures in their home environment. Roma women do not possess enough knowledge about pregnancy and childbirth, which is also due to the fact that reproductive health care knowledge is no longer passed down between generations as it used to be. However, there has been some progress in the care of infants, especially regarding the hygiene and improved living standards. A major problem is unhealthy lifestyle, especially smoking of pregnant women, smoking indoors near children, and poor nutrition of both mothers and children. Some major issues are also their reluctance to follow the advice received when visiting a gynaecological dispensary and occasional negative experiences with communication styles and feelings of discrimination.

Keywords: Roma women, reproductive health, awareness, intervention study, education

Dejavniki z ustnim zdravjem povezane kakovosti življenja med otroki in mladostniki v Sloveniji

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Uvod: Ustno zdravje je del splošnega zdravja. Težave z ustno votlino in/ali zobmi povzročajo bolečine, nelagodje in omejitve pri opravljanju funkcij orofacialnega področja in drugih vsakodnevnih opravil ter slabšajo kakovost življenja. S kakovostjo življenja, povezano z ustnim zdravjem (KŽpUZ), lahko ocenimo vpliv ustnega zdravja na posameznikovo življenje, samopodobo, socialne interakcije in delovno/šolsko uspešnost. Poznavanje demografskih in socioekonomskih značilnosti skupin prebivalstva s slabšo KŽpUZ je ključno za pripravo uspešnih in učinkovitih javnozdravstvenih pristopov za izboljšanje in krepitev ustnega zdravja.

Metode: V »Nacionalni raziskavi o ustnem zdravju otrok in mladostnikov v Sloveniji leta 2019« smo s pomočjo anketnega vprašalnika spremljali tudi 6 kazalnikov KŽpUZ. Vprašanja so se nanašala na pogostost težav pri uživanju hrane, napeto počutje zaradi težav z ustno votlino in z zobmi, težave pri opravljanju šolskih obveznosti, prisotnost zobobola, prisotnost ranic/razjed ter nerodnega počutja zaradi videza zob. V raziskavo so bili vključeni otroci, stari 6–17 let (N = 725). V skupino otrok, ki imajo slabšo KŽpUZ, smo uvrstili posameznike, ki so na vsaj eno vprašanje odgovorili z občasno ali pogosteje.

Rezultati: Vsaj ena omejitev KŽpUZ, ki se pojavlja občasno ali pogosteje, je bila prisotna pri 22,5 % preiskovancev. Najpogosteje so se pojavljale boleče dlesni/ranice v ustih (10,6 %), 6,6 % otrokom in mladostnikom je bilo nerodno zaradi videza njihovih zob, 6,0 % se jih je zaradi težav z ustno votlino in z zobmi počutilo napete, 5,5 % jih je imelo zobobol, 4,8 % jih je imelo težave pri hranjenju in 4,1 % jih je zaradi težav z ustno votlino in z zobmi imelo težave pri opravljanju šolskih obveznosti. Ena ali več omejitev je bila pogostejša pri dekletih (24,9 %, fantje 20,4%). Vsaj ena izmed omejitev je bila pogostejša pri otrocih, starih 6–7 let (24,5 %). Delež je upadel v starostni skupini 8–10 let (19,5 %) in ponovno narastel na 25,2 % v starosti 15–17 let. Delež otrok in mladostnikov z eno ali več omejitvami je upadal z višanjem dosežene stopnje izobrazbe staršev (35,7 % z osnovnošolsko, 18,7 % z univerzitetno izobrazbo).

Razprava in zaključki: Več kot tri četrtine otrok in mladostnikov ni občutilo omejitev v vsakdanjem življenju zaradi težav z ustno votlino in/ali zobmi. V najmlajši starostni skupini so bile težave verjetno povezane z menjalnim zobovjem in s še prisotnimi mlečnimi zobmi, v najstarejši starostni skupini pa zaradi nakopičenosti posameznih težav v ustni votlini in psiholoških sprememb, povezanih z odraščanjem. Otroci in mladostniki staršev z višjo stopnjo izobrazbe so imeli boljšo KŽpUZ kot otroci in mladostniki staršev z nižjo stopnjo izobrazbe. Znano je, da imajo bolj izobraženi prebivalci boljšo skrb za ustno zdravje, kar se izrazi na boljšem ustnem zdravju in pomembno vpliva tudi na KŽpUZ. Javnozdravstvene programe in intervencije s področja ustnega zdravja je potrebno nadgraditi in vanje vključiti aktivnosti promocije ustnega zdravja za ranljive skupine otrok in mladostnikov.

Ključne besede: otroci, mladostniki, ustno zdravje, kakovost življenja, izobrazba staršev

Factors related to oral health-related quality of life among children and adolescents in Slovenia

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Introduction: Oral health is a part of general health. Problems with the oral cavity and/or teeth cause pain, discomfort and limitations in performing the function of the orofacial system and other daily tasks and reduce quality of life. Oral health-related quality of life (OHRQoL) can be used to assess the impact of oral health on an individual's life, self-image, social interactions and work/school performance. Understanding the demographic and socio-economic characteristics groups of individuals with poorer OHRQoL is crucial for the preparation of successful and effective public health approaches to improve and strengthen oral health.

Methods: In the »National Survey on Oral Health of Children and Adolescents in Slovenia in 2019« we used questionnaire with which we also monitored 6 indicators of OHRQoL. Questions related to the difficulties with eating food, tense feelings because, difficulties in carrying out school work, the presence of toothache, the presence of sores/ulcers and awkwardness due to the appearance of teeth. Children aged 6–17 were included in the study (N = 752). In the group of children with poorer OHRQoL we included individuals that answered at least one question with occasionally or more often.

Results: At least one OHRQoL limitation occurred occasionally or more often in 22.5% of participants. Painful gums/sores in the mouth were the most common (10.6%), 6.6% of children and adolescents were embarrassed because of the appearance of their teeth, 6.0% felt tense because of oral cavity/teeth problems, 5.5% had toothache, 4.8% experienced difficulties with eating food due to oral cavity/teeth problems and 4.1% had difficulties carrying out school work due to problems with their oral cavity/teeth. One or more limitations were more frequent in girls (24.9%, boys 20.4%). At least one of the limitations was more common in children aged 6–7 (24.5%), the proportion decreased in the age group 8–10 (19.5%) and increased to 25.2% at age 15–17 years. The proportion of children and adolescents with one or more limitations decreased with higher levels of parental education (35.7% with primary education, 18.7% with a university degree).

Discussion and conclusions: More than three quarters of children and adolescents did not experience limitations in their daily lives due to problems with the oral cavity and/or teeth. In the youngest age group, the problems were probably related to changing teeth and still present deciduous teeth. In the oldest age group problems with teeth and oral cavity accumulate, and at the same time, they were probably linked to psychological changes related to growing up. Children and adolescents of parents with a higher level of education had a better OHRQoL than children and adolescents of parents with a lower level of education. Oral health care is higher among the more educated individuals, which was reflected in the oral health of children and had also an impact on OHRQoL. Dental public health programs and interventions should be upgraded to incorporate activities of oral health promotion for those groups of children and adolescents.

Keywords: children, adolescents, oral health-related quality of life (OHRQoL), parental education

Razvoj, gibanje in sposobnosti predšolskih otrok z vadbo joge

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Izhodišča in namen: Vadba joge predšolskim otrokom ni namenjena le razvoju motoričnih sposobnosti, gibljivost, moč in prožnost posameznih mišičnih sklopov, vendar z jogo sam otrok pripomore k občutenju lastnega telesa, razvijanju dobre komunikacije in sposobnosti koncentracije ter sprostitve. Otroci v predšolskem obdobju se težje osredotočajo na neko dejavnost, ki traja dlje časa, vendar se jih popelje v vadbo joge skozi igro in domišljijo. Vaje se izvajajo na igriv, otrokom bližji način, saj se predšolski otroci težje osredotočajo na neko dejavnost, ki traja dlje časa. Pozornost otrok se pritegne s pravljicami, posnemanjem različnih živali in uporablja se prispodobne iz vsakdanjega življenja. Pri gibanju se izbira vaje za posamezne sklope, kot so vaje za roke in noge, vrat in glavo, za trup in hrbtenico. Z omenjenimi vajami vplivamo na krepitev in utrditev mišic.

Predstavitev vsebine: Predšolskim otrokom z vadbo joge dajemo možnost, da se z gibanjem na poudarku zavestnega dihanja sprostijo in napolnijo z novo energijo. Med izvajanjem samih vaj se otroci naučijo tehnik pravilnega dihanja (povezano trebušno, prsno in ključnično dihanje) ter zavestno vodijo svoj gib z dihanjem. Otroci se naučijo opazovati mentalne, fizične in emocionalne procese v sebi in jih skušajo ozavestiti in razumeti (npr. z opazovanjem dihanja, usmerijo tok misli in občutke). Na tak način se bolje spoznavajo in razumejo sebe ter ostale vrstnike. Kadar otroci obvladajo fizične procese telesa se naučijo obvladovati tudi psihičnih procesov. Otrokom se poveča veselje do življenja in to vodi do uravnovešenega zdravega razvoja celotnega organizma ter duhovne uravnoveženosti. Pozitivni učinki in prednosti joge pri predšolskih otrocih so: razvijajo se motorične in koordinacijske sposobnosti, krepí se nadzor nad čustvi, otrok ima pravilno držo telesa, izboljša se otroku imunski sistem, poveča se kapaciteta pljuč, kar omogoča bolj globoko in lažje dihanje, telo postane bolj gibljivo, okrepijo se mišice, izboljša se kontrola nad telesom, pospeši se regeneracija telesa in spodbuja se ustvarjalnost. Otrokom pomaga, da se razvijejo v samostojne odrasle osebe, ki sledijo sebi in imajo dobro samopodobo. S pomočjo joge so otroci razviti na vseh nivojih in znanje jim ostane za vedno.

Sklepne ugotovitve: Z jogo se otroci igrajo, vadijo in krepijo telo in duha. Z rednim gibanjem in izvajanjem vaj se izboljša koordinacija gibanja, motorika, otroci so bolj samozavestni in odgovorni pri vsakodnevnih izzivih. Vsak starš si za svojega otroka želi da ima zagotovljeno srečno, zdravo in toplo pot v življenju. S spodbudo k gibanju in zdravi prehrani otrok pripomoremo k zdravemu in kakovostnemu življenjskemu slogu.

Ključne besede: predšolski otroci, joga, razvoj, gibanje, moč, sposobnosti

Development, movement and skills of preschool children through yoga practice

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Introduction and purpose: Practicing yoga for preschool children not only helps develop motor skills, agility, strength and flexibility of individual muscles, but also helps the child feel his own body, develop good communication and the ability to concentrate and relax. Preschoolers find it harder to concentrate on an activity that takes longer, but they practice yoga in a playful and imaginative way. The exercises are done in a playful, child-friendly way, as preschoolers find it harder to concentrate on an activity that takes longer. Children's attention is drawn to fairy tales, various animals are imitated and similes from everyday life are used. In movement, exercises are selected for individual sets, for example, exercises for arms and legs, neck and head, torso and spine. With the above exercises we influence the strengthening and toning of the muscles.

Content presentation: By practicing yoga, we give preschoolers the opportunity to relax and recharge their batteries by focusing on conscious breathing. During the exercises themselves, children learn proper breathing techniques (connected abdominal, chest and collarbone breathing) and consciously control their movements with their breathing. The children learn to observe mental, physical and emotional processes within themselves and try to become aware of and understand them (e.g. by observing breathing, directing the flow of thoughts and feelings). In this way, they come to know and understand themselves and other peers better. When children master the physical processes of the body, they also learn to master the mental processes. Children's zest for life increases and this leads to balanced healthy development of the whole organism and mental equilibrium. The positive effects and benefits of yoga in preschool children are: Motor and coordination skills are developed, emotional control is strengthened, the child has correct posture, the child's immune system improves, lung capacity increases, which allows deeper and easier breathing, the body becomes more flexible, strengthens muscles, improves body control, accelerates the regeneration of the body and promotes creativity. It helps children develop into independent adults who follow themselves and have a good self-image. With the help of yoga, children are developed at all levels and the knowledge remains with them forever.

Conclusions: With yoga, children can play, exercise and strengthen their body and mind. With regular movement and exercise, movement coordination and motor skills improve, and children are more confident and responsible in the challenges of everyday life. Every parent wants their child to have a happy, healthy and warm life. We promote a healthy and quality lifestyle by encouraging exercise and a healthy diet.

Keywords: preschool children, yoga, development, movement, strength, abilities

Predšolski otroci – raziskovalci in skrbniki zdravja

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Izhodišča in namen: Zdravje otrok je v veliki meri odvisno od njihovih staršev/skrbnikov in od družbe v kateri živijo. V Sloveniji se veliko pozornosti namenja pravilnemu telesnemu, duševnemu in socialnemu razvoju, medtem ko duhovno zdravje povečini niti ni ozaveščeno, temveč ga naslavljamo kvečjemu na intuitivnem nivoju. Prispevek želi prikazati dva primera dobre prakse izvedbe dveh zdravstveno vzgojnih učnih delavnic za predšolske otroke, kjer je v vzgojne vsebine vključen celovit pogled na človeka in na njegovo zdravje. Pri obeh vsebinah je bil pomemben tudi vidik spoznavanja/približevanja dela zdravstvenih delavcev ter aktivna vloga otrok.

Predstavitev vsebine: V prvi delavnici so bile za otroke starostne skupine 4-5 let predstavljene naslednje vsebine: dejavniki krepitve zdravja; skrb za varnost; samopomoč in strokovna pomoč; celovita skrb za obolele idr. Vsebine so bile predstavljene z metodo debate in igre vlog, pri čemer so obolele/poškodovane igrali plišasti ljubljenci, ki so jih od doma prinesli otroci ali pa otroci sami/prostovoljci. Igra vlog se je izvajala v obliki delovnih postaj v igralnici vrtca gostitelja. Izvajalci zdravstvenih intervencij (aplikacija infuzije in injekcije, preveza akutne rane idr.) so bili otroci, avtorica je bila v vlogi mentorja. Debata se je izvajala skupinsko sede v krogu na tleh igralnice ali ob delovnih postajah. V drugi delavnici so bile za otroke iste starostne skupine predstavljene vsebine: delovanje živčevja: čutila, gibala in višje možganske funkcije, pomen empatije in sodelovanja za življenje. Vsebine so bile prav tako predstavljene v obliki delovnih postaj, vendar tokrat v strokovni učilnici Srednje zdravstvene šole Ljubljana. Delavnica je bila ena od 17-ih v ponudbi projekta SZŠL Dan odprtih vrat – Z znanjem do zdravja.

Sklepne ugotovitve: Predšolski otroci so izjemno občinstvo za obravnavo na videz zahtevnih tem. Ob pravilnem pristopu lahko otrokom ponudimo kakovostne vsebine, ki jih še dolgo navdušujejo in jih kasneje samoiniciativno dodatno raziskujejo in nadgrajujejo. Ob pogovoru o skrbi za zdravje človeka so otroci navezovali tudi svoje znanje o skrbi za zdravje živali in skrbi za okolje. Refleksije obeh delavnic so bile zelo pozitivne, v primeru 1. delavnice je raziskovanje teme s strani otrok po navedbah vzgojiteljic in staršev trajalo več mesecev. Pri opazovanju skupinske dinamike je bilo pri drugi skupini opaziti prevladovanje tekmovalnega pristopa in celo izključevanja, pri prvi pa več sodelovalnega pristopa, kritičnega prijateljstva in povezanosti. Te ugotovitve prav tako dajejo priložnosti za nadaljnje delo.

Gljučne besede: predšolski otroci, zdravstvena vzgoja, učne delavnice

Preschool children – researchers and guardians of health

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Introduction and purpose: The health of children depends to a large extent on their parents/guardians and the society in which they live. In Slovenia, a lot of attention is paid to proper physical, mental and social development. At the same time care for spiritual health is mostly unaware and is addressed mainly on an intuitive level. These presentation aims to present two examples of good practice in the implementation of holistic approach to health which was provided within two workshops for preschool children. In both workshops the aspect of getting acquainted to the work of health professionals and achieving the active role of children was also important.

Content presentation: In the first workshop, the following contents were presented for children in the age group of 4-5 years: health-promoting factors; security concerns; self-help and professional help; holistic care for the sick, etc. The contents were presented using the method of debate and role play, where the sick / injured were played by plush pets brought from home by children or by the children themselves / volunteers. The role play takes place in the form of workstations in the host kindergarten playroom. The providers of medical interventions (infusion and injection, acute wound dressings, etc.) were children, and the author was a mentor. The debate takes place in a group sitting in a circle on the floor or next to workstations. In the second workshop, the following topics were presented for children of the same age group: nervous system function: senses, movements and higher brain functions, the importance of empathy and cooperation in life. The contents were also presented in the form of workstations, but this time in the professional cabinets of the Secondary School of Nursing Ljubljana. The workshop was one of 17 which were provided during Open Day project - With knowledge to health.

Conclusions: Preschoolers are an exceptional audience for dealing with seemingly challenging topics. With the right approach workshops can offer quality and demanding contents that children would follow and later make further research for a long time. During the discussion on human health care children also linked their knowledge of animal health care and environmental care. The reflections of both workshops were very positive, in the case of the 1st workshop, the further research of the topic by the children, according to the educators and parents, took several months. In observing group dynamics, the predominance of a competitive approach and phenomenon of exclusion was observed in 2nd group, while in the 1st there was more of a collaborative approach, critical friendship and connection. These findings also provide an opportunity for further work.

Keywords: preschool children, health education, learning workshops

Odnos do cepljenja in uporaba cepiva proti HPV med hrvaškimi študenti

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Uvod: Stališča do cepljenja so pomembna za napovedovanje cepilnega vedenja posameznikov in so povezana z njihovim znanjem o cepivih. Raziskave so pokazale, da so študenti nizko deležni cepljenja proti humanemu papiloma virusu (HPV). Namen te študije je bil raziskati povezave med stališči do cepljenja in znanjem o HPV in cepivu proti HPV, ter raziskati povezavo med prej omenjenimi stališči in sprejemanjem cepiva proti HPV med hrvaškimi študenti.

Metode: Od februarja do maja 2021 je bila izvedena presečna raziskava na medfakultetnem reprezentativnem vzorcu študentov Univerze v Osijeku v vzhodni Hrvaški. Kot raziskovalno orodje smo uporabili validiran, anonimen vprašalnik, ki so ga izpolnili študenti in je vseboval vprašanja o demografskih podatkih, podatkih o cepljenju proti HPV, podatkih o poznavanju virusa HPV in o cepljenju, ter o lestvici preverjanja stališč o cepljenju (lestvica VAX). Nižje ocene na lestvici VAX odražajo bolj pozitiven odnos do cepljenja.

Rezultati: Vzorec je vključeval 840 oseb s srednjo starostjo 20 let (interkvartilni razpon 20–21), 45,8 % moških in 54,2 % žensk. Mediana ocene na lestvici VAX je bila 39,0 (interkvartilni razpon 32,0–46,0). Prevalenca cepljenja proti HPV v opazovani populaciji je bila 20,8 %. Glede znanja o virusu HPV in cepljenju med vsemi udeleženci raziskave je bilo 25,6 % tistih s slabim, 26,4 % z dobrim in 48,0 % z zelo dobrim znanjem. Udeleženci, ki so bili cepljeni s cepivom proti HPV, so imeli značilno bolj pozitiven odnos do cepljenja v primerjavi z necepljenimi udeleženci ($p < 0,001$). Udeleženci z zelo dobrim znanjem o virusu HPV in cepljenju so imeli bistveno bolj pozitiven odnos do cepljenja v primerjavi z ostalimi udeleženci ($p < 0,001$).

Razprava in zaključek: Čeprav je večina hrvaških univerzitetnih študentov imela zadovoljivo raven znanja o virusu HPV je sedanja raziskava o cepljenju pokazala, da je imela opazovana populacija veliko zadržkov v povezavi s cepljenjem, pa tudi nizko udeležbo pri cepljenju proti HPV. Raziskava je potrdila povezave med odnosom do cepljenja, znanjem o virusu HPV ter samim cepljenjem proti HPV v populaciji hrvaških študentov. Boljše razumevanje stališč, ki so osnova za oklevanje pri cepljenju, in dejavnikov, ki preoblikujejo ta stališča, so pomembni za razvoj javnozdravstvenih intervencij, namenjenih povečanju uporabi cepiva proti HPV med hrvaškimi študenti. Potrebne so nadaljnje raziskave.

Ključne besede: humani papiloma virus, cepljenje, študenti, stališča, znanje, Hrvaška

Vaccination attitudes and HPV vaccine uptake among Croatian university students

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Introduction: The attitudes regarding vaccination are significant for predicting individuals' vaccination behavior and are connected with one's knowledge about vaccines. Studies have shown the low uptake of the human papillomavirus (HPV) vaccine among university students. This study aimed to explore associations between the attitudes regarding vaccination and knowledge about HPV and HPV vaccine as well as to explore the association between the aforementioned attitudes and HPV vaccine uptake among Croatian university students.

Methods: From the February to May 2021 period a cross-sectional questionnaire study was conducted in a cross-faculty representative student sample of the University of Osijek in Eastern Croatia. A validated, anonymous, self-administered questionnaire that contained questions regarding demographic data, data about HPV vaccine uptake, data regarding knowledge about the HPV virus and the vaccination as well as the Vaccination Attitudes Examination Scale (VAX scale) served as a research tool. The lower scores on the VAX scale reflect more positive vaccination attitudes.

Results: The study sample included 840 subjects with, median age of 20 years (interquartile range 20-21), 45.8% males, and 54.2% females. The median VAX scale score was 39.0 (interquartile range 32.0-46.0). The prevalence of HPV vaccination uptake in the observed population was 20.8%. Regarding the knowledge about the HPV virus and the vaccination among all study participants, there were 25.6% of those with poor, 26.4% of those with good, and 48.0% of those with very good knowledge. The participants who were vaccinated with the HPV vaccine had significantly more positive vaccination attitudes in comparison to non-vaccinated participants ($p < 0.001$). The participants with very good knowledge about the HPV virus and the vaccination had significantly more positive vaccination attitudes in comparison to other participants ($p < 0.001$).

Discussion and conclusions: Even though the majority of Croatian university students had a satisfactory level of knowledge about the HPV virus and the vaccination present study revealed that the observed population had strong general vaccine hesitancy as well as low HPV vaccine uptake. The study confirmed the existence of associations between vaccination attitudes, knowledge about the HPV virus, and the vaccination and HPV vaccination uptake in the Croatian university student population. A better understanding of the attitudes that underlie vaccine hesitancy and factors that modify these attitudes are important for developing public health interventions intended to increase HPV vaccine uptake among Croatian university students. Further studies are needed.

Keywords: human papillomavirus, vaccination, university students, attitudes, knowledge, Croatia

Ekonomsko breme najpogostejših nalezljivih bolezní pri otrocih v Sloveniji

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Uvod: Nalezljive bolezni pri otrocih so v Sloveniji še vedno pogost vzrok obiska pri zdravniku, sprejema v bolnišnico in vzrok smrti. Predstavljajo tudi precejšnje finančno breme.

Metode: V raziskavi smo analizirali podatke iz treh podatkovnih zbirk Nacionalnega inštituta za javno zdravje Republike Slovenije iz obdobja 2005. To so Zbirka zunajbolnišničnih obravnav, Zbirka skupine primerljivih primerov (SPP) in Zbirka umrlih. Osredotočili smo se na nalezljive bolezni oz. najpogostejše diagnoze nalezljivih bolezní pri otrocih. Naša ocena stroškov je narejena po metodi ocenjevanja stroškov bolezní, vključuje pa neposredne in posredne stroške. V ta strošek so vključeni stroški prvih pregledov v otroških in šolskih diapanzerjih, stroški, izračunani iz cene prvega pregleda pri specialistu na sekundarni ravni, stroški hospitalnega zdravljenja in stroški, izgubljen prihodnji zaslužek, zaradi smrti otroka (vlaganje v otroka in delovna produktivnost do 65. leta starosti je izgubljena). Medicinske diagnoze smo izbrali iz priporočene literature Centra za preventivo in nadzor bolezní iz Atlante in iz ICD-9 prekodirali v MKB-10.

Rezultati: Za izbrane nalezljive bolezni je leta 2005 cena znašala 14,620.187 EUR, za otroke, stare 0–6 let in 4,408.773 EUR za otroke, stare 7–14 let, kar zavzema 16,97 odstotni delež vseh bolezní otrok, starih od 0–6 let in 17,3 odstotni delež vseh bolezní otrok, starih od 7–14 let. Med vsemi izbranimi nalezljivimi boleznimi so okužbe spodnjih dihal predstavljale pri otrocih starih 0–6 let, največji strošek zaradi hospitalnega zdravljenja in zaradi prezgodnje smrti, okužbe zgornjih dihal pa zaradi pogostega obiska pri zdravniku. Pri otrocih, starih 7–14 let, je bil strošek najvišji pri trebušnih in črevesnih okužbah zaradi hospitalnega zdravljenja in okužbe zgornjih dihal zaradi obiska pri zdravniku. Povzročitelja nalezljivih bolezní, nam izbrane zbirke ne dajejo.

Razprava in zaključki: V raziskavi smo s posameznimi kazalniki, to so število sprejemov v otroški in šolski diapanzer, število sprejemov v bolnišnico in oceno teže bolezní ter števila umrlih, prikazali ekonomsko breme izbranih nalezljivih bolezní in z njimi povezanih nekaterih ekonomskih stroškov pri otrocih in mladostnikih v Sloveniji. Najpogosteje so stroški povezani z obiskom otrok pri zdravniku na primarni ravni, sledi tudi pregled pri specialistu in hospitalizacija za težje bolezni, število umrlih otrok je majhno, vendar kadar umre otrok je to velika izguba, tudi ekonomska. Tovrstni podatki so pomembni za spremljanje stanja in napovedovanja gibanj na področju zdravstvenega varstva in porabe sredstev v Sloveniji. Obenem pričakujemo, da bodo informacije o bremenu nalezljivih bolezní povečale pozornost izvajalcev zdravnikov do zbirk podatkov, ter vplivale na kakovost in popolnost posredovanih podatkov.

Ključne besede: ekonomsko breme, neposredni stroški, posredni stroški, otroci in mladostniki

Economic burden of the most common infectious diseases in children in Slovenia

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Introduction: In Slovenia, infectious diseases in children are a common cause of visits to primary care physicians, of hospital admissions and the cause of death. They also represent a significant economic burden.

Methods: We analyzed routinely calculated data from the Slovenian National Institute of Public Health in 2005. These are the Collection of Outpatient Hearings, the Group of Comparable Cases (SPP) and the Collection of Deaths. Our cost estimate is made by using the method of estimation of the cost of diseases and includes direct and indirect costs. This cost included the cost of first examination in pediatric dispensers at the primary level, costs, prices calculated from the first examination by a specialist at the secondary level, the cost of hospital treatment, and the cost of the lost human capital (investment in the child and employment productivity up to the age of 65 is lost). We analyzed data with particular attention on the most frequent infectious diseases of children. Data were classified from recommended literature from CDC Atlanta, according to the most to the International Classification of Diagnoses ICD-9 preceded to ICD-10.

Results: The cost amounted to 14,620.187 EUR for children aged 0 to 6 years and 4,408.773 EUR for children aged 7 to 14 years, which account for a 16.97% share of all diseases for children aged 0-6 years and 17.3% of all diseases for children aged 7-14 years. For children aged 0 to 6 years, the highest costs are due to lower respiratory tract infections due to hospital treatment, and upper respiratory infections due to a doctor visit. For children aged 7 to 14 years, costs were higher for abdominal and intestinal infections due to hospital treatment and upper respiratory infections due to a doctor visit.

Conclusions: In the analysis, we estimated the burden of common infectious diseases of children in Slovenia and related economic costs by using routinely collected data. This cost included the cost of first examination of pediatric dispensers at the primary level, costs, prices calculated from the first examination by a specialist at the secondary level, the cost of hospital treatment, and the cost of the lost human capital. Most often, the costs are related to visiting children at the primary level, followed by a specialist examination and hospitalization for serious diseases, the number of children dying is small, but when a child dies, it is a major loss, even economically. The results are important for monitoring and forecasting health care and health care costs in Slovenia. We expect that the use of information on the burden will bring about more attention to the quality and completeness of the clinical data.

Keywords: burden, direct costs, indirect costs, children and adolescents

Zdravstveno-vzgojno delo v vrtcih

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Izhodišča in namen: Zdravstvena vzgoja in promocija zdravja sta odraz splošne kulture v določeni družbi. Zdravstvenovzgojno delo je temeljna aktivnost izvajalcev zdravstvene nege, ki pripomore k samodejavnosti posameznika k izboljševanju in ohranjanju svojega zdravja in preprečevanja bolezni.

Predstavitev vsebine: Zdravstveno-vzgojno delovanje se mora pričeti že v otroški dobi, saj se tako že otroci naučijo, kako živeti čim bolj zdravo, kar je dobra naložba za prihodnost. Namen raziskave je bil preučiti pomen zdravstveno-vzgojnega delovanja v vrtcih in ugotoviti, kakšno je stališče vzgojiteljev glede tega. Cilj raziskave je bil ugotoviti, kako so vzgojitelji zdravstveno-vzgojno aktivni s predšolskimi otroci in kako so otroci sprejemljivi za te vsebine. Raziskava je temeljila na kvalitativni metodi dela, primarni podatki so bili pridobljeni s tehniko intervjuvanja. Vzorec v raziskavi je bil namenski, v intervjuju je sodelovalo 6 intervjuvank iz treh različnih vrtcev. Rezultati kažejo, da vrtci sodelujejo z zdravstvenimi zavodi, vendar se število obiskov zdravstvenih delavcev razlikuje glede na posamezni vrtec. Otroci so dovezetni za informacije, katere jim posreduje zdravstveno osebje in v aktivnostih radi sodelujejo. Za vzgojitelje so namenjena izobraževanja v sklopu programa Zdravje v vrtcu, ostalih izobraževanj na temo zdravstvene vzgoje pa nimajo predvidenih. Ena izmed intervjuvanih je dejala, da se je udeležila izobraževanja iz prve pomoči, kar bi morala biti stalna praksa za vse, ki delajo z otroci, saj so ti nepredvidljivi in ustrezno ukrepanje ob nesrečah lahko reši življenje.

Sklepne ugotovitve: Zdravstveno-vzgojnem delovanju se danes daje veliko večji pomen kot v preteklosti. Bi pa morale biti zdravstveno-vzgojne dejavnosti v vzgojno-izobraževalnih ustanovah pogostejše. Predvsem v času epidemije so te dejavnosti obstale. Prav je, da se otroci že v zgodnji starosti naučijo skrbeti za svoje zdravje, vendar, da lahko to udejanjijo, morajo najprej pridobiti ustrezne informacije na takšen način, da jih bodo razumeli. Žal se veliko otrok prvič seznanijo z zdravstvenimi informacijami šele v vrtcih oz. šolah, saj doma starši nimajo ustreznega znanja ali pa se jim takšne zadeve ne zdijo pomembne. Intervjuvanke se strinjajo, da so zdravstveno-vzgojne vsebine pomembne, vendar je od vsake ustanove odvisno, kolikšen poudarek daje na njih. Potreben bi bil enotni učni načrt, ki bi zajemal zdravstveno-vzgojne vsebine v vrtcih in bi zajemal vsebine za otroke, vzgojitelje in tudi starše, saj so starši v prvi vrsti zgled svojemu otroku.

Ključne besede: zdravstvena vzgoja, vzgoja in izobraževanje, delo v vrtcih, zdravstvene vsebine in vrtec.

Health-education work in kindergartens

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Introduction and purpose: Health-education and health promotion are a reflection of the general culture in a given society. Health-education work is a basic activity of care providers, which helps individuals themselves to become active in improving and maintaining their health and preventing diseases.

Content presentation: Health-education must start at a young age, because children learn how to live as healthy as possible, which is a good investment for the future. The purpose of the research was to examine the importance of health-educational activities in kindergartens and to determine the position of educators in this regard. The aim of the research was to determine how educators are active in health education with preschool children and how children are acceptable for these contents. The research was based on a qualitative working method, and the primary data were obtained through interview techniques. The sample in the research was engaged, 6 respondents from three different kindergartens participated in the interview. The results show that kindergartens collaborate with health facilities, but the number of visits by health personnel varies from kindergarten to kindergarten. The children are receptive to the information provided by the health personnel and are happy to participate in the activities. In-service training is provided for kindergarten teachers as part of the »Health in Kindergarten« program, while other in-service training on health education is not planned. One of the interviewees said that she participated in first aid training, which should be a constant practice for all those who work with children, as they are unpredictable and appropriate action in case of accidents can save lives.

Conclusions: Much more importance is given to health education today than in the past. However, health-education activities should be more frequent in educational institutions. Especially during the epidemic, these activities continued. It is true that children learn to take care of their health at an early age, but to do so, they must first be given relevant information in a way that they can understand. Unfortunately, many children are not introduced to health information until they are in kindergarten or school because parents do not have the relevant knowledge at home or do not consider such topics important. Interviewees agree that the content of health-education is important, but it depends on each institution how much emphasis they place on it. There would be a need for a unified curriculum that includes health and education content in kindergartens and includes content for children, educators, and also parents, since parents are first and foremost role models for their child.

Keywords: health education, education, work in kindergartens, health content and kindergarten.

Izpostavljenost kemikalijam v življenjskem okolju pri otrocih in mladostnikih v Sloveniji

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Izhodišča in namen: V vsakdanjem življenju smo izpostavljeni mešanici kemikalij iz različnih virov, npr. hrana, embalaža za živila, izdelki za osebno nego in zrak. Kljub napredku analitičnih tehnik in orodij je izpostavljenost kemikalijam v splošni populaciji še vedno nezadovoljivo opredeljena. V skladu s strategijo EU za okolje in zdravje, smernicami Svetovne zdravstvene organizacije, pa tudi z nacionalno zakonodajo in obstoječimi podatki (vključno s prvo nacionalno študijo humanega biomonitoringa pri odraslih) je cilj študije oceniti izpostavljenost izbranim obstojnim in ne-obstojnim kemikalij pri otrocih in mladostnikih z različnih območij po Sloveniji, identificirati ranljive skupine, geografske razlike in narediti oceno tveganja za zdravje.

Predstavitev vsebine: Drugi nacionalni humani biomonitoring (HBM) je tekoči program (2018–2023), ki se osredotoča na otroke (6–9 let) in mladostnike (12–15 let). Študijsko populacijo rekrutiramo na devetih območjih (v vsakem 100 otrok in 100 mladostnikov): Jesenice, Mežiška dolina, Celje, Zasavje, Bela krajina, Vrhnika, Idrija in Posočje, Prekmurje (vključeno kot pilotna študija) in Koper. Izpostavljenost kemikalijam ocenjujemo z meritvami izbranih kemikalij v bioloških vzorcih (kri, prvi jutranji urin, lasje) preiskovancev: kovine in polkovine, ftalati in DINCH, bisfenoli, perfluoroalkilne in polifluoroalkilne snovi, pesticidi, zaviralci gorenja, poliklorirani bifenili, dioksini in furani ter policiklični aromatski ogljikovodiki, in sicer z uporabo najsodobnejše analitske metodologije. Za identifikacijo potencialnih virov in determinant izpostavljenosti, podatke o življenjskem slogu (vključno s prehranjevalnimi navadami), osnovne informacije o zdravstvenem in socialno-ekonomskem statusu pridobivamo z vodenimi intervjuji s starši ter preko prostorskih podatkovnih baz. Glede na do sedaj zbrane podatke smo ugotovili nekaj pomembnih razlik med študijskimi območji, starostnimi skupinami in spoloma. Vendar pa zbiranje in analiza podatkov še potekata, slednja pa obsega uporabo klasičnih statističnih metod, vključno z analizo variance, multiplo linearno regresijo ter prostorsko vizualizacijo podatkov. V ta namen zbiramo morebitne pojasnjevalne spremenljivke glede virov in poti izpostavljenosti iz obstoječih prostorskih podatkovnih nizov, ki so na voljo na nacionalni ravni.

Sklepne ugotovitve: Na področju zdravja okolja je HBM pomembno orodje za oceno integrativne izpostavljenosti okoljskim kemikalijam iz več virov. Otroci in mladostniki so še posebej občutljivi na biološke spremembe, ki jih povzroča zunanji stres (vključno s kemikalijami), zato je dolgoročni cilj HBM varovanje zdravja otrok in mladostnikov pred škodljivimi učinki kemikalij iz njihovega življenjskega okolja.

Gljučne besede: kemikalije, otroci in mladostniki, okolje

Exposure to chemicals from the ambient environment in children and adolescents from Slovenia

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Introduction and purpose: We are exposed to a mixture of chemicals in our everyday lives from various sources, e.g. food, food packaging, personal care products, and ambient air. Despite the advancement of analytical techniques and tools, the overall exposure to chemicals in the general population is still insufficiently characterized. In line with EU Strategy on Environment and Health, World Health Organization guidelines, as well as with national legislative basis and existing data (incl. the first national human biomonitoring study in adults), the objective is to estimate exposure to selected persistent and non-persistent chemicals in children and adolescent from different areas across Slovenia, identify vulnerable groups, geographical differences and perform a health risk assessment.

Content presentation: The second national human biomonitoring (HBM) is an ongoing program (2018-2023) focusing on children (6-9 years) and adolescents (12-15 years). The study population is being recruited from nine study areas (each targeting 100 children and 100 adolescents): potentially contaminated areas of Jesenice, Mežica Valley, Celje, Zasavje, Bela Krajina, Vrhnika, Idrija and Posočje, rural area of Prekmurje (included as the pilot study) and urban area of Koper. Exposure to chemicals is being assessed through measurements of selected chemicals in biological samples (blood, first morning urine, hair) provided by the subjects: metals and metalloids, phthalates and DINCH, bisphenols, perfluoroalkyl and polyfluoroalkyl substances, pesticides, flame retardants, polychlorinated biphenyls, dioxins and furans, and polycyclic aromatic hydrocarbons, using a state-of-the-art analytical methodology. For identification of potential sources and determinants of exposure, lifestyle (incl. dietary habits), basic health and socio-economic status information is obtained through the guided interviews with parents, as well as through the environmental spatially resolved datasets. According to the data collected up to this point, there were some important differences discovered between the study areas, age groups and sexes. However, data collection and analysis are still in progress, and the latter comprises the use of classical statistical methods, including analysis of variance, multiple linear regression as well as geospatial visualization of data. To this end, potential explanatory variables regarding sources and exposure pathways from the existing spatially resolved datasets available at the national level are being compiled.

Conclusions: In the field of environmental health, HBM is an important tool for the estimation of integrative exposure to environmental chemicals from multiple sources. Children and adolescents are particularly vulnerable to biological changes caused by external stress (incl. chemicals), therefore a long-term aim of the HBM is to protect children's and adolescents' health from the harmful effects of chemicals from their living environment.

Keywords: chemicals, children and adolescents, environment

Sekcija/Section
Prehrana otrok in mladostnikov
Nutrition of children and youth

Vabljeno predavanje

Ocena prehranskega stanja pediatrične populacije

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Izhodišča in namen: Ocena prehranskega stanja dojenčkov, otrok in mladostnikov je nujno potrebna saj lahko le z rednim spremljanjem zagotovimo optimalen razvoj. Z oceno prehranskega stanja želimo opredeliti morebitne težave povezane s prehrano, ki jih je mogoče odpraviti in se tako izogniti kompleksnejšim težavam v prihodnosti. Ocena prehranskega stanja je osnova prehranske obravnave pri kateri gre za podrobno in poglobljeno oceno posameznika, ki jo opravi usposobljen zdravstveni delavec. Namen prispevka je opraviti pregled aktualne literature in predstaviti izbor orodij in pristopov za objektivno oceno prehranskega stanja pediatrične populacije.

Predstavitev vsebine: Pri oceni prehranskega stanja gre za interpretacijo antropometričnih (telesna dolžina/višina, telesna masa, indeks telesne mase, analiza sestave telesa), biokemičnih (laboratorijskih), kliničnih (vrsta bolezenskega stanja, presejanje na prehransko ogroženost) in prehranskih podatkov (metoda 3-dnevnega prehranskega dnevnika, priklic jedilnika prejšnjega dne, vprašalnik o pogostosti uživanja živil in tekočin), s čimer ugotovimo, ali je otrok ustrezno ali neustrezno prehranjen (podhranjen ali čezmerno hranjen). Za zagotovitev pravočasne in učinkovite prehranske intervencije je bistvenega pomena multidisciplinarni pristop k oceni prehranskega stanja. Ocena prehranskega stanja je zahteven in dinamični proces, pri katerem z objektivnimi meritvami ocenimo stanje posameznika in se nato odločimo za ustrezno (prehransko) zdravljenje bolnika. Optimalno prehransko stanje (preskrbljenost z vsemi hranili in ustreznost telesne mase) je pomemben dejavnik za krepitev zdravja in preprečevanje ter zdravljenje bolezni. Prehransko stanje namreč med drugim vpliva tudi na naš imunski sistem in odziv posameznika na določeno terapijo.

Sklepne ugotovitve: Prehransko stanje ocenjujemo iz več razlogov, v prvi vrsti, da zgodaj prepoznamo otroke in mladostnike s tveganjem za razvoj podhranjenosti, podhranjene otroke primerno obravnavamo, spremljamo njihovo rast in razvoj in na podlagi ocene prehranskega stanja pripravimo ustrezen prehranski načrt, s katerim dosežemo hitrejše okrevanje oziroma boljši izid same bolezni.

Ključne besede: ocena prehranskega stanja, prehrana, dojenček, otrok, mladostnik

Invited lecture

Assessment of the nutritional status of pediatric population

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Introduction and purpose: Nutritional assessment of infants, children and adolescents is crucial, as only regular monitoring can ensure optimal development. Nutritional assessment aims to identify potential nutritional deficiencies that can be corrected to prevent more complex complications in the future. A nutritional assessment is the basis for nutritional treatment, which is a detailed and in-depth assessment of a person by a qualified health professional. The aim of this article is to review the current literature on tools and approaches to objectively assess the nutritional status of the paediatric population.

Content presentation: The assessment of nutritional status is a matter of interpreting anthropometric (body length/height, body mass, body mass index, body composition analysis), biochemical (laboratory), clinical (type of condition, screening tools for nutritional risk) and nutritional data (3day food diary method, 24-h recall, food and fluid frequency questionnaire) to determine whether the child is malnourished (undernourished or overnourished). A multidisciplinary approach to nutritional assessment is essential to ensure timely and effective nutritional intervention. Nutritional assessment is a complex and dynamic process of using objective measurements to assess the person's condition and then determining appropriate (nutritional) treatment for the patient.

Conclusions: Optimal nutritional status (supply of all nutrients and adequacy of body weight) is an important factor in promoting health and preventing and treating disease. Among other things, nutritional status influences our immune system and the individual's response to certain therapies. We assess nutritional status for a number of reasons, primarily to identify children and adolescents at risk of malnutrition early, to treat malnourished children appropriately, to monitor their growth and development, and to develop an appropriate nutritional plan based on the assessment of nutritional status, leading to faster recovery or better outcome of the disease itself.

Keywords: nutritional assessment, nutrition, infant, child, adolescent

S projekti v osnovnih šolah do boljših prehranjevalnih navad učencev

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Uvod: Na Osnovni šoli Stane Žagar v Kranju potekata dva projekta, na katera smo se osredotočili in opredelili njuno vlogo pri izobraževanju o prehrani. Projekt 2° Zelene strehe je pretežno namenjen učilnici na prostem, hkrati pa učenci skrbijo za rastline, ki rastejo na strehi. Tradicionalni slovenski zajtrk je projekt, namenjen izobraževanju o pomenu zajtrka, lokalno pridelani hrani, čebelarstvu in obdelavi slovenskega podeželja ter lokalnih kmetov. Sestavljajo ga mleko, kruh, maslo in jabolko ali drugo sveže ali suho sadje brez dodanega sladkorja.

Metode: Spomladi leta 2021 smo izvedli anketiranje. V vzorcu je bilo 59 učencev iz treh sedmih razredov. Z anketnim vprašalnikom smo ugotavljali, kakšne so njihove prehranjevalne navade, in na podlagi rezultatov sklepali, kakšno je njihovo znanje o prehrani. Izvedli smo tudi kviz na platformi Kahoot, ki je vseboval vprašanja o predstavljenih vsebinah. Z računalniškim orodjem OPKP smo izračunali hranilne in energijske vrednosti tradicionalnega slovenskega zajtrka.

Rezultati: S tradicionalnim slovenskim zajtrkom učenci povprečno zaužijejo 1604 kJ energije, kar za starostno skupino 13–14 let ustreza 16 % celodnevni potreb. Energijski delež beljakovin v zajtrku predstavlja 10 %, maščob 26 % in ogljikovih hidratov 64 %. Iz rezultatov ankete smo ugotovili, da manj kot polovica učencev zajtrkuje vsak dan. Nizka je tudi pogostost uživanja polnovrednih kosmičev in zdrobov ter stročnic. Večina učencev uživa eno ali dve vrsti sadja na dan (68 %), 17 % pa sadja ne uživa vsak dan. Zelenjavo jih vsak dan uživa 47 %, a večina le eno ali dve vrsti na dan. Pri dekletih je odstotek tistih, ki uživajo izdelke iz polnozrnate moke, večji, in sicer 36 %. Le 27 % fantov uživa polnozrnate izdelke. Večina učencev, 67 % deklet in 74 % fantov, največ posega po vodi. 76 % učencev uživa med 3 in 5 obrokov dnevno. S kvizom na platformi Kahoot smo preverili njihovo znanje o prehranskih smernicah. Pogovor o pravilnem odgovoru se je najbolj razživel pri vprašanju 'Kaj se nahaja v spodnjem delu prehranske piramide?', saj smo jim predstavili prenovljeno prehransko piramido, ki je pri po-uku še niso spoznali.

Razprava in zaključki: Projekta imata velik potencial pri izobraževanju učencev in izboljševanju njihovih prehranjevalnih navad. Na zeleni strehi rastejo užitne rastline, predvsem jagodičevje. V rastlinski hrani se nahajajo zaščitne snovi, ki zmanjšujejo tveganje za pojav nekaterih nenalezljivih kroničnih bolezni. Menimo, da bi bila ena od rešitev lahko nadgrajevanje takšnih projektov z več interaktivnimi vsebinami, s katerimi bi učencem predstavili pomen uživanja uravnotežene prehrane. Izvajanje takšnih projektov je smiselno, saj smo ugotovili, da na nekaterih področjih prehrana učencev ni skladna s priporočili. Iz tega lahko sklepamo, da je tudi njihovo znanje pomanjkljivo. Z nadgradnjo projektov bi zagotovili večjo informiranost in s tem spodbujali spremembo prehranjevalnih navad.

Gljučne besede: Prehranjevalne navade, tradicionalni slovenski zajtrk, zelena streha, rastlinska hrana, znanje učencev

Elementary school projects as a possibility of improving pupils' eating habits

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Introduction: At the Stane Žagar primary school in Kranj, there are two projects taking place we had focused on, defining their role on education about nutrition. Projekt 2° Zelene strehe and Tradicionalni slovenski zajtrk. The first provides an additional space for high quality learning environment. Pupils need to take care of the green roof and plants, which helps them to learn about responsibility. The latter provides them knowledge not only about importance of breakfast consumption, but also about locally produced food, beekeeping and local farming. It consists of bread, milk, butter, honey and an apple or other fresh or dried fruit without any added sugars.

Methods: In spring 2021 we conducted a survey. There were 59 pupils in the sample from three 7th grade classes. The purpose was to determine what their eating habits are like. Based on those we inferred what their knowledge is on nutrition. We conducted a quiz on Kahoot platform, there were 10 questions regarding the content we presented. We used an OPKP programme to calculate nutritional and energy values of traditional Slovenian breakfast.

Results: On average, this breakfast provides 1604 kJ (382 kcal), which is 16 % of daily energy requirements for pupils in age group 13–14 years. 10 % of the breakfast is composed of protein, 26 % of fats and 64 % of carbohydrates. Results of the questionnaire have shown that less than half of pupils eat breakfast daily. The frequency of wholegrains and legumes consumption is also low. Pupils mostly consume one or two sorts of fruit per day (68 %), but 17 % of them don't include fruits in their diet every day. 47 % of pupils eat vegetables every day, mostly one or two sorts per day. Females consume more wholegrain product (36 %) than males (27 %). Most pupils, 67 females and 74 % males, drink water. 76 % of pupils have between 3 and meals per day. We used quiz on Kahoot platform to evaluate their knowledge on guidelines for balanced nutrition. The most pupils expressed their opinion on the issue of 'What is in the lowest layer of the nutrition pyramid scheme?' as we have presented the new nutrition pyramid scheme, which they have not met yet.

Discussion and conclusion: Some edible plants are grown on the green roof, mostly berries. In plant-based foods there are bioactive compounds. They not only have antioxidant properties but also play a role in lowering risk for some noncommunicable diseases. Both projects carry a great potential in educating pupils and improving their eating habits. We suggest upgrading the projects with interactive contents, thus pupils would be more effectively presented the purpose of balanced nutrition. Questionnaire results show pupils' eating habits are not suitable, hence we inferred their knowledge on nutrition is insufficient. Implementing such projects might be beneficial for their knowledge. By upgrading the projects, additional information would be provided and changes in eating habits would be encouraged.

Keywords: Eating habits, traditional Slovenian breakfast, green roof, plant foods, antioxidants

Prehranjevalne navade otrok 2. starostnega obdobja

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Uvod: Namen raziskave je bil ugotoviti, kakšne so prehranjevalne navade otrok 2. starostnega obdobja. Predvsem nas je zanimalo, kako pogosto in kakšno sadje/zelenjavo uživajo, v kolikšni meri nadomeščajo zdrave obroke s prigrizki, ter koliko in kakšno tekočino najpogosteje pijejo.

Metode: Kvantitativna raziskava je bila izvedena decembra 2021. Oblikovali smo spletno anketo, ki jo je izpolnilo 754 staršev predšolskih otrok 2. starostnega obdobja. Večina (92,4 % otrok je vključenih v vrtec. Anketni vprašalnik je bil anonimen, vseboval je 16 vprašanj.

Rezultati: Rezultati so pokazali, da se predšolski otroci 2. starostnega obdobja prehranjujejo zdravo. V povprečju imajo štiri do šest obrokov dnevno, ob tem pa je potrebno poudariti, da so starši otrok ocenjevali skupni vnos obrokov doma in v vrtcu. Sveže sadje (98,0 %) in zelenjavo (92,8 %) vsak dan uživa večina otrok. Najpogosteje (74,3 %) pijejo vodo, vendar zaskrbljujoč podatek predstavlja količina zaužite tekočine. Polovica (52,1 %) otrok namreč zaužije manj kot liter dnevno, kar je premalo. Obenem pa 68,7 % staršev otrokom dnevno ponudi slane oz. sladke prigrizke namesto zdravega obroka.

Razprava in zaključki: Prehranjevalne navade otrok se začnejo oblikovati v družini, z opazovanjem in posnemanjem odraslih. Zaradi visokega deleža staršev, ki otrokom zdrave obroke nadomešča s prigrizki in zaradi zauživanja prenizke količine tekočine, velja razmisliti o vključevanju staršev predšolskih otrok v izobraževanja z vsebinami zdravega prehranjevanja in pomenu le tega za fizično in psihično zdravje, rast in razvoj ter pridobivanje zdravih prehranskih navad otrok.

Ključne besede: prehranjevalne navade, predšolski otroci, uravnotežena prehrana, sadje in zelenjava, prigrizki

Food habits of children attending the second age group

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Introduction: The aim of the herewith study is to establish what in fact are the general eating habits of children, belonging to the second-age range. In particular, we were interested in finding out how often and what range of fruit / vegetables children eat, to what extent they most likely replace healthy meals with snacks and finally, how much and what kind of liquid children most often drink on a daily basis.

Methods: The quantitative method of research was undertaken in December 2021. We designed an online survey that was completed by 754 parents whose children are part of the secondage range. Most children (92,4 %) are enrolled in kindergartens. The survey, as a research tool, was anonymous and it included a list of 16 specific questions.

Results: The findings revealed that preschool-age children, being part of the second-age group, eat healthy meals. On average, they consume from four to six meals per day. It is necessary, however, to specify that the parents of the children estimated the overall food intake and in particular, the total intake of meals eaten both at home and in kindergarten. In fact, fresh fruit (98,0 %) and vegetables (92,8 %) are eaten by the majority of children every day. When it comes to drinking liquid, it was established that preschoolers tend to drink plenty of water (74,3 %), however, a worrisome concern is shown in the gathered data as far as the amount of liquid children consume. It was established that half (52,1 %) of children consume less than one liter per day, which is unquestionably too little or not enough. At the same time, 68,7 % of all parents offer sugar-sweetened and flavored-salty snacks instead of a good healthy meal.

Discussion and Conclusions: Children's eating habits do begin to take shape in a family, from watching and imitating their own parents. Due to a much higher than average proportion of parents who replace good healthy meals with snacks, and after considering that preschoolers do not consume enough liquids, consideration may be given as to whether encourage parents of preschool children to take part in the learning processes and strategies that are about healthy eating habits and the very importance of a healthy diet for children's physical and mental well-being, their growth and further development, and lastly, to help them build their own healthy eating habits as well.

Keywords: children's eating habits, preschool children, balanced diet, fruit and vegetables, snacks

Ključni dejavniki za normalno asimilacijo kalcija ter rast in razvoj kosti pri otrocih in mladostnikih

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Izhodišča in namen: Kalcij je najbolj pogost mineral v človeškem telesu. Kar 99 % kalcija se nahaja v kosteh in zobeh. V obdobju rasti so zadostni vnosi kalcija izrednega pomena za pravilno rast in mineralizacijo kosti. Ne zadostni vnosi kalcija v tem obdobju so povezani z doseganjem nižje kostne gostote in upočasnjeno rastjo, dolgoročno pa predstavljajo povečano tveganje za osteoporozo kasneje v življenju. Raziskave kažejo, da kar 79 % predšolskih otrok v Sloveniji ne dosega priporočenih dnevnih vnosov kalcija.

Predstavitve vsebine: Za zadosten vnos kalcija pri otrocih je potrebno poskrbeti z uvajanjem prehrane, ki je bogat vir kalcija. Pri tem je potrebno imeti v mislih tudi samo učinkovitost absorpcije, ki je zlasti iz rastlinskih virov precej slabša kot na primer iz mlečnih izdelkov. Za učinkovito asimilacijo kalcija v kosti pa so ključni tudi drugi mikronutrienti, ki so vpleteni v metabolizem kalcija na poti iz prebavnega trakta, preko krvi, v kosti. Ključni dejavniki v tem procesu so vitamin D, ki omogoča absorpcijo kalcija iz prebavnega trakta, magnezij, ki deluje kot kofaktor pri pretvorbi vitamin D v aktivno obliko in vitamin K2, ki omogoča prenos kalcija v kosti. Ne zadostna preskrbljenost z vitaminom D in K2 pri otrocih lahko prispeva k slabši asimilaciji kalcija in s tem povečanim tveganjem za slabšo mineralizacijo kosti.

Sklepne ugotovitve: Za normalno asimilacijo kalcija pri otrocih v obdobju rasti je ključna zadostna preskrbljenost otrok z vitaminom D, magnezijem in vitaminom K2. Zlasti pri neješčih otrocih in otrocih, ki ne prebavljajo laktoze ter tistih, z enolično prehrano, v obdobju rasti priporočamo dnevno uživanje prehranskega dopolnila Junglemix junior, z dodanim biorazpoložljivim Ca in Mg, vitaminom D3 in K2.

Ključne besede: otroci, kosti, mladostniki, vitamin D, vitamin K, kalcij

Key factors for normal calcium assimilation and bone growth and development in children and adolescents

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Background and purpose: Calcium is the most common mineral in the human body. As much as 99% of calcium is found in bones and teeth. During the growth period, sufficient calcium intakes are extremely important for proper bone growth and mineralization. Insufficient calcium intake during this period is associated with achieving lower bone density and slowed growth, and in the long run poses an increased risk of osteoporosis later in life. Research shows that as many as 79% of preschool children in Slovenia do not reach the recommended daily calcium intake.

Presentation of the content: Adequate calcium intake in children should be ensured by introducing a diet that is a rich source of calcium. It is also necessary to keep in mind the absorption efficiency, which is lower from plant sources than, for example, from dairy products. Other micronutrients involved in calcium metabolism on the way from the digestive tract, through the blood, to the bone are also crucial for the effective assimilation of calcium in bone. Key factors in this process are vitamin D, which allows calcium to be absorbed from the digestive tract, magnesium, which acts as a cofactor in converting vitamin D to the active form, and vitamin K2, which allows calcium to be transferred to the bone. Insufficient supply of vitamin D and K2 in children may contribute to poor calcium assimilation and thus an increased risk of poor bone mineralization.

Conclusions: Adequate supply of vitamin D, magnesium and vitamin K2 is crucial for the normal assimilation of calcium in children during the intensive growth period. Especially in children lacking appetite, children who do not digest lactose and those with a monotonous diet, we recommend daily consumption of food supplement Junglemix junior, with added bioavailable Ca and Mg, vitamin D3 and K2.

Keywords: children, bones, adolescents, vitamin D, vitamin K, calcium

Prehrana zdravega dojenčka in vloga črevesne mikrobiote

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Uvod: Prehrana v prvem letu življenja dojenčka ima ključno vlogo pri pravilnem razvoju otroka, neposredno z vnosom hranil, kakor tudi posredno z vplivom na sestavo črevesne mikrobiote. Neustrezen način prehranjevanja že v začetku življenja lahko pomembno vpliva na nastanek številnih presnovnih in ostalih kroničnih bolezni otrok in mladostnikov. Obdobje od rojstva do dveh let starosti je ključno tudi za razvoj okusa in prehranjevalnih navad.

Metode: Opravili smo sistematični pregled literature v svetovnih podatkovnih bazah in trenutno veljavnih smernic v Republiki Sloveniji. V analizo smo vključili študije, ki so obravnavale vpliv prehrane in črevesne mikrobiote na zdravje v prvih letih življenja.

Rezultati: Prisotnost mikroorganizmov v placenti in mekoniju nakazuje na prvi stik prebavnega trakta z mikrobioto že med samo nosečnostjo. Do obsežnejše kolonizacije pride med rojstvom in prvih mesecih življenja, medtem ko na razvoj in zorenje mikrobiote močno vplivajo dejavniki, kot so gestacijska starost, način poroda, prehrana, okolje in zdravljenje z antibiotiki. Sestava črevesne mikrobiote, ki je v prvem letu življenja zelo neraznolika in predvsem individualno specifična, se med tretjim in petim letom starosti dokončno oblikuje. Med pomembnimi dejavniki, ki vplivajo na sestavo črevesne mikrobiote je tudi uvajanje mešane prehrane. Sodobne smernice priporočajo, da se začne postopno uvajati mešano prehrano po dopolnjenem šestem mesecu starosti. Uvajanje mešane prehrane pred dopolnjenim 17. tednom starosti lahko privede do nastanka debelosti, motenj dihalnega sistema ter ekcemov v kasnejšem otroštvu. Ob kasnejšem uvajanju mešane prehrane (pet do sedem mesecev) pa tvegamo, da energijska vrednost hranil v materinem mleku oz. nadomestku za materino mleko ne zadoštuje več za dojenčkovo hitro rast.

Razprava in zaključki: Prehrana in njen posreden vpliv na sestavo in številčnost črevesne mikrobiote sta ena izmed najpomembnejših dejavnikov, ki vplivajo na metabolizem hranil, odpornost na okužbe in razvoj imunskega sistema. Tako lahko z izbiro prehrane že v zgodnjem otroštvu doprinesemo k boljšemu zdravstvenemu stanju kasneje v življenju.

Ključne besede: dojenčki, prehrana, črevesna mikrobiota, zdravje

Nutrition for healthy term infants and the role of gut microbiota

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Introduction: Nutrition in the first year of life plays an important role in the child's development, directly through the intake of nutrients, as well as indirectly by influencing the composition of the gut microbiota. Improper diet already at the very beginning can significantly affect the onset of metabolic and other chronic diseases in children and adolescents. Moreover, this period is crucial also for the development of taste and eating habits.

Methods: A systematic review of the literature in the world databases and currently valid guidelines in the Republic of Slovenia was made. The analysis included studies examining the impact of diet and gut microbiota on health in the first years of life.

Results: The presence of microorganisms in the placenta and meconium indicates the first contact of the digestive tract with the microbiota already during pregnancy. Extensive colonization occurs during birth and in the first months of life, while the development and maturation of the microbiota is strongly influenced by factors such as gestational age, mode of delivery, diet, environment, and antibiotic treatment. The composition of the gut microbiota in the first year of life is very uniform and individually specific and develops toward an adult-like structure between the age of three and five. Among the important factors influencing the composition of the gut microbiota is also the introduction of complementary diet. Current guidelines recommend that a complementary diet should be introduced gradually after the age of six months. The introduction of complementary diet before the age of 17 weeks can lead to obesity, respiratory disorders and eczema in later childhood. With the later introduction of complementary diet (five to seven months), there is a risk that the energy value of nutrients in breast milk or infant formula is no longer sufficient for the baby's rapid development.

Discussion and Conclusion: Diet and its indirect influence on the composition and abundance of the gut microbiota are one of the most important factors influencing metabolism, resistance to infections and development of the immune system. Thus, by choosing an appropriate diet in the early childhood, we can significantly contribute to health later in life.

Keywords: infants, nutrition, gut microbiota, health

Vsebine zdravega življenjskega sloga v predmetniku osnovne šole

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Uvod: Življenjski slog je način življenja, ki ga posameznik oblikuje predvsem na osnovi različnih vrednot, okolja, kjer živi, ožjih socialnih stikov ter ekonomskih dejavnikov. Obdobje odraščanja je pomembno obdobje življenja, ko se otroci in mladostniki v času obveznega izobraževanja seznanijo z vsebinami zdravega življenjskega sloga. Pomembno je, da mladi oblikujejo zdrav življenjski slog, saj tako vplivajo tudi na kvaliteto življenja v kasnejših življenjskih obdobjih. Namen raziskave je bil identificirati vsebine zdravega življenjskega sloga, ki se pojavljajo v učnih načrtih obveznih in izbirnih predmetov osnovnošolskega izobraževanja v Sloveniji.

Metode: Raziskava temelji na kvalitativnem raziskovalnem pristopu. Uporabljena je bila deskriptivna metoda raziskovanja, ki temelji na študiji dokumentov. Glede na vsebine zdravega življenjskega sloga, ki jih podpira zdravstvena stroka, je bila izdelana klasifikacija dejavnikov zdravega življenjskega sloga, ki so: telesna dejavnost, prehrana, količina spanja, duševno zdravje, sedeča vedenja, odgovoren odnos do drog in higiena. Na osnovi klasifikacijskih dejavnikov so bili identificirani cilji in vsebine zdravega življenjskega sloga v učnih načrtih vseh osnovnošolskih predmetov.

Rezultati: V raziskavi je bilo ugotovljeno, da se vsebine in izobraževalni cilji zdravega življenjskega sloga pojavljajo v 23 obveznih in izbirnih predmetih. Pogosto se pojavljajo vsebine, ki obravnavajo pomen telesne dejavnosti, prehrane in odgovoren odnosa do drog in higiene. Ugotavljamo, da se najbolj intenzivno obravnavajo vsebine telesne dejavnosti, ki so vključene v predmetnik celotnega obveznega izobraževanja. Prehranske vsebine so najbolj podrobno obravnavane pri predmetu Gospodinjstvo v 6. razredu, prehrani pa sta namenjena tudi izbirna predmeta Načini prehranjevanja in Sodbna priprava hrane. Vsebine, ki se v učnih načrtih pojavljajo manj pogosto, so zmanjšanje sedečih vedenj in pomen količine spanja.

Razprava in zaključki: Ocenjujemo, da je pri obravnavanju vsebin zdravega življenjskega sloga v obveznem izobraževanju pomembno, da so vsebine ustrezno umeščene v predmetnik osnovne šole in v celotni vertikali. Vsebine in cilji morajo biti prilagojeni kognitivnemu razvoju otrok in njihovemu življenjskemu stilu. Predmet, s katerim se učenci srečajo vsako šolsko leto (npr. Športna vzgoja), nudi boljše možnosti za dopolnjevanje in nadgrajevanje vsebin zdravega življenjskega sloga v primerjavi s predmetom, ki vključuje vsebine le v enem šolskem letu ali vzgojnoizobraževalnem obdobju (npr. Gospodinjstvo). Priporočljivo je, da učenci posamezne vsebine spoznajo, preden se srečajo z dilemami in dvomi na določenem področju.

Ključne besede: zdrav življenjski slog, prehrana, osnovnošolci, osnovna šola, predmetnik, učni načrt

Healthy life style topics in the elementary school curriculum

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Introduction: Lifestyle is a way of life that persons shape primarily on the basis of their different values, the environment in which they live, their close social contacts and economic factors. The time of growing up is an important period of life when children and adolescents are introduced to healthy lifestyle topics during their compulsory education. It is important for young people to develop healthy lifestyles, as these influence their quality of life in later life periods. The aim of the study was to identify the topics of healthy lifestyles that appear in the curricula of compulsory and optional subjects in elementary education in Slovenia.

Methods: The study is based on a qualitative research approach. A descriptive research method based on a document study was used. A classification of healthy lifestyle factors was developed according to the healthy lifestyle topics supported by the health care professionals, which are: physical activity, nutrition, amount of sleep, mental health, sedentary behaviours, responsible attitude towards drugs, and hygiene. Based on the classification of the factors, the objectives and topics of healthy lifestyles in the curricula of all elementary school subjects were identified.

Results: It was found in the study that the topics and educational objectives of healthy lifestyles appear in 23 compulsory and optional subjects. Topics that appear frequently include the importance of physical activity, dietary patterns and responsible attitudes towards drugs and hygiene. It has been established that the most intensive coverage found in the curricula of all compulsory education refers to physical activity topics. Nutrition is the subject covered most extensively in the Home Economics subject in Grade 6 and elective subjects Ways of Eating and Modern Food Preparation. Topics that appear less frequently in the curricula are the reduction of sedentary behaviour and the importance of getting enough sleep.

Discussion and conclusions: When addressing healthy lifestyle topics in compulsory education, we believe it is important to ensure that it is properly integrated into the elementary school curriculum and across the whole vertical. Topics and objectives should be adapted to children's cognitive development and lifestyle. A subject that pupils encounter every school year (e.g. Physical Education) offers better opportunities for complementing and building on healthy lifestyle topics than a subject that includes these topics only in one school year or educational period (e.g. Home Economics). It is advisable for pupils to be familiar with some topics before they are confronted with dilemmas and doubts in those particular areas.

Keywords: healthy lifestyle, nutrition, elementary school pupils, elementary school, curriculum, syllabus

Sladkor v šolskih malicah in možnosti spremljanja sladkorja s spletnim orodjem PISKR

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Uvod: Smernice zdravega prehranjevanja omejujejo vsebnosti enostavnih sladkorjev v šolskih obrokih. Spremljanje sestave obrokov je v praksi pomemben izziv organizatorja šolske prehrane, saj potrebuje vpogled v sestavo obroka in primerjavo s smernicami v realnem času. Z namenom spremljanja energije in hranil v šolskih jedilnikih je bilo razvito spletno orodje za načrtovanje šolske prehrane PISKR, ki temeljni na Smernicah za zdravo prehranjevanje v vzgojno-izobraževalnih zavodih.

Metode: V obdobju od 2020 do začetka 2022 je bila v okviru ciljnega raziskovalnega projekta V3-1902 izvedena nacionalna raziskava o šolski prehrani, ki je vključevala analizo 445 dopoldanskih malic (89 kompozitnih vzorcev 5-dnevnih malic) iz 50 naključno izbranih osnovnih šol. Analiza vsebnosti sladkorja v malicah je potekala s pomočjo računalniškega programa Odprta Platforma za klinično prehrano. V sklopu raziskave je bila med osnovnimi šolami izvedena spletna anketa, ki je vključevala sklop vprašanj o načrtovanju šolskih jedilnikov.

Rezultati: Analiza šolskih malic, ponujenih mladostnikom v starosti 10-13 let je pokazala, da so vrednosti enostavnih sladkorjev v dopoldanskih malicah (mediana: 19,4 gramov / obrok) presegle prehransko priporočilo (< 10 gramov / obrok). Ugotovljeno je bilo tudi, da več kot 65 % osnovnih šol ne uporablja računalniških orodij za načrtovanje jedilnikov, ker pogrešajo možnosti primerjave sestavljenih obrokov z normativnimi priporočili prehranskih smernic.

Razprava in zaključki: Prekomeren vnos sladkorja je eden izmed večjih javnozdravstvenih problemov in predstavlja veliko tveganje za zdravje in razvoj kroničnih bolezni. Vsebnosti enostavnih sladkorjev v šolskih malicah so bile v naši raziskavi pričakovano prekoračene, saj malice večinoma vključujejo kombinacije industrijsko predelanih živil in napitkov ter jedi, pripravljenih v šolskih kuhinjah. V prihodnje bi bilo med organizatorji šolske prehrane pomembno spodbujati usposabljanja za uporabo brezplačnega spletnega orodja PISKR, saj temelji na nacionalnih prehranskih smernicah in bazah živil. PISKR vključuje možnost spremljanja enostavnih sladkorjev na nivoju obroka, kot tudi na nivoju dnevnega, tedenskega in mesečnega jedilnika. Dolgoročno, orodje PISKR pomembno prispeva k spodbujanju časovno učinkovite priprave šolskih receptur in jedilnikov, ki vključujejo manj sladkorja. Nenazadnje strokovno načrtovani obroki omogočajo možnost zagovornišтва dela organizatorja prehrane pred različnimi deležniki v sistemu šolske prehrane.

Gljučne besede: otroci, mladostniki, šolski obrok, šolska malica, računalniško orodje, sladkor

Sugar content in school morning snacks and the opportunity of its monitoring with the PISKR online tool

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Introduction: The national dietary guidelines include recommendations regarding the sugar content in school meals. In the practice, the monitoring of school meals composition presents an important challenge for staff, responsible for school meals planning, as they must first assess the nutritional composition of individual meals to then be able to compare it to the current guidelines - in a reasonable time. With the aim of energy and nutrients monitoring in school meals, the PISKR online tool for school meals planning, based on dietary recommendations for educational institutions, has been developed.

Methods: In the period from 2020 to the beginning of 2022, a national school meals survey was conducted within the targeted research project no. V3-1902, which included an analysis of 445 school morning snacks (89 composite samples of 5-day morning snacks) from 50 randomly, selected Slovenian primary schools. The analysis was carried out by using the OPEN online tool (Platform for Clinical Nutrition). As part of the research, an online survey was conducted among primary schools, which included a set of questions on school meals planning.

Results: The results of our survey have shown that the sugar content of school morning snacks (median: 19.4 grams/meal), intended for the population aged 10-13 years, exceeded the dietary recommendations (< 10 grams/meal). Survey have also shown that over 65 % of Slovenian primary schools do not use e-tools for school menus planning, due to the absence of a feature that would enable them to compare school meal composition to dietary recommendations.

Discussion and conclusions: Excessive sugar consumption is one of the major public health problems, representing an important health risk factor in the terms of chronic disease development. Our study confirmed exceeded sugar levels in school meals, which has met our expectations, as morning snacks mostly consist of both, processed foods and beverages/dishes, prepared by school kitchen staff. It is necessary to highly promote the training and the use of the PISKR tool to the staff responsible for school meal planning, especially as the tool is free of charge and is based on national dietary guidelines and an extensive food database. Furthermore, the PISKR tool enables monitoring of sugar content in school meals on a daily, weekly, or monthly basis, and can thus contribute to encouraging the preparation of school recipes and menus with lower sugar content, in the long term. Finally, professionally planned school meals enable the opportunity to represent the work of the school meal organizers to various stakeholders of the school meal system.

Keywords: children, adolescents, school meal, school morning snacks, computer tools, sugar

Analiza kombinacij živil v dopoldanskih malicah slovenskih osnovnih šol

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Uvod: Smernice za prehranjevanje v vzgojno-izobraževalnih zavodih poleg priporočil za zdravo prehrano otrok in mladostnikov določajo kategorije priporočenih in odsvetovanih živil ter njihovo pogostnost v jedilnikih, ne določajo pa kombinacij posameznih živil v obroku. Glede na to, da pestrost živil pomembno vpliva na hranilno in energijsko sestavo obrokov, je bila opravljena analiza sestave dopoldanskih malic v slovenskih osnovnih šolah.

Metode: V sklopu ciljnega raziskovalnega projekta o šolski prehrani V3-I902, ki je potekal od januarja 2020 do aprila 2022, je bila opravljena podrobnejša analiza vključenosti živil v dopoldanskih malicah petdesetih naključno izbranih osnovnih šol iz Slovenije. Analiza je vključevala 448 dopoldanskih malic, ki so bile ponujene mladostnikom v starosti od 10 do 13 let. Z metodo opisne statistike so bile določene najpogostejše kombinacije vključenih živil.

Rezultati: Analiza je pokazala, da dopoldanske malice najpogosteje sestavlja kruh (vključno žemlje) v kombinaciji z namazom (21,6 %) ali mesnim izdelkom (14,5 %) ali sirom (3,8 %), z dodanim sadjem oz. zelenjavo in napitkom. Sledijo naslednje kombinacije: mlečne jedi (npr. mlečni zdrob s posipom oz. kosmiči z mlekom) in sadje (12,5 %); pekovsko pecivo (mlečne štručke, makovke, pletenice...) (11,4 %) ter sladko pekovsko pecivo (rogljički, žepki z nadevom...) (6%) in sadje ter napitek oz. jogurt. Vsaj 49 % vseh napitkov je vsebovalo dodan sladkor in kar 38 % vseh namazov (npr. čokoladni, med, marmelada) je bilo sladkih.

Razprava in zaključki: V Sloveniji večina (98,4 %) otrok in mladostnikov uživa dopoldansko malico v šoli, zato je izjemnega pomena, da so le-te hranilno in energijsko skladne s prehranskimi smernicami. Slednje je možno dosežati s prehransko pestrostjo oz. z ustreznim vključevanjem in kombinacijami živil v šolskih malicah. Kruh z namazom je najpogostejša kombinacija dopoldanskih šolskih malic, zelo pogosto so vključeni tudi mesni izdelki in sladka živila (namazi, pekovska peciva...) in sladkani napitki (čaj, kakav, sokovi...). Omenjena živila so pomemben vir sladkorja, nasičenih maščob ali soli, zato jih je potrebno v jedilnik vključevati redko, jih nadomeščati z ustreznimi zamenjavami ter jih ponujati v kombinacij s priporočenimi živili. Glede na rezultate analize bi bilo v bodoče pomembno, da se v sklopu strokovnega spremljanja šolske prehrane, poleg analize frekvence vključenosti živil v šolskih jedilnikih upošteva tudi kakovost vključenih živil/jedi v malicah. Ob tem bi bilo ključno zagotavljati kontinuirano ozaveščanje in usposabljanje za organizatorje prehrane in šolske kuharje glede nabave živil z ugodnejšo sestavo ter ustreznega kombiniranja le-teh in priprave jedi.

Ključne besede: otroci, mladostniki, šolska prehrana, šolska malica, kombinacije živil

The analysis of food combination of morning snacks in Slovenian primary schools

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Introduction: The National Dietary Guidelines for Educational Institutions include nutritional recommendations for school children and adolescents, which among other things, determine the categories of recommended and not recommended foods, along with the proposed frequencies of their use in school meals. The guidelines, however, do not advise on the appropriate combining of different foods in one meal. Considering the importance of food variety on the nutritional and energy value of a meal, we have performed an analysis of the composition of morning snacks, offered in Slovenian primary schools.

Methods: In the period from January 2020 to April 2022, a national school meal study was conducted, which included an analysis of 448 morning snacks offered to pupils aged 10 – 13 years, from 50 randomly selected Slovenian primary schools. Following the data collection and organization, the method of the descriptive statistic was used to determine the most common combinations of food in morning snacks.

Results: The most common food combinations of morning snacks in Slovenian schools include bread with different toppings, particularly the spread (21,6 %) or processed meat (14,5 %) or cheese (3,8 %) with added fruit or vegetable and a beverage. This was followed by: dairy meals (semolina with sweet toppings, cereals with milk...) combined with fruits (12,5 %), non-sweet bakery products (milk bread, bread plait...) (11,4 %), or sweet pastry (e.g. croissants with sweet fillings) (6 %), both combined with fruits and a beverage or yogurt. Roughly 49 % of all beverages included added sugar and 38 % of all spreads were sweet (chocolate, jam, honey...).

Discussion and Conclusions: The majority (98,4 %) of Slovenian primary-schooled children and adolescents consume morning snacks in the school, thus their nutritional value must be consistent with the official dietary guidelines. That can be achieved by ensuring adequate food variety through the appropriate inclusion of foods in each meal. Our findings have shown that commonly included foods in the morning snacks, apart from bread, are spreads, processed meat, sweet food (pastries, toppings) and sweetened drinks (tea, cocoa, juice), which are high in sugar, saturated fat and/or salt. Accordingly, those foods should be rarely included on the school menu and be thus replaced or accompanied with recommended alternatives. These results suggest that professional monitoring for school nutrition, should in the future focus not only on the general food inclusion in the menus, but also on the quality of foods/dishes included in snacks. To reach a suitable standard, it is important to ensure continuous education for the kitchen staff of Slovenian primary schools, particularly regarding the optimal food preparation, purchasing of nutritionally more favorable foods and their appropriate inclusion in individual meals.

Keywords: children, adolescents, school meal, school snack, food combination

Prehransko vedenje otrok in mladostnikov v času epidemije COVID-19

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Uvod: Epidemija COVID-19 je vplivala na življenjski slog otrok in mladostnikov v Sloveniji. Zaznan je bil povečan delež otrok in mladostnikov s povečano telesno maso, kar bi lahko bilo povezano s spremenjenimi gibalnimi navadami in neustreznim prehranjevanjem. Z raziskavo smo ugotavljali, kako se je v času izvajanja pouka na daljavo spremenilo prehransko vedenje osnovnošolcev.

Metode: Podatke smo pridobili s spletnim anketiranjem in uporabo odprtokodne aplikacije IKA. Vzorec so predstavljali osnovnošolci drugega in tretjega izobraževalnega obdobja, stari med 9 in 16 let. V raziskavi je sodelovalo 275 osnovnošolcev, od tega 43,0 % fantov in 57,0 % deklet. 52,0 % jih je živel v mestu in 48,0 % na vasi. Podatke smo analizirali s statističnim programom SPSS. Uporabljene so bile metode deskriptivne in inferenčne statistike.

Rezultati: Več kot polovica anketiranih (55,0 %) je ocenila, da se je njihov način prehranjevanja v času šolanja na daljavo spremenil. Ugotovili smo, da so v času šolanja na daljavo pogosteje uživali zajtrk in manj pogosto dopoldansko malico. Hrana v domačem okolju je bila osnovnošolcem bolj razpoložljiva in dostopna in so pogosteje kot v času pouka v šoli uživali nenačrtovane prigrizke, ki so običajno vključevali živila z več sladkorja in hrano, ki jo imajo radi. Pogosto so uživali sladke pijače, ki so v šolski prehrani uvrščene med nezaželena živila. Ocenjujemo, da je to vplivalo na zmanjšanje raznolikosti zaužite hrane, ki jo običajno zaužijejo v šoli. Hrano so pogosto uživali tudi v času, ko so spremljali pouk na daljavo.

Razprava in zaključki: Rezultati raziskave so pokazali, da so se prehranjevalne navade osnovnošolcev v času izvajanja pouka na daljavo spremenile. Dostopnost hrane se je povečala, kar je vplivalo na način prehranjevanja in vrsto zaužite hrane. Z nadaljnjimi raziskavami je potrebno ugotoviti, kakšen je vpliv spremenjenega načina prehranjevanja na zdravje osnovnošolcev. Na osnovi rezultatov lahko sklepamo, da je za zdrav način prehranjevanja osnovnošolcev v času pouka pomembna dobra prehranska oskrba, ki upošteva priporočila zdravega načina prehranjevanja, saj je v času šolanja doma prehransko vedenje osnovnošolcev lahko manj zdravo.

Gljučne besede: prehrana, osnovnošolci, prehransko vedenje, SARS-CoV-2, pouk na daljavo

Dietary behaviour of children and adolescents during the COVID-19 epidemic

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Introduction: The COVID-19 epidemic affected the lifestyle of children and adolescents in Slovenia. We observed an increased proportion of overweight children and adolescents, which could be linked to changed exercise habits and inadequate diet. Our study investigated how the dietary behaviour of elementary school children changed during the times when distance education was taking place.

Methods: The data was collected through an online survey using IKA, an open-source application. The sample consisted of elementary school pupils in the second and third education period, aged between 9 and 16 years. 275 elementary school pupils participated; 43.0% of them were boys and 57.0% girls. 52.0% of pupils lived in the city and 48.0% in the countryside. The data were analysed using the SPSS statistical software. The methods of descriptive and inferential statistics were used.

Results: More than half of the respondents (55.0%) estimated that their eating patterns changed during their distance education. We found that during that period they ate breakfast more often and less often a regular morning snack. In the home setting, food was easily available and accessible to elementary school pupils and contrary to school setting, they were more likely to have unplanned snacks, which usually included foods with more sugar and foods they liked. They often consumed sugary drinks, which are classified as undesirable foods in the school diet. We estimate that this has had the effect of reducing the variety of foods which are typically consumed at school. In addition, food was often consumed while pupils were following distance lessons.

Discussion and conclusions: The results of the study showed that the eating habits of elementary school pupils changed during the distance education period. Food availability increased, which had an impact on the way pupils ate and the type of food they consumed. Further research is needed to determine the impact of changed dietary patterns on the health of elementary school pupils. The results suggest that the provision of good nutritional diet that follows healthy eating recommendations is important for healthy eating during school hours, as the nutritional behaviour of elementary school pupils may be less healthy when they follow their lessons from home.

Keywords: nutrition, elementary school children, dietary behaviour, SARS-CoV-2, distance education

Povezava med črevesno mikrobioto in debelostjo pri mladostnikih

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Uvod: Prevalenca debelosti se je v zadnjih nekaj desetletjih močno povečala, posebno pri otrocih in mladostnikih. Njena etiologija je kompleksna in nanjo vpliva veliko dejavnikov, kot so neuravnotežena prehrana, sedeči način življenja, socialni in okoljski dejavniki. Tudi črevesna mikrobiota sodeluje pri regulaciji energijske presnove in telesne mase gostitelja. Intervencije za zdravljenje debelosti so pogosto neuspešne, zato se razvija nove strategije, kot je modulacija črevesne mikrobiote.

Metode: Zanimala nas je povezava med črevesno mikrobioto in debelostjo pri mladostnikih, zato smo v podatkovni bazi PubMed z uporabo ključnih besed »črevesna mikrobiota«, »mladostniki«, »debelost«, »modulacija« poiskali znanstveno literaturo, objavljeno v zadnjih 5 letih. Zanimali so nas tudi načini modulacije črevesne mikrobiote, zato smo vključili rezultate dveh kliničnih študij o modulaciji mikrobiote s spremembo življenjskega sloga zaradi karantene v času epidemije COVID-19 in višjim vnosom polifenolov z uživanjem dveh vrst čaja iz smilja.

Rezultati: Črevesna mikrobiota pri dojenčku se kolonizira preko materine in okoljske mikrobiote in se stabilizira pri približno treh letih starosti. Oblikuje jo način rojstva, dojenje ali hranjenje s formulo, materina telesna masa med nosečnostjo in spol. Razvijajočo se mikrobioto otrok lahko v obdobju otroštva pomembno oblikuje tudi prehrana. Neravnovesje med energijskim vnosom in telesno aktivnostjo predstavlja najpomembnejši dejavnik pri razvoju debelosti v otroštvu in mladostništvu, pomembni pa so tudi okoljski dejavniki. Debelost v mladostništvu se nadaljuje tudi v odraslosti in s tem poveča tveganje za bolezni skozi celotno življenjsko dobo. V interakcijo med debelostjo in mikrobi v črevesju je vključenih več genetskih in presnovnih patofizioloških mehanizmov. Sestava črevesne mikrobiote otrok in mladostnikov z normalno telesno maso se razlikuje od tistih z debelostjo, pri slednjih je opazna višja zastopanost Firmicutes, nižja zastopanost *Bifidobacterium* in manjša alfa raznolikost. Modulacija črevesnih bakterijskih vrst bi lahko pomagala preoblikovati presnovni profil posameznikov z debelostjo. Črevesno mikrobioto lahko moduliramo s spremembo prehrane, na primer z višjim vnosom polifenolov s prehrano. Pri posameznikih s prekomerno telesno maso, ki so uživali dve vrsti čaja iz smilja, se je razmerje med debloma Bacteroidetes/Firmicutes povišalo, zastopanost Proteobacteria pa se je zmanjšala. Poleg prehrane lahko črevesno mikrobioto moduliramo tudi s spremembo življenjskega sloga. Alfa raznolikost mikrobiote se je zaradi spremembe življenjskega sloga kot posledica karantene v času epidemije COVID-19 zmanjšala, povečala pa se je zastopanost Proteobacteria.

Razprava in zaključki: Potrebni je več raziskav na ljudeh, da bi bolje razumeli povezavo med črevesno mikrobioto in debelostjo. Tako bi lahko razvili klinične intervencije na podlagi modulacije črevesne mikrobiote z namenom preventive in zdravljenja debelosti pri mladostnikih.

Ključne besede: črevesna mikrobiota, debelost, mladostniki, modulacija

The relationship between gut microbiota and obesity in adolescents

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Introduction: The prevalence of obesity has massively increased over the last few decades, especially in children and adolescents. Its etiology is complex and is influenced by many factors, such as unbalanced diet, sedentary lifestyle, social and environmental factors. The gut microbiota is also involved in the regulation of host energy metabolism and body mass. Interventions to treat obesity are often unsuccessful, and new strategies are being developed, such as modulation of the gut microbiota.

Methods: We were interested in the relationship between gut microbiota and obesity in adolescents, so we searched for scientific literature published in the last 5 years through the database PubMed, using the following keywords: »gut microbiota«, »adolescents«, »obesity«, »modulation«. We were also interested in gut microbiota modulation, so we included the results of two clinical studies on microbiota modulation by lifestyle change due to lockdown during the COVID-19 epidemic, and higher polyphenol intake by consuming two types of immortelle tea.

Results: The gut microbiota of infants is colonized with maternal and environmental microbiota and stabilizes at about the age of three. It is shaped by mode of delivery, breastfeeding or feeding with formula, maternal weight during pregnancy, and gender. The evolving gut microbiota of children can also be significantly shaped by nutrition during childhood. An imbalance between energy intake and physical activity represents the most important factor in the development of obesity in childhood and adolescence, but environmental factors are also important. Obesity during adolescence continues into adulthood, increasing the risk of diseases across the lifespan. There are several genetic and metabolic pathophysiological mechanisms involved in the interaction between obesity and gut microbes. The gut microbiota composition of children and adolescents with normal body weight differs from those with obesity, with higher abundance of Firmicutes, lower abundance of *Bifidobacterium*, and lower alpha diversity were observed in the latter. The modulation of gut bacterial strains could help to reshape the metabolic profile of individuals with obesity. Gut microbiota can be modulated by changes in diet, such as higher dietary polyphenol intake. In overweight individuals that consumed two types of immortelle tea, the ratio of phyla Bacteroidetes/Firmicutes increased and Proteobacteria abundance decreased. In addition to diet, the gut microbiota can also be modulated by lifestyle changes. Alpha diversity of the microbiota decreased due to lifestyle changes as a result of lockdown during the COVID-19 epidemic, while the abundance of Proteobacteria increased.

Discussion and conclusions: More human studies are needed to better understand the link between the gut microbiota and obesity. Thus, clinical interventions based on gut microbiota modulation could be developed for the prevention and treatment of obesity in adolescents.

Keywords: gut microbiota, obesity, adolescents, modulation

Sekcija/Section

Psihosocialno zdravje v otroštvu in v mladosti

Psychosocial health in childhood and youth

Vabljeni predavanje

Anksiozne motnje pri otrocih in mladostnikih – pojavnost in prepoznavanje

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Uvod: Povišane ravni anksioznosti, ki ovirajo vsakodnevno delovanje otroka oz. mladostnika ter anksiozne motnje, veljajo za eno najpogostejših težav ali motenj duševnega zdravja. Povezane so s pomembno oviranim delovanjem na mnogih področjih življenja in doseganja razvojnih nalog, kot so učenje, osamosvajanje, vrstniški odnosi, pridobivanje in vadba vsakodnevnih veščin.

Metode in rezultati: Sistematični pregled študij kaže na razliko v pojavnosti med spoloma, saj so pogostejše med deklety, vendar je pojavnost različnih podtipov oz. diagnoz anksioznih motenj odvisna tudi od starosti. Medtem, ko je separacijska anksioznost bolj značilna za otroke, pa je pri mladostnikih pogostejša socialna anksioznost. Podatki o prevalenci v populaciji se med študijami precej razlikujejo in segajo od nekaj pa tja do dobrih 20 odstotkov. To kaže, da so v osnovi tako velikih razlik predvsem metodološki dejavniki posameznih študij, kot so na primer viri informacij, metode ocenjevanja, diagnostični kriteriji za postavitev diagnoze in upoštevanje komorbidnosti, ki je v razvojnem obdobju otroštva in mladostništva pravilo, ne izjema. Nedavna metaanaliza epidemioloških študij, opravljenih za Evropsko komisijo, je pokazala, da se prevalenca vseh anksioznih motenj v otroštvu in mladostništvu najverjetneje giblje nekje okoli šestih odstotkov, kar v slovenski populaciji potrjujejo tudi podatki raziskav Nacionalnega inštituta za javno zdravje.

Razprava in zaključki: Poznavanje podatkov o pojavnosti anksioznosti in anksioznih motenj z upoštevanjem razlik glede na spol in starost ter posledično različnih trajektorij razvoja različnih anksioznih motenj in komorbidnosti je pomembno tako za informiranje politik na področju varovanja duševnega zdravja, resursov, preventivnih programov, itd. pa tudi same klinične prakse. Ker je strah povsem normalno čustvo in so v določenih razvojnih obdobjih specifični strahovi, tudi, če so intenzivni, povsem normativni, je to razlikovanje lahko zahtevno, a je izjemno pomembno. Ker imajo povišane ravni anksioznosti in anksiozne motnje pomemben negativen vpliv tako na trenutno kot prihodnje delovanje na vseh področjih in kasnejše duševno zdravje otrok in mladostnikov, je ob dejstvu, da imajo v primerjavi z drugimi čustvovanja oz. razpoloženja zgodnejši začetek, je izjemno pomembno ustrezno prepoznavanje otrok in mladostnikov, ki jih zaradi nekaterih dejavnikov lahko opredelimo kot rizične. Bistveni med dejavniki v samem otroku, so predvsem temperament, višja čustvena občutljivost, pomembni pa so tudi dejavniki okolja, kot so stopnja stresov, vzgojne prakse, šolsko okolje, vrstniški vplivi. Tisti otroci in mladostniki, katerih težave z anksioznostjo so tako intenzivne, da je njihovo delovanje že ovirano, pa morajo biti deležni ustrezne ocene, ki naj bi sledila principom multidimenzionalnosti, in razvojne občutljivosti, saj le ustrezna ocena omogoča, da so tudi izvedbe intervencij, ki so podprte z dokazi o njihovi učinkovitosti, prilagojene značilnostim otroka, pa tudi njegove družine in življenjske situacije.

Ključne besede: anksioznost, anksiozne motnje, čustvena občutljivost, mladostniki

Invited lecture

Anxiety Disorders in Children and Adolescents – Prevalence and Identification

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Introduction: Elevated levels of anxiety that interfere with day-to-day activities of a child or adolescent and anxiety disorders are one of the most prevalent mental health problems or disorders. They are linked with impaired functioning on many areas of life and performing of developmental tasks, such as learning, developing independence, peer relations, gaining and performing everyday life skills.

Methods and results: A systematic review of studies show some important gender differences in prevalence of anxiety disorders, since they seem to be more prevalent in girls compared to boys, but frequency of different subtypes of anxiety disorders also varies through different ages of childhood and adolescence. Separation anxiety is more typical in children, but in adolescence, social anxiety is leading type of disorder. Data on prevalence of anxiety disorders in childhood and adolescence differs in different studies and spans from a few percent up to 20 and above. Studies show that this huge different prevalence rates can be contributed to methodological factors, such as sources of information, assessment methods, cut-off criteria for making a diagnostic decision, and consideration of comorbidity, which is a rather a rule and not an exception in developmental period of childhood and adolescence. Recent meta-analysis, conducted for the European Commission showed that the prevalence of all anxiety disorders in childhood and adolescence is probably around six percent, which has been also confirmed in Slovenia by data from the research, done by the National Institute of Public Health.

Discussion and conclusions: Knowledge about the prevalence of anxiety problems and anxiety disorders with consideration of the gender and age differences, and consequently different trajectories of development and comorbidity if important not only for informing policies in the area of mental health care, resources, prevention etc, but also for clinical practice. Since fear is a normal human emotion and different for developmental phases there are typical specific fears, which are – even if intense, considered normative, the differentiation between normal and clinical presentations can be difficult, but non the less very important. Because of the significant negative impact and present and longitudinal impairment because of the elevated anxiety and anxiety disorders in addition that in comparison with other emotional disorders, anxiety disorders have an earlier onset, effective identification of the at-risk children is very important. Key such factors within individual child are temperament and elevated emotional sensitivity, but environmental – societal factors also play an important role, such as levels of stress, parenting, school environment, peer influences etc. Those children and adolescents who have problems with anxiety in such intensities, that their day-to day functioning is already hindered, should be included in proper assessment, which must be multidimensional and developmentally sensitive. Only proper assessment can be the basis for evidence-based interventions that are effective and adapted to characteristics of individual child, his or her family and life situation.

Keywords: anxiety, anxiety disorder, emotional sensitivity, adolescents

Motnje prehranjevanja pri mladostnikih: pomen anksioznosti in telesne mase

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Uvod: Čas otroštva in mladostništva je kritičen za razvoj motenj prehranjevanja, kot je hranjenje z izgubo nadzora, ki je danes najpogostejša motnja prehranjevanja med otroci ter mladostniki z debelostjo. Zaradi težavnega ugotavljanja in ocenjevanja hranjenja z izgubo nadzora ter dejavnikov tveganja zanj se raziskovalci na področju pediatrije običajno zanašajo na ugotovitve raziskav hranjenja z izgubo nadzora med odraslo populacijo. Med pomembne psihološke in demografske dejavnike, ki vplivajo na razmerje s hranjenjem z izgubo nadzora sodita anksioznost ter izračunan indeks telesne mase. Namen pričujoče raziskave je bil preveriti povezanost hranjenja z izgubo nadzora z anksioznostjo, kot dejavnikom tveganja zanj in ugotoviti razlike v teh psiholoških spremenljivkah glede na indeks telesne mase pri mladostnikih iz splošne populacije.

Metode: V raziskavo je bilo vključenih 75 mladostnikov iz splošne populacije. Za potrebe raziskave smo uporabili vprašalnik, s pomočjo katerega smo pridobili demografske in psihološke podatke, kot so izračunan indeks telesne mase ter simptomi anksioznosti in hranjenja z izgubo nadzora. Za preučevanje psiholoških spremenljivk smo uporabili standardizirane merske pripomočke.

Rezultati: Mladostniki, ki so poročali o več simptomih anksioznosti in so imeli višjo telesno maso, so poročali tudi o večji pogostosti hranjenja z izgubo nadzora.

Razprava in zaključki: Raziskava kaže na pomembno vlogo anksioznosti in indeksa telesne mase kot pomembnih dejavnikov v razmerju s hranjenjem z izgubo nadzora ter opozarja na problematiko visokih stopenj anksioznosti med mladostniki. Raven motenj hranjenja in debelosti, ki sta povezana s številnimi drugimi zdravstvenimi zapleti, je v svetovnem porastu. Zato je pomembno zgodnje odkrivanje otrok z anksioznostjo in povišano telesno maso, saj sta to lahko dva nevarna dejavnika, za poznejši razvoj motenega prehranjevanja, s čimer ogrožata duševno ter fizično zdravje otrok in mladostnikov.

Ključne besede: motnje prehranjevanja, hranjenje z izgubo nadzora, anksioznost, indeks telesne mase, mladostniki

Disordered eating among adolescents: the importance of anxiety and body mass

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Introduction: Period of childhood and adolescence is critical for the development of disordered eating behaviors such as binge-eating, which is now the most common disordered eating behavior in obese children and adolescents. Because it is difficult to identify and assess binge-eating and its risk factors, pediatric researchers typically rely on findings through research on the adult population. Important psychological factors such as anxiety and demographic factors such as calculated body mass index, influence the relationship between eating and binge-eating. The aim of the present study was to examine the relationship between binge-eating and anxiety (as a risk factor) and to determine the differences between these two psychological variables and body mass index in adolescents from the general population.

Methods: Seventy-five adolescents from the general population participated in the research, for which we used a questionnaire to collect demographic and psychological data such as calculated body mass index and symptoms of anxiety and binge-eating. Standardized measurement tools were used to examine the psychological variables.

Results: Adolescents, who reported more anxiety symptoms and were overweight, also reported an increased frequency of binge-eating.

Discussion and conclusions: Our research demonstrates the important role of anxiety and body mass index as important factors in the relationship to binge-eating and draws attention to the problem of high levels of anxiety among adolescents. The level of eating disorders and obesity, which are associated with many other health complications, is increasing. Therefore, early detection of overweight children with anxiety is very important, as these two factors can be dangerous risk factors for the later development of disordered eating and thereby endangering the mental and physical health of children and adolescents at risk.

Keywords: disordered eating, binge-eating, anxiety, body mass index, adolescents

Ustna higiena in uporaba zobnih past s fluoridi pri otrocih in mladostnikih v Sloveniji v 2019

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Uvod: Predstavljamo rezultate »Nacionalne raziskave o ustnem zdravju otrok in mladostnikov v Sloveniji leta 2019«, s katero smo prvič na nacionalni ravni ugotavljali raven skrbi za ustno zdravje med otroki in mladostniki. Namen raziskave je bil oceniti stanje na področju skrbi za ustno zdravje otrok in mladostnikov ter oblikovati priporočila za njegovo promocijo. Podrobneje poročamo o rezultatih in ugotovitvah v povezavi z ustno higieno in uporabo fluoridov.

Metode: Ciljna populacija so bili otroci in mladostniki, stari 0–17 let. Vzorec, reprezentativen za spol in starost, je zajemal 3.200 otrok in mladostnikov (1 % te populacije v Sloveniji). Anketiranje smo izvedli s pomočjo anketnega vprašalnika EGOHID. Podatki so bili uteženi po starosti in spolu. Porazdelitve deležev med različnimi skupinami (po spolu ali starosti) in primerjave smo testirali s testom hi-kvadrat in testom CCP za primerjavo deležev med različnimi skupinami.

Rezultati: Med otroki, starimi 0–5 let, si redno čistijo zobe (oziroma jim pri tem pomagajo starši) le 62 % otrok. Delež otrok, ki si/jim redno čistijo zobe, se nekoliko poveča po 5. letu starosti (80 % otrok). V starostih 6–10 let in 11–17 let si v povprečju zob ne čistijo redno 20 % otrok/mladostnikov. Med mladostniki, starimi 15–17 let, si redno čistijo zobe 91 % deklet in le 66 % fantov (test hi-kvadrat = 17,4, $p < 0,001$; $p < 0,001$). Po 4. letu starosti močno upade delež otrok, ki jim starši pomagajo pri čiščenju zob, in sicer pomagajo 81 % 5-letnikov, 71 % 6-letnikov in 62 % 7-letnikov. Le 30 % otrok pred prvim letom starosti uporablja zobno pasto, ki vsebuje fluoride. Med otroki in mladostniki, starimi 3–13 let, naj bi jih zobno pasto, ki vsebuje fluoride, uporabljalo 66 %. Po 14. letu se poveča delež mladostnikov, ki ne vedo, ali njihova pasta vsebuje fluoride in kar 33 % mladostnikov navaja, da ne uporabljajo zobne paste, ki vsebuje fluoride. 47 % staršev meni, da je dnevno čiščenje zob z zobno pasto, ki vsebuje fluoride, koristno za zobe otroka, 13 % pa meni, da je to škodljivo. Kar 20 % staršev otrok, starih 0–5 let, meni, da je zobna pasta, ki vsebuje fluoride, škodljiva za zobe v primerjavi s 9 % staršev otrok, starih 6–10 let.

Razprava in zaključki: Nadzorovano čiščenje zob z zobno pasto, ki vsebuje fluoride, vsaj dvakrat dnevno se priporoča kot učinkovit ukrep za preprečevanje zobnih in ustnih bolezni. Priporoča se, da s čiščenjem zob pri otrocih pričnemo takoj, ko v ustno votlino izraste prvi zob in jim pri tem pomagamo, dokler ne pridobijo motoričnih spretnosti. Ugotovitve in priporočila za izboljšanje ustnega zdravja predstavljajo korak k zmanjšanju bremena zobnih in ustnih bolezni ter stroškov v sistemu (zobo)zdravstvenega varstva.

Gljučne besede: ustno zdravje, otroci, mladostniki, ustna higiena, fluoridi

Oral hygiene and the use of fluoride toothpastes in children and adolescents in Slovenia in 2019

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Introduction: We present the results of the »National Survey on Oral Health of Children and Adolescents in Slovenia in 2019«, which established for the first time at the national level, the level of oral health care among children and adolescents. The aim of our study was to assess the state of oral health of children and adolescents and provide recommendations for its promotion. We report in more detail the results and findings related to oral hygiene and fluoride use.

Methods: The target population were children and adolescents aged 0–17 years. The sample, representative for gender and age, included 3,200 children and adolescents (1% of this population in Slovenia). The survey was conducted using the EGOHID questionnaire. Data were weighted by gender and age. The distributions of proportions between different groups (by gender or age) and comparisons were analysed with the chi-square test and the CCP test to compare proportions between different groups.

Results: Only 62% of children aged 0–5 regularly brush their teeth (or are assisted by parents). The proportion of children who brush their teeth regularly increases slightly after the age of 5, with 80% of children brushing their teeth regularly. On average, 20% of children/adolescents do not brush their teeth regularly between the ages of 6–10 and 11–17. Among adolescents aged 15–17, 91% of girls and only 66% of boys regularly brush their teeth (hi-square test = 17.4, $p < 0.001$; $p < 0.001$). After the age of 4, the proportion of children whose parents help clean their teeth decreases sharply, with 81% of 5-year-olds, 71% of 6-year-olds and 62% of 7-year-olds being helped. Only 30% of children before the age of 1 use fluoride-containing toothpaste. 66% of children/adolescents, aged 3–13, are expected to use fluoride-containing toothpaste. After the age of 14, the proportion of adolescents who do not know if their toothpaste contains fluoride increases, and as many as 33% of adolescents state that they do not use toothpaste that contains fluoride. 47% of parents believe that daily cleaning of teeth with fluoride-containing toothpaste is good for the child's teeth, and 13% think that it is harmful. As many as 20% of parents of children aged 0–5 believe that fluoride-containing toothpaste is harmful to their teeth, compared to 9% of parents of children aged 6–10.

Discussion and conclusions: Controlled cleaning of teeth with fluoride-containing toothpaste at least twice a day is recommended as an effective measure to prevent dental and oral diseases. It is recommended that children start brushing their teeth as soon as the first tooth erupts into the oral cavity and help them until they develop the necessary motor skills. Findings and recommendations for improving oral health represent a step towards reducing the burden of dental and oral diseases and costs in the (dental) health care system.

Keywords: oral health, children, adolescents, oral hygiene, fluorides

Svetovanje otrokom in mladostnikom po telefonu in na spletu

Tjaša Bertoncej

Nacionalna mreža TOM telefona za otroke in mladostnike

Zveza prijateljev mladine Slovenije

Izhodišča in namen: Namen je predstavitev pogovora, kot osrednji prostor procesa pomoči, je posebej pomemben v luči možnosti, da otrok v tem prostoru pridobi izkušnje lastne sposobnosti in pripravljenosti iskanja pomoči. Sposobnost iskanja pomoči je namreč varovalni dejavnik in temelj, na katerem otrok gradi obvladovanje težav. Varovalno funkcijo ima zagotovo tudi TOM telefon s svojim osnovnim poslanstvom – omogočiti otrokom in mladostnikom, da svoja vprašanja, dileme, stiske, ter strahove delijo in pripeljejo v varno pristanišče odrasle odzivnosti.

Predstavitev vsebine: Usposobljeni svetovalci otroka ali mladostnika spodbujajo, da ob njegovi pomoči sam aktivno razrešuje svoja vprašanja ali težave. Vodi ga skozi štiri faze razgovora. Ob navezavi stika ustvari prijazno vzdušje in vzpostavi zaupanje na način, da se na otroka odziva spoštljivo, sočutno, z iskrenim zanimanjem, predvsem pa ga aktivno posluša. Ta korak je pomemben del svetovalnega razgovora, saj je temelj, na katerem poteka celoten proces pomoči. V drugi fazi opredelitve problema oz. razjasnitve situacije svetovalci pridobijo razumevanje glede otrokove situacije, njegovih potreb in občutkov. Otroku pomaga, da obsežen problem razdeli in razčleni na manjše dele, da ob prisotnosti več stisk hkrati izbere tisto, o kateri želi najprej govoriti. Faza je končana, ko je tema razjasnjena in dosežena razumna slika problema. Svetovalec fazo običajno zaključi s povzetkom in otroka povabi, da se premakneta na drugo raven. V tretji fazi iskanja rešitev je treba postaviti cilje in definirati spremembe, ki jih otroke želi doseči. Koristno je, da so cilji majhni, konkretni, realni oz. dosegljivi. V nasprotnem primeru bi lahko preveliki ali nerealni cilji v otroku povzročili občutek frustriranosti in preobremenjenosti. Svetovalec zato otroka spodbuja, da opisujejo prve korake, ki jih mora narediti, in ne končnega zelenega izida. Pri tem svetovalci osvetljuje otrokove moči, sposobnosti, kompetentnosti, potencialne, zdrave dele, pozitivne občutke sebe, življenjske načrte, socialno mrežo in pomembne socialne vezi. V četrti fazi zaključevanja je naloga svetovalca, da pogovor zaključi in da ga zaključi pravočasno ter na zadovoljiv način. Na kratko povzame celoten pogovor in dogovorjene korake, preveri, ali ostaja še kaj nejasnega in preveri počutje. Potrudi otrokove občutke, uvide in vsak napredek, dosežen med pogovorom. Izdatno ga pohvali, mu razjasni, da ceni njegovo prizadevanje in se mu preprosto zahvali, da je navezal stik. S toplim opogumljanjem spodbuja otroka, da nadaljuje in vztraja pri reševanju težave, s katero se je obrnil na svetovalca.

Sklepne ugotovitve: Pogovor, voden na takšen način, odpira prostor, v katerem lahko otrok sprevidi, da ima sam na voljo potrebne spretnosti in vire, da se izkoplje iz stiske in spozna, da je sposoben iskanja pomoči.

Ključne besede: otroci, svetovalni razgovor, varovalni dejavniki, usmerjenost na vire in rešitve

Child and adolescent telephone and online counselling

Tjaša Bertoneclj

National Network TOM Telefon, a child helpline

Slovenian Association of Friends of Youth (SAFY)

Introduction and purpose: The purpose is to present a conversation is the central space of a help process that is also key in enabling a child to experience their own competencies and readiness to ask for help. Being able to ask for help is a protective factor and a foundation on which a child can start solving their problems. Child helpline TOM Telefon definitely has a protective function as its key mission is enabling children and adolescents to share their questions, dilemmas, distress, and fears – and making adults give a safe response.

Content presentation: Offering support, a trained counsellor encourages a child or adolescent to actively search for answers to their own questions or solve dilemmas. A counsellor guides a child through four conversation stages. When contact is established, the counsellor responds in a kind and trustworthy way, they are respectful and empathetic towards the young caller, show sincere interest in them, and listen actively. This is an important stage of counselling, a foundation on which the whole helping process is being built. In the second stage, when defining a problem or making a situation clear, the counsellor gains perspective on the child's situation, needs, and feelings. They help the child to split a comprehensive problem into smaller parts and, in case of several forms of distress, to choose the one that the child wishes to discuss first. This stage is over when the theme and problem are clarified. The counsellor usually ends this stage by summarizing the issue and inviting the child to move to the next stage. The third stage is about defining goals and changes that the child wishes to make. It is useful to define goals that are small, concrete, realistic or achievable. If too big or unrealistic, these goals may make the child feel frustrated and overwhelmed. This is why the counsellor encourages the child to describe the first steps they plan to take, and not the final outcome. Doing so, the counsellor emphasizes the child's strengths, capabilities, competencies, potentials, healthy characteristics, positive feelings about themselves, life plans, a social network, and key social relationships. In the fourth, final stage, the counsellor finishes the conversation in due course and in a satisfactory manner. They make a short summary of the whole conversation and the steps which are to follow, check if anything has been left unclarified, and ask the child about their feelings. The counsellor confirms the child's feelings, insights, and progress made during the conversation. They give extensive praise and explain that they appreciate the child's effort, and simply say thank you for making contact. By warmly providing stimulation, they encourage the child to persist with trying to solve the problems they were discussing.

Conclusions: Such a guided conversation makes room for the child to see that they possess their own skills and sources for coping with distress, and realize they are capable of seeking help.

Keywords: children, counselling, protective factors, being source- and solution-directed

Poznavanje koncepta duševno blagostanje med mladostniki

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Uvod: Duševno blagostanje mladostnikov je aktualen in relativno nov koncept na področju zdravstvene nege. Nanaša se na stanje v katerem mladostnik deluje pozitivno, se dobro počuti, se spopada z vsakdanjimi stresorji, dobro deluje ter prispeva k skupnosti. Razumevanje duševnega blagostanja med mladostniki še ni dobro raziskano. Namen prispevka je predstaviti razumevanje koncepta duševnega blagostanja med mladostniki.

Metode: Izvedena je bila raziskava mešanih metod. V raziskavi, katera je potekala v izbranih osnovnih in srednjih šolah v Sloveniji, so sodelovali mladostniki med 10 in 19 let starosti. Za izvedbo raziskave smo pridobili soglasja inštitucij, udeležencev, staršev in Komisije Republike Slovenije za medicinsko etiko. V fokusni skupini je sodelovalo šestnajst mladostnikov, ki so privolili v raziskavo. Podatke smo analizirali po korakih, ki sta jih predlagala Corbin & Strauss (2008).

Rezultati: Osnovnošolci so imeli težave pri razumevanju koncepta duševnega blagostanja. Sprva so težave z duševnim zdravjem opisali kot povezave z duševno motnjo. Osnovnošolci so koncept opisali kot način življenja in razmišljanja ter odsotnost slabih medosebnih odnosov. Med tem, so srednješolci navedli, da je duševno blagostanje pozitiven pojem in je tesno povezan z duševnim zdravjem, vsakodnevnim počutjem, reakcijo na določene situacije, svobodo uživanja v določenih situacijah in samopodobo. Mladostnikovo razumevanje duševnega blagostanja se razlikuje glede na njegove vrednote, dojemanja, pričakovanja in okolja.

Razprava in zaključki: Osnovnošolci ne razumejo v celoti koncepta duševnega blagostanja. Srednješolci so opisali duševno blagostanje mladostnikov kot kakovost življenja, način razmišljanja in življenja (psihološko počutje) ter pozitiven izraz, ki vpliva na njihovo čustveno počutje (subjektivno počutje). Navedli so, da družina in prijatelji vplivajo na njihovo duševno počutje. Velik poudarek je bil tudi na sprejemanju drugih, ki so vključeni v medosebne odnose (psihosocialno počutje). Na splošno mladostniki pogosto zamenjujejo dva pojma, to je duševno zdravje in duševna bolezen. Potrebno je nadaljnje raziskovanje koncepta duševnega blagostanja in uvedba pozitivnih intervencij za krepitev duševnega zdravja mladostnikov.

Ključne besede: duševno blagostanje, otroci in mladostniki, zdravstvena nega

Knowledge of the concept of mental well-being among adolescents

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Introduction: The adolescents' mental well-being is a current and relatively new concept in the field of nursing. It refers to a state in which the adolescent acts positively, feels good, copes with everyday stressors, works well and contributes to the community. The understanding of mental well-being among adolescents has not yet been well researched. The purpose of this paper is to present an understanding of the concept of mental well-being among adolescents.

Methods: A study of mixed methods was performed. The research, which took place in selected primary and secondary schools in Slovenia, involved young people between the ages of 10 and 19. For the implementation of the research, we obtained the consent of institutions, participants, parents and the Commission of the Republic of Slovenia for Medical Ethics. Sixteen young people who agreed to the research participated in the focus group. The data were analyzed according to the steps proposed by Corbin & Strauss (2008).

Results: Primary school students had difficulty understanding the concept of mental well-being. Initially, mental health problems were described as links to a mental disorder. Secondary school students described the concept as a way of life and thinking and the absence of bad interpersonal relationships. Meanwhile, secondary school students stated that mental well-being is a positive concept and is closely related to mental health, daily well-being, reaction to certain situations, freedom to enjoy certain situations, and self-esteem. Adolescents' understanding of mental well-being varies according to their values, perceptions, expectations and environment.

Discussion and conclusions: Primary school students do not fully understand the concept of mental well-being. Secondary school students described the mental well-being of adolescents as a quality of life, a way of thinking and living (psychological well-being), and a positive expression that affects their emotional well-being (subjective well-being). They stated that family and friends affect their mental well-being. Great emphasis was also placed on accepting others involved in interpersonal relationships (psychosocial well-being). In general, adolescents often confuse two concepts, namely mental health and mental illness. Further research into the concept of mental well-being and the introduction of positive interventions to strengthen the mental health of adolescents is needed.

Keywords: mental well-being, children, adolescents, nursing care

Varnost in zaščita otrok ter njihovih družin v digitalnem okolju

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Izhodišča in namen: Prispevek osvetli pomen varnosti in zaščite otrok ter njihovih družin v digitalnem okolju. Za Slovenijo je značilna široka dostopnost do spleta, zato posledice prekomerne rabe zaslonov pri mladih postajajo vse večji izziv.

Predstavitev vsebine: V zadnjem obdobju je opazna vse pogostejša raba zaslonov tako pri otrocih kot tudi mladostnikih, kar je še posebno osvetlila epidemija COVID-19. Zaradi omenjenega porasta uporabe zaslonov so zelo opazni njeni škodljivi učinki na duševno zdravje otrok in mladostnikov. Ker so otroci zelo ranljiva skupina prebivalstva in imajo pogosto premalo izkušenj in znanja, da bi znali oceniti tveganja in posledice spletnega okolja, jim je treba zagotoviti zaščito in varnost ter jih, kot tudi njihove starše ali skrbnike ter druge osebe, ki pri svojem delu z otroki uporabljajo digitalno tehnologijo, ozaveščati in usposobiti za varno rabo digitalnih medijev. Prevelika izpostavljenost zaslonom in spletnim dejavnostim je zaskrbljujoča za zdravje in duševno dobrobit otrok in mladostnikov, saj povzroča povečan stres, pomanjkljivo pozornost, težave z vidom ter pomanjkanje telesne dejavnosti in športa, lahko pa privede tudi do zasvojenosti. Za doseganje največje koristi otrok je treba torej uravnotežiti oziroma uskladiti otrokovo pravico do zaščite oziroma varnosti s pravico do izražanja in sodelovanja. V obdobju COVID19 se je znatno povečal čas, ki ga otroci in mladostniki preživijo na spletu, saj se je šolanje ter kulturno in družbeno življenje prestavilo na splet. To je privedlo do večjih spletnih tveganj in povečanja digitalne neenakosti. V prispevku so predstavljeni interventni psihosocialni programi v podporo in zaščito otrok ter njihovih družin za varnost v digitalnem okolju, financiranih s strani Ministrstva za delo, družino, socialne zadeve in enake možnosti (MDDSZ). Programi so namenjeni nudenju individualne strokovne in skupinske pomoči zasvojenim z digitalnimi napravami, oziroma celostnem urejanju oseb z nekemičnimi oblikami zasvojenosti zasvojenim, njihovim svojcem, medinstitucionalnim povezovanjem z individualnim, družinskim, partnerskim in skupinskim načinom dela. Gre za kakovostne in široko dostopne brezplačne programe, ki temeljijo na sodobnih konceptih podpore in (samo) pomoči ter so prednostno namenjeni otrokom, mladostnikom in njihovim družinam ter pozitivno vplivajo na dvig kakovosti življenja tako posameznika kot družbe.

Sklepne ugotovitve: S prispevkom želimo osvetliti zavedanje, da so informacije in uporaba IKT pomembno orodje v življenju otrok in mladostnikov pri doseganju izobrazbe, socializacije, izražanja in vključevanja, obenem pa jih lahko njena uporaba izpostavi tveganju, izkoriščanju in zlorabam.

Ključne besede: digitalno okolje, varnost, otroci in mladostniki

Safety and protection of children and their families in the digital environment

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Introduction and purpose: The paper highlights the importance of safety and protection of children and their families in the digital environment. Slovenia is characterized by wide access to the Internet, so the consequences of excessive use of screens by young people are becoming an increasing challenge.

Content presentation: Recently, the increasing use of screens in both children and adolescents has been noticeable, which has been particularly highlighted by the COVID-19 epidemic. Due to the mentioned increase in the use of screens, its harmful effects on the mental health of children and adolescents are very noticeable. As children are a very vulnerable group of the population and often lack the experience and knowledge to assess the risks and consequences of the online environment, they need to be protected and safe and, as well as their parents or guardians and others involved in their work with children use digital technology, raise awareness and train them to use digital media safely. Excessive exposure to screens and online activities is a concern for the health and mental well-being of children and adolescents, as it causes increased stress, lack of attention, vision problems and lack of physical activity and sports, but can also lead to addiction. To achieve the greatest benefit for children, it is therefore necessary to balance or harmonize the child's right to protection or safety with the right to expression and participation. The COVID-19 period has significantly increased the time children and young people spend online, as schooling and cultural and social life have shifted to the Internet. This has led to greater cyber risks and an increase in digital inequality. The article presents intervention psychosocial programs in support and protection of children and their families for safety in the digital environment, funded by the Ministry of Labor, Family, Social Affairs and Equal Opportunities (MDDSZ). The programs are intended to provide individual professional and group assistance to addicts with digital devices, or integrated management of persons with non-chemical forms of addiction to addicts, their relatives, inter-institutional connection with individual, family, partnership, and group work. These are highquality and widely available free programs based on modern concepts of support and help, which are primarily intended for children, adolescents and their families and have a positive impact on raising the quality of life of both individuals and society.

Conclusions: The paper aims to highlight the awareness that information and the use of ICT are important tools in the lives of children and adolescents in achieving education, socialization, expression, and inclusion, and at the same time its use can expose them to risk, exploitation, and abuse.

Keywords: digital environment, safety and protection, children and adolescents

Opolnomočenje svetovalnih delavcev srednjih šol za izvajanje indicirane preventive na področju drog

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Izhodišča in namen: Poseganje po drogah v mladostništvu postaja vedno večji javno-zdravstveni problem, ki ogroža telesno in duševno zdravje, varnost in uspešnost mladih ter povečuje tveganje za razvoj zasvojenosti. Da bodo strokovni delavci, bolj kompetentni na področju promocije zdravja mladostnikov ter preprečevanja pojava bolezni zasvojenosti, je NIJZ, območna enota Maribor, v šolskem letu 2018/2019 pričel s preventivnimi aktivnostmi za opolnomočenje svetovalnih delavcev srednjih šol za delo z mladostniki, ki posegajo po drogah. Namen pristopa je zgodnje prepoznavanje mladostnikov, ki posegajo po drogah ter naslavljanje in reševanje omenjene problematike. S tem je nadaljnja obravnava mladostnikov lahko bistveno krajša, saj posledice uporabe drog še niso tako kompleksne in nepopravljive.

Predstavitev vsebine: Pristop temelji na znanjih iz preventive zasvojenosti ter smernic EMCDDA (European Monitoring Centre for Drugs and Drug Addiction) ter je skladen z javnozdravstvenimi načeli in strategijami na nacionalni ravni za področje drog. Pristop zajema individualen razgovor s šolskim svetovalnim delavcem na izbrani šoli, kjer se izpostavijo in opredelijo potrebe oziroma dileme, s katerimi se šola srečuje na področju drog. Spregovori se še o načinih ravnanj šole ob zaznavi mladostnikov, ki posegajo po drogi. Svetovalna delavka šole se po opravljenem uvodnem razgovoru vključi v delovno skupino svetovalnih delavcev (10-12 ljudi), ki se v šolskem letu sreča trikrat, pri čemer vsako srečanje traja 3 ure. Tekom srečanj (z metodami dela: predavanja, diskusija, metoda primerov, učenje s simulacijo) pridobijo šolski svetovalni delavci ustrezna stališča v odnosu do mladostnikovega poseganja po drogah, ustrezna znanja s področja adiktologije za ustrezno izvajanje indicirane preventive ter občutek koherentnosti skozi razreševanje dilem in strahov pri svojem delovanju. Oblikuje se strategija ukrepanja na ravni šole v primeru problematike drog. Po vsakem srečanju se izvede evalvacija zadovoljstva z izvedbo srečanja, z načinom dela in posredovanjem vsebin, s podanimi vsebinami, uporabnostjo vsebin pri njihovem delu ter vzdušjem v skupini. Evalvacija je pokazala visoko zadovoljstvo na vseh zastavljenih kazalnikih.

Sklepne ugotovitve: Za ustrezno naslavljanje področja drog med mladimi ter zagotavljanja pomoči mladim je ključno, da ima skupnost, tako širša, še posebej pa strokovna javnost ustrezna, poenotena stališča ter ustrezna znanja, pridobljena na strukturiran in sistematičen način. Za zmanjševanje uporabe drog ter težav povezanih z uporabo drog je ključno delo na zgodnji preventivi, da do zasvojenosti sploh ne pride.

Ključne besede: zgodnja preventiva, zasvojenost, droge, mladostniki, stališča

Empowering school counselors to implement indicated drug prevention

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Introduction and purpose: Drug abuse in adolescence is becoming an increasing public health problem that threatens the health, safety, and performance of young people and increases the risk of developing addiction and other health and mental health problems. In order for professionals working with young people to promote the health of adolescents and prevent the occurrence of addiction and become more competent in the field of drugs, NIJZ, Maribor regional unit, began preventive activities to empower counselors to work with adolescents who use drugs, in the 2018/2019 school year. The purpose of the intervention is to identify adolescents who use drugs as soon as possible and to offer them appropriate assistance, which is possible through education and work with professionals who work with adolescents. The aim is also to increase the effectiveness of treatment of adolescents who use drugs, because due to early identification, the consequences of drug use have not yet affected all areas of adolescent activity and therefore shorter treatment can be effective.

Content presentation: The approach is based on addiction prevention knowledge and on the guidelines of the EMCDDA (European Monitoring Center for Drugs and Drug Addiction) and is consistent with public health principles and strategies at the national level in the field of drugs. The approach includes an individual visit to the school by a selected counselor in order to talk about the needs / dilemmas that the school faces in the field of drugs and the ways in which the school behaves when perceiving adolescents who use drugs. After the introductory interview, the school counselor joins the working group of counselors (10-12 people), which meets three times during the school year, with each meeting lasting 3 hours. During the meetings (with work methods: lectures, discussion, case study, simulation learning), school counselors gain appropriate attitudes towards adolescent drug use, appropriate knowledge in the field of addictology for the proper implementation of indicated prevention and a sense of coherence through resolving dilemmas and fears. A strategy for action at the school level in the event of drug problems has been developed. After each meeting, an evaluation is carried out. It includes a satisfaction with the implementation of the meeting, a satisfaction with the way of working and providing the content, the usability of the content in their work and the atmosphere in the group. The evaluation showed high satisfaction with all the set indicators.

Conclusions: In order to properly address the field of drugs among young people and to provide assistance to young people who use drugs, it is crucial that the community, both the wider and especially the professional public, has appropriate, unified views and relevant knowledge. To reduce drug use and drug-related problems, it is crucial to work on early prevention to prevent addiction at all.

Keywords: indicated prevention, addiction, drugs, adolescents, attitudes

Duševno zdravje študentov in študentk Univerze v Ljubljani: skrb namesto spregleda

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Uvod: V predstavitvi bova osvetlila del analize raziskave Položaj študentov in študentk UL v razmerah COVID19, ki smo jo izvedli na Oddelku za socialno pedagogiko Pedagoške fakultete v Ljubljani v obdobju od junija do septembra 2021 in je bila namenjena študentski populaciji Univerze v Ljubljani. Obdobje porajajoče odraslosti je namreč zaradi številnih sprememb in s tem povezanih občutkov nepredvidljivosti že samo po sebi izvor številnih duševnih stisk. Poleg tega se večina, namreč kar 75 % duševnih stisk, pojavi do 25. leta starosti oz. takrat doseže »vrh«. V času epidemije se je pojavnost duševnih stisk med različnimi bolj ranljivimi družbenimi skupinami še povečala, mednje sodijo tudi študenti. Za namen pridobivanja podatkov smo oblikovali spletni vprašalnik Položaj študentov in študentk UL v razmerah Covid-19.

Metode: Vprašalnik je pokrival pet področij, poleg splošnih demografskih tudi stanovaljsko in materialno področje, področje medosebnih odnosov, interesov in prostega časa ter študijsko področje. Za potrebe prispevka, v katerem se osredotočava na duševne stiske študentov in soočanja z njimi, so bila relevantna naslednja vprašanja zaprtega tipa: ali ste se v tem letu soočali z duševnimi stiskami?; na kakšen način se v tem študijskem letu soočate z duševnimi stiskami?; na koga se obrnete ob soočanju s stiskami?; kako pogosto ste v tem študijskem letu pri sebi prepoznali oz. doživljali duševne stiske in kako pogosto ste v tem študijskem letu pri sebi prepoznali oz. doživljali ugodne občutke in emocije. Vzorec celotne študije je zajemal 1094 oseb ženskega (77 %) in 300 oseb moškega spola (21 %); na vprašanja, vezana na področje duševnih stisk, pa je v povprečju odgovorilo 915 sodelujočih, ki so na začetno vprašanje, ali ste se v tem letu soočali z duševnimi stiskami, odgovorilo pritrdilno (to je veljalo za kar 77 % oseb, ki so posredovale svoj odgovor, namreč za 81 % vseh študentk in 63 % vseh študentov).

Rezultati: V prikazu rezultatov se osredotočava na različne pojavnosti duševnih stisk, na soočanje s stiskami in na vire medosebne podpore v času epidemije. Izpostavlja nekatere statistično pomembne povezave med različnimi stiskami in načini soočanja z njimi ter z medosebnimi viri podpore, prav tako pa tudi z doživljanjem ugodnih občutkov in emocij. Prisotnost duševnih stisk se je statistično pomembno povezovala s spolom, namreč ženskim, in z rednim načinom študiranja (napram izrednim). Glede na letnik študija, regijo bivanja in okolje bivanja (podeželsko napram mestno) raziskava ni pokazala razlik, ki bi bile statistično pomembne. Prisotnost skrbi za ekonomsko preživetje študenta se je statistično pomembno povezovala s prepoznanim doživljanjem duševnih stisk.

Razprava in zaključki: V prispevku osvetliva pomen stare-nove odgovornosti institucij visokega šolstva za prepoznavanje in naslavljanje težav v duševnem zdravju svojih študentov in študentk. Posodobljena odgovornost le-teh pomeni tudi spremembo v hierarhiji védnosti, večjo občutljivost za različne življenjske položaje mladih odraslih, omogočanje psihološko pogumnih podpornih okolij, tudi v imenu razvijanja potencialov in posledičnih inovacij, namerno razpiranje družbenih 'mehurčkov' in vzpostavljanje skupnostne kondicije za sprejemanje različnosti – zunaj in znotraj sebe.

Gljučne besede: duševne stiske, vrste duševnih stisk, podpora, mladi odrasli

Mental health issues of University of Ljubljana' students: care instead of neglect?

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Introduction: In this paper we present a partial analysis of a survey conducted by the Department of Social Pedagogy at the Faculty of Education of the Univ. of Ljubljana entitled Positions of Students at the University of Ljubljana during COVID-19.

Methods: The online survey was addressed to students of the University and was collected in the period between June and September 2021. The part of the survey presented here focuses on students' mental health and coping strategies. The COVID-19 era has led to problems with mental health overall, with students being just one of many vulnerable social groups affected. We know that several studies have highlighted the importance of supporting student mental health even before COVID-19, as mental health problems are common among university students. The emerging adulthood is associated with many simultaneous changes and feelings of unpredictability, which in themselves are a source of many mental health problems. In addition, 75% of all mental health problems occur or peak in young adulthood. For data collection, we designed an online survey entitled Position of students at the University of Ljubljana in the period COVID-19. The survey included five domains, in addition to general demographic questions, questions about general living and material conditions, interpersonal relationships, interests and leisure time, and the area of study. This presentation focuses on the area of student mental health, for which we asked the following questions: Did you struggle with mental health issues this year?; Who did you turn to when you were struggling with mental health problems?; How often did you identify various mental health problems this academic year?; and How often did you perceive various feelings of well-being during this study year?. Of all students who participated in the study, 1094 or 77 % were female and 300 or 21 % were male. On average, 915 respondents participated in the mental health section of the study, after they answered in the affirmative to the question about whether they had experienced mental health issues during the academic year, an alarming 77% of all who posted their answer, 81% of all female and 63% of all male respondents.

Results: In our study, results show a statistically significant association between specific mental health problems, specific coping strategies, and interpersonal sources of support, as well as recognition of feelings related to well-being. The occurrence of mental health problems is statistically significantly related to female gender and to regular students (as opposed to students who study and work regularly). We found no significant associations with year of study, region, or place of residence (urban or rural). When students confirmed that they were worried about their economic survival, there was a statistically significant association with psychological problems. *Discussion and conclusions:* The presentation concludes by highlighting the new-old responsibility of higher education institutions to identify and address student mental health issues. The updated responsibility also means an internal change in the hierarchy of knowledge recognized in the higher education system, greater awareness of the different life situations of students, enabling a psychologically courageous, supportive environment also in the name of developing potential and consistent innovation, deliberately opening »social bubbles« and creating dispositions to accept diversity within and outside us.

Keywords: mental health, mental health care, university students, higher education

Odraščanje v družini z zasvojenostjo z alkoholom in pomen varovalnih dejavnikov za zdravje otroka

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Izhodišča in namen: Zasvojenost z alkoholom je kljub svoji množični prisotnosti v slovenski kulturi še vedno sivo področje raziskav, o čemer pričajo že težje sledljivi podatki o prevalenci te bolezni. Namen prispevka je podrobneje predstaviti dejavnike tveganja in možnosti delovanja v smeri krepitev varovalnih dejavnikov na različnih področjih dela, kar bi lahko zmanjšalo negativne izide za zdravje otrok in mladostnikov, ki prihajajo iz družin, kjer je prisotna zasvojenost z alkoholom.

Predstavitev vsebine: Poleg uveljavljenih ukrepov v smeri zdravljenja zasvojenosti pri posamezniku obstaja v slovenskem prostoru še vedno pomanjkanje na področju zavedanja vplivov posebnih okoliščin, v katerih odraščajo otroci staršev, ki so zasvojeni, in na področju zdravljenja ter podpore svojcev iz tovrstnih družin. Zasvojenost z alkoholom namreč ne vpliva samo na pojav mnogih škodljivih posledic za posameznika, ki pije, ampak tudi za vse člane njegove družine, še posebej otroke. Kaotično in nestabilno družinsko okolje, ki ga zaznamuje zasvojenost z alkoholom, predstavlja širok spekter dejavnikov tveganja za psihosocialno in telesno blagostanje otroka. Prisotnost zasvojenosti v družini, in s tem posebne okoliščine odraščanja, pred otroka postavlja mnoge izzive, ki od njega zahtevajo razvoj različnih mehanizmov preživetja in pogosto zane-marjanje zadovoljevanja lastnih potreb na račun zadovoljevanja potreb staršev. Dodaten izziv pred njega postavlja tudi stigmatizirajoče okolje izven družine, kar otroku dodatno omejuje možnost izkušnje varnega okolja.

Sklepne ugotovitve: Navedene okoliščine lahko vplivajo na mnogotere izide, ki predstavljajo tveganje za otrokovo duševno in telesno zdravje, kot so depresivna in anksiozna stanja, težave pozunanjenja in ponotranjenja, težave v medosebnih odnosih, tvegana vedenja, slabše telesno zdravje itd. Na to ima lahko vpliv zgodnja psihosocialna obravnava otroka, osveščanje skupnosti o problematiki alkohola in osveščanje otrok in mladostnikov o bolezni, kot je zasvojenost. Prav tako sta pomembni krepitev in promocija virov pomoči, kot npr. omogočanje otroku varnega prostora z nudenjem podpore s strani okolja izven družine (šolsko okolje, društva, lokalna skupnost).

Ključne besede: zasvojenost z alkoholom, otroci iz družin z zasvojenostjo z alkoholom, psihosocialne posledice, varovalni dejavniki.

Growing up in a family with alcohol addiction and the importance of strengthening protective factors to maintain the health of a child

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Introduction and purpose: Despite its mass presence in Slovenian culture, alcohol addiction is still a gray area of research, as evidenced by how difficult it is to trace data on the prevalence of this disease. The purpose of this paper is to present in more detail the risk factors and possibilities of action to strengthen protective factors in various areas of work, which could reduce the negative health outcomes of children and adolescents coming from families with alcohol addiction.

Content presentation: In addition to the already established measures to treat addiction in individuals, there is still a lack of awareness of the impact of special circumstances in which children of addicted parents grow up and in the treatment and support of relatives from such families. Alcohol addiction not only affects the occurrence of many harmful consequences for the individual who drinks, but also for all members of his family, especially children. The chaotic and unstable family environment, characterized by alcohol addiction, represents a wide range of risk factors for the child's psychosocial and physical well-being. The presence of addiction in the family and thus the special circumstances of growing up poses many challenges to the child, which require him to develop various mechanisms of survival and often neglect to meet their own needs at the expense of meeting the needs of the parents. An additional challenge for a child is the stigmatizing environment outside the family, which further limits the child's ability to experience a safe environment.

Conclusions: These circumstances can affect many outcomes that pose a risk to a child's mental and physical health, such as depressive and anxiety states, externalizing and internalizing problems, interpersonal problems, risky behaviors, poor physical health, and so on. Approaching this need is possible by early psychosocial treatment of the child, raising awareness of the community about the problem of alcohol and raising awareness of children and adolescents about diseases such as addiction. It is also important to strengthen and promote sources of assistance, such as providing a safe space for the child, by enabling support from the environment outside the family (school environment, NGOs, local community).

Keywords: alcohol addiction, children from families with alcohol addiction, psychosocial consequences, protective factors.

Zdravje otrok in mladostnikov med pandemijo COVID-19 v Sloveniji

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Uvod: Tudi otroci in mladostniki so bili v času pandemije izpostavljeni številnim spremembam v družinskem, socialnem in šolskem življenju. Ugotovitve številnih tujih raziskav kažejo, da so se pri mladostnikih med pandemijo poslabšali fizično in duševno zdravje, kakovost življenja, življenjski slog ter tvegana vedenja. Nekatere študije ugotavljajo, da so imeli otroci in mladostniki iz manj premožnih družin med pandemijo slabše kazalnike zdravja in z zdravjem povezanih vedenj, v primerjavi z vrstniki iz bolj premožnih družin. Namen prispevka je predstaviti nekatere ključne ugotovitve raziskave »Z zdravjem povezano vedenje v šolskem obdobju« (angl. »Health Behaviour in School-aged Children«, HBSC) v času pandemije COVID-19.

Metode: Raziskava HBSC 2020 je bila izvedena med 5. in 23. oktobrom 2020, s pomočjo spletnega anonimnega vprašalnika. V raziskavo je bil vključen isti reprezentativni vzorec vsolanih mladostnikov, ki so bili v raziskavo vključeni že v šolskem letu 2017/2018 (n = 3052, in sicer učenci 9. razredov osnovnih šol (n = 1854) in dijaki 4. letnikov srednjih šol (n = 1198)). Zbrani podatki so bili statistično analizirani s programom SPSS 25.

Rezultati: Rezultati raziskave HBSC 2020 kažejo, da so bili med pandemijo COVID-19 slovenski mladostniki bolj nezadovoljni s svojim življenjem kot leta 2018, medtem ko v samooceni zdravja ni prišlo do večjih sprememb. Med pandemijo se je poslabšalo tudi duševno zdravje mladostnikov, povečal se je delež mladostnikov, ki so tedensko doživljali psihosomatske simptome ter tistih z visoko verjetnostjo klinično pomembnih težav v duševnem zdravju in depresije. Zmanjšal se je delež mladostnikov, ki so doživljali občutke žalosti ali obupanosti in tistih, ki so razmišljali o samomoru. Mladostniki so imeli manj ustrezne prehranjevalne navade, zmanjšala se je stopnja telesne dejavnosti, bolj prisotna pa so bila sedeča vedenja in več tveganih vedenj (kajenje tobaka, pitje alkoholnih pijač, opijanje, uporaba konoplje). Mladostniki, ki so družinsko blagostanje ocenili kot podpovprečno so bili bolj nezadovoljni z življenjem in so slabše ocenjevali svoje zdravje, prav tako so kazali več težav v duševnem zdravju, meli manj ustrezne prehranjevalne navade, bili manj telesno dejavni in imeli več sedečih in tveganih vedenj.

Razprava in zaključki: Ugotavljamo, da so mladostniki leta 2020 imeli večinoma slabše kazalnike zdravja in z zdravjem povezanih vedenj, kar je lahko povezano s tem, da večina nezdravih vedenj v adolescenci s starostjo narašča. Glede na to, da smo med pandemijo leta 2020 anketirali iste mladostnike kot leta 2018 iz primerjav med letoma ne moremo sklepati ali in v kakšni meri je k razlikam (poslabšanju) v izbranih kazalnikih med letoma prispevala pandemija. Se pa tudi leta 2020 (kot že pri prejšnjih izvedbah) kažejo neenakosti v zdravju in z zdravjem povezanimi vedenji. Mladostniki iz družin z najslabšim socialno ekonomskim statusom so najbolj ranljiva skupina.

Ključne besede: nezdrava vedenja, duševno zdravje, kakovost življenja, mladostnik, COVID-19

Health and health-related behaviors of children and adolescents during the COVID-19 pandemic

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Introduction: During the COVID-19 pandemic children and adolescents were exposed to several changes in family, social and academic life. Numerous studies have found that the pandemic negatively affected physical and mental health, quality of life, lifestyle and risky behaviors of young adults. In addition, some studies have shown that children and adolescents of lower socioeconomic status had poorer health and health-related behaviors during the pandemic, compared to their peers of higher socioeconomic status. The aim of this abstract is to present some of the key findings of the Health Behavior in School-Aged Children (HBSC) study, from the COVID-19 pandemic.

Methods: The HBSC 2020 study was conducted between 5 and 23 October 2020, using an online anonymous questionnaire. The study included the same representative sample of children and adolescents who were already included in the HBSC study conducted in the school year 2017/2018 (n = 3052, of those 9th grade primary school students (n = 1854) and 4th year high school students (n = 1198)). The collected data were statistically analyzed using the SPSS 25 program.

Results: The results of the HBSC 2020 study show that during the COVID-19 pandemic, Slovenian adolescents were more dissatisfied with their lives than in year 2018, while there were no major changes in the self-assessment of health. During the pandemic, the mental health of adolescents also worsened, and the proportion of adolescents who were experiencing psychosomatic symptoms weekly and those with a high probability of clinically significant mental health problems and depression increased. The proportion of adolescents experiencing feelings of sadness or despair and those with suicidal thoughts decreased. Adolescents had poorer eating habits, level of physical activity decreased, and more sedentary behaviors and risky behaviors (smoking tobacco, drinking alcohol, binge drinking, cannabis use) were present. Adolescents who assessed their family affluence as below average were more dissatisfied with their life and reported poorer health, showed more mental health problems, had poorer eating habits, were less physically active, and had more sedentary and risky behaviors.

Discussion and conclusions: In year 2020 adolescents from Slovenia had poorer health and health-related behaviors, which may be related to the fact that unhealthy behaviors in adolescence increase with age. In HBSC study conducted in 2020, during the COVID-19 pandemic, the same young people as in HBSC 2018 study were included. Therefore, we cannot conclude whether and to what extent the pandemic contributed to the differences (worsening) in behaviors between those years. However, inequality in health and health-related behaviors was found in 2020 (as in previous studies). Adolescents from families with the worst socio-economic status show to be the most vulnerable group.

Keywords: unhealthy behavior, mental health, quality of life, adolescents, COVID-19

Psihosocialni viri opolnomočenja in ranljivosti pri otrocih v rejništvu

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Izhodišče in namen: Da bi okrepili psihosocialno zdravje otrok v rejništvu bomo, teoretično in praktično preučili varovalne in ogrožajoče dejavnike razvoja vezane na rejništvo. V razvojne teorije Bronfenbrennerja, Eriksona in Bowlbya bomo vključili sodobne ugotovitve s področja nevroznanosti in epigenetike. Praktično bomo prikazali raziskave in interpretirali objavljene slovenske izkušnje otrok v rejništvu.

Predstavitev vsebine: Socialna služba namesti otroka v rejniško družino, da ga umakne iz ogrožajočih dejavnikov (zanemarjanje, zlorabe, nasilje, hude odvisnosti staršev, itd.) v biološki družini in mu omogoči ustrežnejše pogoje za odraščanje. Zaradi hudih neugodnih izkušenj v biološki družini, ločitvenega in prilagoditvenega stresa se otrok v rejništvu težje sooča z razvojnimi nalogami kot vrstniki brez tovrstnih težav. Eriksonova razvojna teorija, Bowlbyeva teorija navezanosti in spoznanja s področja nevroznanosti ter epigenetike poudarjajo, da neugodni pogoji v otroštvu povzročajo mnoge psihosocialne težave in močno povečano tveganje za psihične, čustvene, medosebne, vedenjske in socialne težave, bolezni in motnje tekom celotnega življenja. Ugotovitve s področja rezilientnosti pa kažejo, da dejavniki, ki krepijo psihično odpornost omogočijo pozitivne psihosocialne izide. Bistveno je, da otrok v rejniški družini pridobi in stabilizira varno čustveno navezanost, strategije za spoprijemanje z razvojnimi nalogami, da ustrezno predela negativne izkušnje iz biološke družine in integrira izkušnjo rejništva. Bronfenbrenner poudari, da je ugoden psihosocialni razvoj otroka možen ob usklajenosti in podpori vseh sfer sistemov skozi daljše časovno obdobje. Raziskave kažejo, da imajo otroci v rejništvu desetkrat več čustvenih (močna žalost, jeza, depresivno in anksiozno razpoloženje, strahovi in fobije, obrambni mehanizmi zanikanja, sanjarjenja, idealizacije, itd.) in vedenjskih težav (hiperaktivnost, impulzivnost, samopoškodbe, uničevanje stvari, laganje, kljubovalno vedenje, itd.) kot ostali otroci. Kljub temu pa so nekateri otroci v rejništvu psihično in socialno odporni in kažejo tekom odraščanja ugodne psihosocialne izide ter dobro čustveno in socialno prilagojenost. Izkušnje otrok v rejništvu in rejnikov kažejo, da ima odraščanje v rejniški družini svoje specifičnosti, zahtevnosti in težave, s katerimi se soočajo. Najtežja je integracija izkušenj iz biološke in rejniške družine.

Sklepne ugotovitve: Z namenom povečanja pozitivnih in zmanjšanja negativnih izidov na področju psihosocialnega zdravja otrok v rejništvu je potrebno poglobljeno in sistematično preučevanje varovalnih in ogrožajočih dejavnikov, ki so povezani s konkretnim otrokom. Bistvena je zgodnja intervencija, odkrivanje in ustrezna pomoč otrokom v rejništvu. Ob kompleksnejših težavah je smotrno razmišljati tudi o novih oblikah rejništva in še v večji meri sistemsko in zakonodajno podpreti otroke v rejništvu in rejniške družine.

Ključne besede: otrok v rejništvu, sistemski pristop, psihosocialne težave, rizični dejavniki, varovalni dejavniki

Psychosocial sources of empowerment and vulnerability of children in foster care

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Introduction and purpose: In order to strengthen the psychosocial health of children in the foster care, we will theoretically and practically examine the protective and risk factors of development related to foster care. In the developmental theorys of Bronfenbrenner, Erikson and Bowlby we will include current findings of neuroscience and epigenetics. Practically we will present and interpret researches and published Slovenian experiences of children in foster care.

Content presentation: The social service places the child in a foster family to remove him from risk factors (neglect, abuse, violence, severe parental dependence, etc.) in the biological family and to provide him with more suitable conditions for growing up. Due to severe unfavorable experiences in the biological family, separation and adjustment stress, a foster child finds it more difficult to cope with developmental tasks than peers without such problems. Erikson's developmental theory, Bowlby's theory of attachment and knowledge in neuroscience and epigenetics emphasize that adverse childhood conditions cause many psychosocial problems and a greatly increased risk of mental, emotional, interpersonal, behavioral and social problems, diseases and disorders throughout life. Findings from the field of resilience, however, show that factors that strengthen psychological resilience enable positive psychosocial outcomes. It is essential that the child in the foster family acquires and stabilizes a secure emotional attachment, strategies for coping with developmental tasks, to properly process negative experiences from the biological family and to integrate the foster care experience. Bronfenbrenner emphasizes that favorable psychosocial development of a child is possible with the coordination and support of all spheres of systems over a long period of time. Researches show that foster children have ten times more emotional (strong sadness, anger, depressed and anxious moods, fears and phobias, defense mechanisms of denial, dreaming, idealization, etc.) and behavioral problems (hyperactivity, impulsivity, self-harm, destruction of things, lying, defiant behavior, etc.) like other children. Nevertheless, some foster children are mentally and socially resilient and show favorable psychosocial outcomes and good emotional and social adjustment during adolescence. The experience of foster children and foster parents shows that growing up in a foster family has its own specifics, challenges and problems they face. The most difficult is the integration of experience from the biological and foster family.

Conclusions: In order to increase the positive and reduce the negative outcomes in the field of psychosocial health of foster children, is needed thoroughgoing and systematic study of protective and threatening factors related to a particular child. Essential are early intervention, detection and appropriate assistance to foster children. In addition to more complex problems, it is advisable to think about new forms of foster care and, to an even greater extent of systemic and legislatively support of children in foster care and foster families.

Keywords: foster child, systemic approach, psychosocial problems, risk factors, protective factors

Konoplja in kanabinoidi v terapiji otrok z epilepsijo in/ali drugimi razvojnimi motnjami

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Uvod: Konvencionalna zdravila so pogosto prva izbira za zdravljenje epilepsije pri otrocih. Vedno več pa je pritiskov laične/splošne javnosti, v našem primeru staršev otrok s hudimi oblikami epilepsije na zdravstvene ustanove, zdravnike ter tudi medicinske sestree in ostale zdravstvene delavce.

Metode: Uporabili smo opisno metodo dela s pregledom slovenske in tuje literature s pomočjo mednarodnih podatkovnih baz CINAHL, PubMed (Medline), ScienceDirect, ProQuest ter Whiley Online Library. Za iskanje literature je bil uporabljen tudi spletni brskalnik Google Scholar. Iskali smo literaturo, ki je izhajala od leta 2012 do 2022, po udarek je bil na novejši literaturi.

Rezultati: V RS je s prenovljeno uredbo o razvrstitvi prepovedanih drog leta 2016 bilo izdano dovoljenje za uporabo konopljinih lastnih kanabinoidov (fitokanabinoidov). V vseh državah članicah EU, tudi v RS, imamo registrirano zdravilo, ki se imenuje Epidyolex in, ki ima od 19. septembra 2019 dovoljenje za promet. Vsebuje naravni kanabidiol (CBD) in se uporablja za posebne, trdovratne oblike epilepsije in epileptične sindrome. Zdravniki poleg tega lahko tudi na svojo lastno odgovornost predpišejo pacientom magistralno zdravilo z učinkovinami tetrahidrokanabinol (THC), kanabidiolom (CBD) ali kombinacijami le-teh. Dolgoletne pred-klinične raziskave na modelih glodalcev so dokazale protikonvulzivne učinke kanabinoidov, zlasti CBD. Med drugim nekatere raziskave kažejo tudi na antikonzultivne učinke kanabinoida THC. Raziskovalci so na tem področju opravili že kar nekaj opazovalnih študij, tudi takšnih, ki so vključevale starše otrok z najhujšimi epileptičnimi sindromi. Na enem od oddelkov Pediatrične klinike v Ljubljani je v letu 2018 skupina otroških nevrologov opravila retrospektivno študijo na 66 otrokih s trdovratno epilepsijo, ki so prejeli 98% čisti, enomolekularni CBD. Študija je pokazala zelo dobre rezultate, saj so se pri 32 (48,5%) otrocih napadi zmanjšali za kar 50% ali več. Obstaja pa tudi nekaj preliminarnih študij, ki kažejo na to, da je zdravljenje s CBD – obogateno konopljo zelo uspešno za odpravljanje trdovratnih vedenjskih težav pri avtizmu in nekaterih drugih razvojnih motnjah ter, da je morda tak izdelek še učinkovitejši od enomolekularnega CBD.

Razprava in zaključki: Kanabinoidi imajo zagotovo terapevtski potencial. Nekatere študije kažejo na to, da bi lahko bili kanabinoidi v veliko pomoč pri različnih stanjih in boleznih, zlasti pri epilepsiji v otroštvu, ki je odporna na zdravljenje. Vsekakor je pri nas potrebno še veliko izobraževanja na tem področju, zlasti pri zdravniškem in medicinskem osebju. Ker je uporaba konoplje in pripravkov iz konoplje v našem zdravstvenem sistemu še relativno nova praksa, bi bilo potrebno to tematiko čim prej vključiti v študijski kurikulum zdravstvenih in medicinskih fakultet pri nas. Ključne besede: konoplja, kanabinoidi, otroška epilepsija

Ključne besede: cannabis, kanabinoidi, epilepsija v otroštvu

Cannabis and cannabinoids in the treatment of children with epilepsy and / or other developmental disorders

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Introduction: Conventional medications are often the first choice for treating epilepsy in children. However, there is more and more pressure from the lay / general public, in our case the parents of children with severe epilepsy, on medical institutions, doctors, as well as nurses and other health professionals.

Methods: We used a descriptive method of working with a review of Slovenian and foreign literature with the help of international databases CINAHL, PubMed (Medline), ScienceDirect, ProQuest and Wiley Online Library. The Google Scholar web browser was also used to search for literature. We were looking for literature that was published from 2012 to 2022, with an emphasis on more recent literature.

Results: In the RS, a renewed Regulation on the classification of illicit drugs in 2016 issued a permit for the use of cannabis's own cannabinoids (phytocannabinoids). In all EU states, including the RS, we have a registered medicinal product called Epidyolex, which has been authorized since 19. September 2019. It contains natural cannabidiol (CBD) and is used for specific, persistent forms of epilepsy and epileptic syndromes. In addition, physicians may, at their own risk, prescribe to patients a magistrally preparations of tetrahydrocannabinol (THC), cannabidiol (CBD), or combinations thereof. Long-term pre-clinical studies in rodent models have demonstrated the anticonvulsant effects of cannabinoids, particularly CBD. Among other things, some research also points to the anticonvulsant effects of the cannabinoid THC. Researchers have conducted quite a few observational studies in this area, including those involving parents of children with the most severe epileptic syndromes. In 2018, a group of pediatric neurologists, at one of the departments of the Pediatric Clinic in Ljubljana, conducted a retrospective study of 66 children with persistent epilepsy who received 98% pure, single-molecular CBD. The study showed very good results, as in 32 (48.5%) children the attacks decreased by as much as 50% or more. However, there are also some preliminary studies that suggest that CBD-enriched cannabis treatment is very effective in addressing persistent behavioral problems with autism and some other developmental disorders, and that such a product may be even more effective than mono-molecular CBD.

Discussion and conclusions: Cannabinoids certainly have therapeutic potential. Some studies suggest that cannabinoids could be of great help in a variety of conditions and diseases, especially treatment-resistant childhood epilepsy. In any case, we still need a lot of education in this area, especially with medical staff. Since the use of cannabis and cannabis preparations in our healthcare system is still a relatively new practice, it would be necessary to include this topic in the study curriculum of health and medical faculties in our country as soon as possible.

Keywords: cannabis, cannabinoids, childhood epilepsy.

Pomen okolja pri stiskah in samomorilnem vedenju otrok in mladostnikov

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Izhodišča in namen: Samomor je resen javno-zdravstveni problem, pri čemer so ena izmed ranljivih skupin za samomorilno vedenje mladostniki. V prispevku bomo predstavili okolijske dejavnike tveganja in varovalne dejavnike za samomorilno vedenje med mladostniki. Med temi se bomo še posebej osredotočili predvsem na pomen vrstnikov, šolskega okolja, širše skupnosti ter medijev, ki predstavljajo pomemben vir možnosti za preventivne dejavnosti pri preprečevanju samomorilnega vedenja med otroki in mladostniki.

Predstavitev vsebine: Vrstniki so v obdobju mladostništva izjemnega pomena, saj zagotavljajo okolje, v katerem se lahko mladostnik poveže, spregovori o temah, o katerih z drugimi ne želi govoriti, hkrati pa se lahko uči (bolj ali manj konstruktivnega) reševanja problemov. Enega izmed največjih stresorjev naj bi sicer za večino mladostnikov predstavljal šolski uspeh oziroma neuspeh. Poleg slednjega med dejavnike tveganja v šolskem okolju prištevamo medvrstniško nasilje, socialno izključenost in druge. Nasprotno lahko vključenost v različne oblike fizične aktivnosti v sklopu šolskih in obšolskih dejavnosti, vključenost staršev v mladostnikove obveznosti, pomoč pri reševanju problemov in spodbujanje mladostnika pozitivno vplivajo na duševno zdravje mladostnikov in delujejo kot varovalni dejavnik. Poleg šolske skupnosti ima pomembno vlogo tudi širša skupnost, saj so mladostniki še posebej vpeti vanjo. Dostopnost do različnih virov pomoči, prisotnost stigme do iskanja pomoči in do težav v duševnem zdravju oziroma dobri odnosi s skupnostjo ter kulturna in skupnostna prepričanja, ki mladostnika odvrtaajo od samomorilnega vedenja, lahko zmanjšujejo ali povečujeje tveganje za samomorilno vedenje. Slednje lahko sicer zmanjšujejo ali povečujeje tudi mediji in način prikazovanja samomorilnega vedenja v medijih. Mladostniki so še posebej dovzetni za posnemanje poročanega oz. medijsko prikazanega samomorilnega vedenja, kadar slednje ni prikazano v skladu s smernicami odgovornega poročanja o samomoru. Obenem so mladostniki tudi ena izmed skupin, med katerimi so splet in (novi) mediji še posebej priljubljeni, zato imajo lahko neprimerne vsebine na takega uporabnika še večji vpliv.

Sklepne ugotovitve: Preko opisanih dejavnikov lahko vsak od nas prispeva k preprečevanju samomorilnega vedenja med mladostniki, na način, da o teh temah ustrezno spregovorimo, o njih ustrezno poročamo, mlade pa opolnomočamo za reševanje stisk in iskanje pomoči preko ustvarjanja varnega in sprejemajočega okolja.

Gljučne besede: samomorilno vedenje, mladostnik, okoljski dejavniki tveganja, varovalni dejavniki

The impact of the environment on the distress and suicidal behaviour of children and adolescents

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Introduction and purpose: Suicide is a serious public health problem, with adolescents being one of the most vulnerable groups for suicidal behaviour. In this contribution, we will present environmental risk factors and protective factors for suicidal behaviour in adolescents. Among these, we will focus on the importance of peers, the school environment, the wider community and the media as important sources of opportunities for preventive action to prevent suicidality in children and adolescents.

Content presentation: Peers are extremely important in adolescence as they provide an environment where the adolescent can socialise, talk about topics he or she does not want to tell others about, and at the same time learn (more or less constructive) solutions to problems. One of the biggest stressors for most young people is academic success or failure. Risk factors in the school environment also include peer violence, social exclusion and others. Conversely, various forms of physical activity at school and in extracurricular activities, parental involvement in adolescents' tasks, help in solving problems and encouragement can have a positive effect on adolescents' mental health and act as a protective factor. In addition to the school community, the wider community in which the young people are particularly involved also plays an important role. Access to various sources of help, the presence of a stigma associated with help-seeking and mental health problems, or good community relations, as well as cultural and community beliefs that discourage young people from suicidal behaviour, can reduce or increase the risk of suicidal behaviour. The latter may also be reduced or increased by the media and the way suicidal behaviour is portrayed in the media. Young people are particularly at risk of imitating suicidal behaviour reported in the media or otherwise displayed if this is not done by following guidelines for responsible reporting of suicide. At the same time, young people are also among the groups for whom the internet and (new) media are particularly popular, so inappropriate content can have an even greater impact on these users.

Conclusions: Through the factors described, each of us can contribute to the prevention of suicidality among young people by speaking about these issues properly, reporting them responsibly and empowering young people to resolve difficulties and seek help by creating a safe and welcoming environment.

Keywords: suicidal behavior, adolescent, environmental risk factors, protective factors

Vpliv prekomerne uporabe zaslonov na razvoj predšolskih otrok

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Izhodišča in namen: Delež otrok z razvojnimi težavami na področju komunikacije, govora in jezika, gibanja ter čustev se povečuje. Eden od pomembnejših dejavnikov tveganja za te težave je prekomerna uporaba zaslonov. V prispevku bodo predstavljene študije in lastne klinične izkušnje o vplivu prekomerne uporabe zaslonov na razvoj in s tem zdravstveno stanje predšolskega otroka.

Predstavitev vsebine: Razvoj na senzornem, gibalnem, emocionalnem, govorno-jezikovnem, socialnem in kognitivnem področju poteka najintenzivneje v prvih dveh-treh letih življenja. V tem obdobju so možgani najbolj plastični, kar pomeni da je njihova občutljivost za senzorno in socialno učenje največja. Otrok se v tem obdobju uči s posnemanjem oseb v svojem okolju, predvsem staršev. Mehanizem za učenje na osnovi izkušenj iz okolja poteka preko epigenetike, nevrološka osnova pa so zrcalni nevroni. Prekomerna uporaba zaslonov pomembno omejuje otrokove izkušnje na vseh področjih vsakodnevnega funkcioniranja ter zmanjšuje njegov interes za dogajanje v okolju. Ob tem, ko se povečuje čas pred zasloni, se zmanjšuje čas za igro in skupni čas, preživet s sovrstniki in družinskimi člani. Nedavne študije kažejo, da prekomerna uporaba zaslonov v tem obdobju pomembno korelira s slabšimi rezultati na razvojnih testih, z upočasnjem razvojem na govorno-jezikovnem področju, z motnjo aktivnosti in pozornosti ter slabšo akademsko učinkovitostjo. Sekcija za primarno pediatrijo Združenja za pediatrijo je lani izdala nacionalne smernice za uporabo zaslonov pri otrocih in mladostnikih. Glede na smernice se uporaba zaslonov do 2. let starosti povsem odsvetuje. Od 2. leta do vstopa v šolo naj bi otrok preživel pred zasloni postopoma do največ ene ure dnevno, priporočeno skupaj s starši.

Sklepne ugotovitve: Prekomerna uporaba zaslonov pomembno vpliva na razvoj in s tem zdravstveno stanje predšolskih otrok. Potrebna je široka akcija ozaveščanja strokovnjakov in staršev o škodljivem vplivu prekomerne uporabe zaslonov na različna področja otrokovega funkcioniranja.

Ključne besede: uporaba zaslonov, otrokov razvoj, nacionalne smernice, ozaveščanje

The impact of excessive screen time on preschool children development

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Introduction and purpose: The share of children with developmental difficulties in communication, speech, language, movement and emotions is increasing. One of the important risk factors for these difficulties is the excessive use of screens. We are going to present recent studies and own clinical experiences on the impact that excessive use of screens has on the development of preschool children.

Content presentation: Development in the sensory, motor, emotional, speech, language, social and cognitive domains is the most intensive in the first years of life. During this period, the brain is most plastic, which means that its sensitivity to sensory and social learning is greatest. Children learn by imitating people in his environment, especially parents. The learning mechanism based on environmental experiences takes place through epigenetics, and the neurological basis are mirror neurons. Excessive use of screens significantly limits the child's experience in all areas of daily functioning and reduces his interest in what is happening in the environment. As the time in front of the screens increases, the time for play and the time spent with peers and family members decreases. Recent studies show that excessive use of screens during the sensitive period correlates significantly with poorer results on developmental tests, slower development in speech and language, attention deficit hyperactivity disorder, and poorer academic performance. Primary Pediatrics Section of Pediatric Association of Slovenia last year issued the national guidelines for the use of screens in children and adolescents. According to the guidelines the use of screens is not recommended until the age of 2. From the age of 2 until entering school the child should spend in front of the screen gradually up to a maximum of one hour a day, if possible with the parents.

Conclusions: Excessive use of screens has a significant impact on the development and thus the health status of preschool children. There is a big need for a broad campaign to raise awareness among professionals and parents about the harmful effect of excessive use of screens on various areas of a child's functioning.

Keywords: use of screens, child's development, national guidelines, awareness raise

Doživljanje patelofemoralne bolečine pri mladostnikih po usmerjeni gibalni terapiji

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Uvod: Patelofemoralna bolečina (PFB) mladostnikom omejuje zmožnost sodelovanja v šolskih in športnih aktivnostih. Ker imajo mladostniki s PFB različne biomehanske značilnosti v primerjavi z odraslimi, usmerjena gibalna terapija lahko vpliva na njihovo kakovost življenja in zmanjšanje PFB. Cilj te študije je bil raziskati doživljanje PFB pred, med in po vključitvi mladostnikov v usmerjeno gibalno terapijo. Ta poglobljeni vpogled lahko izboljša razumevanje PFB pri mladostnikih in spodbudi nove pristope v fizioterapevtski praksi.

Metode: Izvedena je bila kvalitativna deskriptivna študija. Devet mladostnikov je bilo vključenih v štiri fokusne skupine z namenom ugotovitve njihovih izkušenj pred vključitvijo v usmerjeno gibalno terapijo, med njeno izvedbo in deset do dvanajst mesecev po zaključku usmerjene gibalne terapije. Izvedba fokusnih skupin je potekala na daljavo decembra 2020. Uporabljena so bila pol-strukturirana vprašanja za ugotovitev različnih vidikov PFB v povezavi z izvedeno gibalno terapijo.

Rezultati: Mladostniki so podali podroben in izčrpen opis svojega življenja pred vključitvijo v usmerjeno gibalno terapijo, čemer so sledile njihove izkušnje z gibalno terapijo in spremembe vedenja po njenem zaključku. Pojavile so se tri glavne teme: 1) značilnosti PFB in njihov vpliv na vsakdanje življenje mladostnikov, 2) doživljanje usmerjene gibalne terapije in 3) spremembe PFB in vsakodnevnega vedenja po usmerjeni gibalni terapiji. Šest mladostnikov je poudarilo, da je pred vključitvijo v gibalno terapijo imelo občutek pomanjkanja razumevanja družbe in zaupanja. Mladostniki so bili zelo motivirani za sodelovanje v gibalni terapiji, saj so hitro opazili pozitivne spremembe. Čeprav so nekateri imeli težave pri ohranjanju motivacije po zaključku gibalne terapije, sedem mladostnikov je poročalo dolgoročne pozitivne učinke gibalne terapije.

Razprava in zaključki: Naše ugotovitve kažejo, da je usmerjena gibalna terapija učinkovita pri zmanjšanju kratko- in dolgo- ročne PFB in pri izboljšanju kakovosti življenja mladostnikov s PFB. Potrebne so nadaljnje študije, ki bi ugotovile izkušnje mladostnikov z različnimi oblikami gibalne terapije in, ki bi razjasnile pomen motivacije pri ohranjanju doseženih rezultatov.

Gljučne besede: sprednja kolenska bolečina, vadbeni program, motivacija

The experience of patellofemoral pain in adolescents after a targeted exercise program

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Introduction: Patellofemoral pain (PFP) limits the ability of adolescents to participate in school and sports activities. As adolescents with PFP present different biomechanical profiles compared to adults, a targeted exercise program may help improve their quality of life and alleviate PFP. The objective of this study was to explore the adolescents' experience of PFP before, during and after the inclusion in a targeted exercise program. This in-depth perspective could improve the understanding of PFP in adolescents and help promote a novel approach in physiotherapy research and intervention planning.

Methods: This study was a qualitative descriptive study. Nine adolescents were included into four focus groups in order to investigate their experience prior to the implementation of the targeted exercise program, during its duration, and ten to twelve months after its conclusion. The focus groups were conducted in December 2020. Semi-structured interviews were used to gather data on various aspects of PFP in relation to the conducted targeted exercise program. The data were analysed using the method of content analysis.

Results: Adolescents provided a detailed and exhaustive description of their lives prior to the enrollment in the targeted exercise program followed by their experience of the targeted exercise program and behavioral changes that persisted after its conclusion. Three main themes emerged from the FG data: 1) PFP characteristics and its influence on their daily life, 2) experience with the targeted exercise program, and 3) changes in PFP and daily behaviours following the targeted exercise program. Six adolescents expressed a lack of social understanding and confidence regarding their PFP prior to the inclusion in the targeted exercise program. Adolescents seem to be highly motivated to participate in the program as they noticed positive changes soon after the inclusion. Although some of them struggled to maintain the high level of commitment after the conclusion in the exercise program, positive long-term effects were expressed by seven adolescents.

Discussion and conclusions: Our findings suggest that a targeted exercise program is effective in reducing short- and long-term PFP and increasing overall well-being of adolescents with PFP. Further research is needed to investigate the adolescents' experience with PFP and various forms of exercise programs, as well as to investigate into the importance of self-motivation in maintaining the achieved results.

Keywords: anterior knee pain, therapeutic exercise, self-motivation

Učinki pandemije COVID-19 na doživljanje stresa pri mladostnikih

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Uvod: Pandemija novega koronavirusa (COVID-19) je poleg gospodarske, ekonomske in zdravstvene krize povzročila številne težave v duševnem zdravju. Mladostniki so še posebej ranljiva skupina za razvoj negativnih posledic pandemije na duševno zdravje. S pregledom literature smo želeli analizirati učinke pandemije COVID-19 na doživljanje stresa pri mladostnikih.

Metode: V marcu 2022 smo sistematično pregledali literaturo v mednarodnih podatkovnih zbirkah PubMed in Cochrane Library. Pri tem smo uporabili ključne besede v angleškem jeziku in njihove sopomenke ter Boolova operatorja AND in OR. Oblikovan je bil iskalni niz (»adolescent«) AND (»stress«) AND (»pandemic« OR »COVID-19« OR »Coronavirus«) AND (»mental health«). Vključitveni kriteriji so bili: (1) kvalitativne in/ali kvantitativne raziskave ter sistematični pregledi člankov z metaanalizo oziroma brez nje, (2) angleški jezik, (3) raziskave, ki so bile opravljene med pandemijo COVID-19, (4) mladostniki, (5) stres pri mladostnikih. Izključitveni kriteriji so bili: (1) ostale duševne bolezni, (2) druga populacija, (3) drugi tipi raziskav ter (4) drug tuj jezik. Rezultate smo sintetizirali na podlagi vsebinske analize.

Rezultati: Od skupno 72 pregledanih zadetkov smo jih 39 vključili v končno analizo. Pregled zadetkov je pokazal, da se mladostniki glede na stopnjo mentalnega razvoja in okolja, v katerem bivajo, različno odzivajo na stres. Doživljanje stresa pri mladostnikih je odvisno od odzivov staršev in spopadanja s stresom odraslih oseb, s katerimi je mladostnik v interakciji. Pravi pristop in podpora z njihove strani lahko pomagata povrniti ravnotežje in preprečiti trajno psihofizično škodo v telesu mladostnika. 13 raziskav je pokazalo, da je pandemija COVID-19 povečala stopnjo stresa pri mladostnikih, prav tako je bila stopnja stresa v tej skupini v času pandemije najvišja v primerjavi z drugimi populacijami. V prihodnosti, v obdobju odraslosti, bi to lahko predstavljalo večjo možnost za razvoj različnih bolezni, kot so depresija, odvisnosti, nespečnost in anksioznost.

Razprava in zaključki: Čeprav je pandemija COVID-19 le redko težje prizadela telesno zdravje mladostnikov, pa je povzročila povečan stres v tej ranljivi skupini. Vpliv pandemije na duševno zdravje mladostnikov je neizogiben. Glede na možne dolgoročne posledice stresa med mladostniki bi ta problematika s strani zdravstvene službe in odgovornih vladnih institucij morala biti obravnavana kot javnozdravstveni problem. Potrebno bo izobraževanje staršev, učiteljev in mladostnikov o strategijah spopadanja s stresom. Nujno bodo potrebne longitudinalne študije za spremljanje duševnega zdravja mladostnikov. S pomočjo dokazov bo mogoče zagotoviti učinkovite javnozdravstvene strategije in priporočila za ublažitev posledic povečanega stresa v času pandemije.

Ključne besede: stres, pandemija, mladostnik, duševno zdravje, COVID-19.

Effects of COVID-19 pandemic on stress in adolescents

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Introduction: The novel coronavirus (COVID-19) pandemic has caused numerous mental health problems in addition to the economic, financial and health crisis. Adolescents are more exposed to the negative effects of the COVID-19 pandemic and with lasting cognitive changes in adulthood. We conducted literature review to analyse the effects of COVID-19 pandemic on stress in adolescents.

Methods: In March 2022, we systematically reviewed the literature in the PubMed and Cochrane Library international databases. We used keywords in English and their synonyms, as well as the Boolean operators AND and OR. A search string (»adolescent«) AND (»stress«) AND (»pandemic« OR »COVID-19« OR »Coronavirus«) AND (»mental health«) was created. Inclusion criteria were: (1) qualitative and/or quantitative research and systematic reviews of articles with or without metaanalysis, (2) English, (3) research conducted during the COVID-19 pandemic, (4) adolescents, (5) stress in adolescents. Exclusion criteria were: (1) other mental illness, (2) other population, (3) other types of research, and (4) another foreign language. The results were synthesised on the basis of a substantive analysis.

Results: Out of a total of 72 results reviewed, 39 were included in the final analysis. The review of results has shown that adolescents respond to stress differently, depending on their level of mental development and the environment in which they live. The experience of stress in adolescents depends on the reaction of parents and an adult's experience of stress. The correct approach and support on their part may help to restore balance and prevent permanent psychophysical harm in the adolescent's body. 13 researches have shown that the COVID-19 pandemic has increased the level of stress in adolescents, and the level of stress in this group during the pandemic was the highest compared to other populations. In the future, in adulthood, this could represent a greater chance of developing various diseases such as depression, addictions, insomnia and anxiety.

Discussion and conclusions: Although the COVID-19 pandemic has rarely severely affected the physical health of adolescents, it has caused increased levels of stress in this vulnerable group. The impact of the pandemic on the mental health of adolescents is inevitable. Given the potential longterm consequences of stress among adolescents, this issue should be considered as a public health problem by the health service and competent government bodies. It will be necessary to educate parents, teachers and adolescents on strategies for coping with stress. Longitudinal studies will be urgently required to monitor mental health of adolescents. Effective public health strategies and interventions should be evidence-based to mitigate the consequences of increased levels of stress during the pandemic.

Keywords: stress, pandemic, adolescent, mental health, COVID-19

Legalizacija in uporaba konoplje med mladimi: razmišljanje o mitih in dejstvih

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Izhodišča in namen: Zaščita mladih pred morebitno škodo, povezano z uporabo konoplje, se pogosto uporablja kot utemeljitev proti njeni legalizaciji in regulaciji za zdravstvene namene. V tem prispevku bodo ponovno pretehtani argumenti o možnih posledicah legalizacije in regulacije »medicinske konoplje« za mlade. Prispevek se bo osredotočil na dva ključna pomisleka: da bi se razširjenost konoplje, zaradi legalizacije znatno povečala in da bi se med mladimi pogosteje pojavljale hude duševne bolezni, povezane z rabo konoplje. Obravnaval bo tudi zanemarjene povezave med prepovedjo konoplje ter kriminalizacijo in družbenimi neenakostmi, kjer so nesorazmerna obremenjene posebej ranljive in marginalizirane skupine mladih. Iskanje ranljivih skupin je še posebej pomembno, da jih lahko usmerimo v zgodnje preventivne in terapevtske programe.

Predstavitev vsebine: Poleg trditve, da legalizacija vodi do večje razširjenosti uporabe pri mladih, kritiki regulacije konoplje v zdravstvu pogosto navajajo, da vsaka uporaba škodi duševnemu zdravju mladih. Vendar se, zaradi številnih in zapletenih povezav z družbenimi vrednotami, razprav o tem le malokdo loteva brez predsodkov. Vpliv teh predsodkov ne seže le v končno ralago zbranih ugotovitev, temveč se pokaže že pri zastavljanju raziskovalnih vprašanj in zbiranju dejstev. Konoplja je tudi zelo kompleksna rastlina z več kot 400 kemičnimi entitetami, od katerih jih je več kot 60 kanabinoidnih spojin, z različnimi- včasih tudi nasprotnimi, učinki za posamezne uporabnike.

Sklepne ugotovitve: Na splošno velja, da je razširjenost in nevarnost rabe konoplje posebej velika med mladimi ter da narašča med starejšimi bolniki, ki jim lahko koristi kot dopolnilno zdravljenje ali pa ponavadi za zdravljenje manj hudih bolezenskih stanj. Decembra 2013 je civilna družba v Državni zbor RS vložila predlog Zakona o konoplji, s katerim je med drugim predlagala, da bi bila tudi v Sloveniji dovoljena uporaba konoplje za zdravstvene namene. Vlada je predlog zakona zavrnila, vendar je leta 2014 potrdila spremembo Uredbe o razvrstitvi prepovedanih drog in z njo omogočila uporabo zdravil na osnovi kanabinoidov za zdravljenje tistih bolezni, pri katerih so ta zdravila dokazano učinkovita. Kljub temu se morajo bolniki, njihovi svojci, aktivisti in strokovnjaki nenehno boriti za širšo dostopnost do »medicinske konoplje«. Zaradi neurejene regulacije na tem področju imajo bolniki, ki bi »medicinsko konopljo« potrebovali, do nje dostop le na črnem trgu. Potencialne zdravilne lastnosti in škodljivosti konoplje in njenih sestavin so že desetletja predmet raziskav in burnih razprav. Raziskovalci si niso enotni, ali je rastlina konoplja varna in učinkovita kot zdravilo.

Ključne besede: konoplja, mladi, legalizacija, politika, javno zdravje, duševno zdravje, Slovenija

Legalization and use of cannabis among young people: thinking about myths and facts

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Introduction and purpose: Protecting young people from possible harm related to cannabis use has often been used as a justification against its legalization and regulation for health purposes. In this paper, arguments on the possible consequences of legalizing and regulating »medical cannabis« for young people will be reconsidered. The paper will focus on two key concerns: that the prevalence of cannabis would increase significantly due to legalization, and that severe mental illness associated with cannabis use would be more common among young people. It will also address the neglected links between cannabis ban and criminalization and social inequalities, where vulnerable and marginalized groups of young people are disproportionately burdened. Finding vulnerable groups is especially important so that we can focus them on early prevention and therapeutic programs.

Content presentation: In addition to arguing that the legalization lead to greater use among young people, critics of the regulation of cannabis in healthcare often state that any use harms the mental health of young people. However, due to the many and complex connections with social values, few people engage in discussions without prejudice. The impact of these prejudices does not only reach the final level of collected findings, but is also evident in asking research questions and gathering facts. Cannabis is also a very complex plant with more than 400 chemical entities, of which more than 60 are cannabinoid compounds, with different - sometimes opposite, effects for individual users.

Conclusions: It is generally accepted that the prevalence and risk of cannabis use is particularly high among young people and is increasing among older patients, who may benefit from it as an adjunct treatment or usually for the treatment of less severe conditions. In December 2013, civil society submitted a proposal to the Cannabis Act to the National Assembly of the Republic of Slovenia, proposing, among other things, that the use of cannabis for medical purposes be allowed in Slovenia as well. The government rejected the bill, but in 2014 approved an amendment to the Ordinance on the Classification of Illicit Drugs, allowing it to use cannabinoid-based drugs to treat those diseases for which these drugs have been shown to be effective. Nevertheless, patients, their relatives, activists and professionals must constantly fight for wider access to »medical cannabis«. Due to unregulated regulation in this area, patients who would need »medical cannabis« have access to it only on the black market. The potential medicinal properties and harms of cannabis and its ingredients have been the subject of research and heated debate for decades. Researchers disagree on whether the cannabis plant is safe and effective as a medicine.

Keywords: cannabis, youth, legalization, politics, public health, mental health, Slovenia

Spanje otrok in mladostnikov ter promocija pomena spanja in priporočil za dobro spanje

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Izhodišča in namen: Urejeno spanje je osnovna človekova potreba in je eden od temeljev zdravja. Povezano je z boljšo kakovostjo življenja v vseh starostnih obdobjih. Šolski otroci in mladostniki pogosto spijo premalo. Pomanjkanje spanja ima posledice na duševnem, kognitivnem in telesnem razvoju. Motnje spanja so po ocenah somnologov prisotne pri 10 do 30 odstotkih otrok in mladostnikov in so pogosto neprepoznane. Namen prispevka je predstaviti aktivnosti, ki jih Nacionalni inštitut za javno zdravje (NIJZ) izvaja na področju promocije spanja.

Predstavitev vsebine: V mednarodni raziskavi Z zdravjem povezana vedenja v šolskem obdobju (HBSC), smo leta 2014 prvič zajeli vprašanje o spanju. Raziskava je pokazala, da je med šolskim tednom skladno s priporočili spala tretjina slovenskih mladostnikov (30,6 %). Na podlagi izsledkov iste raziskave iz leta 2018 pa ugotavljamo, da skladno s priporočili spi le še petina (22,1 %) mladostnikov. Čas spanja se s starostjo zmanjšuje. NIJZ se zato od leta 2017 bolj intenzivno ukvarja s promocijo pomena spanja. Tematika je bila predstavljena na strokovnem posvetu ob svetovnem dnevu zdravja 2018 v Celju, v marcu 2019 smo s somnologinjo pripravili sporočilo za medije. Leta 2020 smo v sodelovanju s somnologi izdali priporočila za zdravo spanje otrok in odraslih v elektronski obliki, ki smo jih v letu 2022 natisnili ter jih distribuirali do ključnih deležnikov. V letih 2021 in 2022 smo ob sodelovanju različnih partnerjev obeležili svetovni dan spanja s sporočilom za medije. Vseskozi izvajamo izobraževanja strokovnih delavcev v okviru Slovenske mreže zdravih šol. Za šolarje smo pripravili delovne liste, s katerimi aktivno spoznavajo pomen spanja in priporočil za dobro spanje. Poleg gradiv za otroke in odrasle smo pripravili infografiki o pomenu spanja ter priporočil za spanje šolarjev in mladostnikov v elektronski obliki in bodo ob podpori programa MIRA - nacionalnega programa za duševno zdravje - kot plakati diseminirani tudi v tiskani obliki. V marcu 2022 smo organizirali nacionalno strokovno srečanje z naslovom Mladostniki in spanje z več kot 300 udeleženci. Promotorji programa MIRA so izvedli preventivno akcijo na ljubljanskih ulicah z razdeljevanjem gradiv ter čajnih vrečk z mešanico, ki spodbuja spanec. V marcu 2022 je bilo na socialnih omrežjih NIJZ in Zgeni.se, z več kot 90.000 sledilci, veliko objav na temo spanja. Na NIJZ spletni strani je zaživel zavihek spanje, kjer so zbrani prispevki na tematiko spanja.

Sklepne ugotovitve: Spanje je najučinkovitejši način za vsakdanje uravnavanje telesnega in duševnega zdravja. V času otroštva in mladostništva je spanje izjemnega pomena, zato je ozaveščanje javnosti o pomenu spanja in priporočilih za dobro spanje za javno zdravje nujno potrebno. Jeseni 2022 načrtujemo objavo podatkov raziskave HBSC 2022, ki bo osvetlila trenutno stanje na področju spalnih navad mladostnikov. Rezultati bodo služili ključnim usmeritvam za nadaljnje aktivnosti NIJZ in naših partnerjev v tej populacijski skupini.

Ključne besede: spanje, otroci, mladostniki, zdravje, priporočila, promocija

Sleep in children and adolescents and the promotion of the importance of sleep and recommendations for regular sleep

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Introduction and purpose: Regular sleep is a basic human need and is one of the foundations of health. It is associated with better quality of life at all ages. Schoolchildren and adolescents often do not get enough sleep. Lack of sleep has consequences for mental, cognitive and physical development. Somnologists estimate that sleep disorders are present in 10 to 30 percent of children and adolescents and are often unrecognized. The aim of this paper is to present the activities carried out by the National Institute of Public Health (NIJZ) in the field of sleep promotion.

Content presentation: We have included the question on sleep for the first time in international Health Behaviour in School-aged Children (HBSC) study in 2014. The study showed that one third of Slovenian adolescents (30.6%) slept in accordance with the recommendations during the school week. Based on the results of the same study from 2018, we find that only one fifth (22.1%) of adolescents sleep in accordance with the recommendations. Sleep time decreases with age. Therefore, since 2017, the NIJZ has been more intensively involved in the promotion of the importance of sleep. The topic was presented at an expert conference in Celje on the occasion of World Health Day 2018, and in March 2019 we prepared a press release with a somnologist. In the cooperation with somnologists, we issued recommendations for healthy sleep for children and adolescents in e-form in 2020, which was printed and distributed to key stakeholders in 2022. In 2021 in 2022, we celebrated World Sleep Day by issuing a press release in collaboration with various partners. We constantly provide training for professional workers in schools within the Slovenian Network of Healthy Schools. We have prepared worksheets for schoolchildren, with which they actively learn about the importance of sleep and recommendations for regular sleep. In addition to materials for children and adults, we have prepared infographics in e-form on the importance of sleep and recommendations for sleep for schoolchildren and adolescents. With the support of the MIRA Programme (National Mental Health Programme), these materials will be disseminated in the form of printed posters. In March 2022, we organized a national expert meeting entitled Adolescents and Sleep with more than 300 participants. The promoters of the MIRA Programme carried out a preventive campaign on the streets of Ljubljana by distributing materials and teabags with a sleep-promoting blend. In March 2022, there were many sleep-promoting topics posted on the NIJZ and Zgeni.se social networks, with more than 90,000 followers. The Sleep tab has been launched on the NIJZ website, where articles on the topic of sleep are posted.

Conclusions: Sleep is the most effective way to regulate physical and mental health on a daily basis. Sleep is extremely important during childhood and adolescence, therefore raising awareness of the importance of sleep and recommendations for regular sleep is essential for public health. In the autumn of 2022, we plan to publish data from the HBSC 2022 study, which will shed light on the current situation in the field of adolescents' sleeping habits. The results will serve as key guidelines for further activities of NIJZ and our partners in this population group.

Keywords: sleep, children, adolescents, health, recommendations, promotion

Motnje hranjenja in zloraba alkohola med mladimi kategoriziranimi športniki

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Uvod: Slovenija je v samem svetovnem vrhu glede količine popitega alkohola na osebo. Mladi se vedno bolj zgodaj srečujejo z alkoholom. Motnje hranjenja so v strmem porastu, obolevajo tako dekleta kot fantje. Najpogosteje se pojavljajo pri mladostnicah in mlajših ženskah, običajno iz višjih slojev, ki živijo v tekmovalnem in perfekcionističnem okolju. Aktivno preživljanje prostega časa in telesno gibalna aktivnost spadata med najpomembnejše dejavnike preventive pred zlorabo alkohola in nezdravim načinom prehranjevanja. Na drugi strani pa raziskave kažejo, da je alkohol najbolj zlorabljena substanca v športu, pojavnost motenj hranjenja med vrhunski športniki pa višja kot med splošno populacijo. Sodelovanje v športu naj bi bilo povezano s pretiranim uživanjem alkohola zaradi večjega odobravanja pitja med sotekmovalci, širše socialne mreže, proslavljanja uspehov in povečanega stresa, ki ga občutijo športniki. Motnje hranjenja pa so pogostejše pri športnikih ki znižujejo težo z namenom izboljšave rezultatov, so manj zadovoljni s svojo telesno samopodobo ali pa so daljše obdobje neuspešni. Namen pričujoče raziskave je bil ugotoviti pojavnost simptomov motenj hranjenja in zlorabe alkohola mladimi kategoriziranimi športniki.

Metode: V vzorec smo zajeli 212 mladih športnikov, 121 moških, 91 žensk, starih od 18 do 21 let ($M=18,74$, $SD=0,92$). Za namen zbiranja podatkov smo uporabili merska instrumenta EAT-26 in AUDIT, ki sta namenjena zaznavanju tveganj motenj hranjenja in preverjanju tveganih vzorcev pitja.

Rezultati: Analiza odgovorov je pokazala, da mlade kategorizirane športnice dosegajo značilno višje vrednosti na testu EAT-26, mladi kategorizirani športniki pa značilno višje povprečne vrednosti na testu AUDIT. Značilno višji delež športnic poroča o klinično pomembnih simptomih motenj hranjenja, med spoloma ni razlik v klinično pomembnih tveganih vzorcih pitja. Analiza rezultatov je še pokazala pomembno a nizko povezanost med starostjo in bolj tveganimi vzorci pitja.

Razprava in zaključek: Ugotovili smo, da mladi kategorizirani športniki pogosto poročajo o simptomih motnjah hranjenja in zlorabi alkohola. Na prvi pogled rezultati niso visoki, vendar je pri interpretaciji potrebna previdnost. Upoštevati je potrebno nizko starost udeležencev in vseprisotnosti alkohola v Sloveniji ter pogosto močno zanikanje pri poročanju o simptomih motenj hranjenja. V kolikor izhajamo iz dejstva, da je pri mladih vsako pitje alkohola tvegano, je 73 % delež mladih športnikov, ki se vsaj občasno srečuje z alkoholom in 12 % delež, ki ima tvegane in škodljive vzorce pitja alkohola, visok in zaskrbljujoč. Razvidno je tudi, da 2,5 % sodelujočih poroča o simptomih odvisnosti od alkohola. Po vsej verjetnosti simptomi motenj hranjenja in tvegani vzorci pitja alkohola med mladimi kategoriziranimi športniki niso ustrezno prepoznani, kar kaže na potrebo po ustrezno strokovnem timu, ki bo usposobljen za prepoznavanje težav in pomoč.

Gljučne besede: šport, mladi, kategorizacija, motnje hranjenja, alkohol

Eating disorders and alcohol abuse among young categorized athletes

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Introduction: Slovenia is among the countries with the highest alcohol consumption per person in the world. Eating disorders are increasing sharply in both sexes, most frequently among young upper-class women who live in a competitive and perfectionist environment. Active leisure time and physical activity are among the most important factors in preventing alcohol abuse and unhealthy eating habits. On the other hand, research shows that alcohol is the most commonly abused drug in sports and the prevalence of eating disorders is higher than in the general population. Participation in sports is associated with excessive alcohol consumption due to greater approval of alcohol use among teammates, larger social networks, celebration of success, and increased stress experienced by athletes. Eating disorders are more common among those athletes that intentionally control their weight with regard to their sport results. They also have a poorer self-image and may be less successful over a longer period of time. The purpose of this study was to determine the prevalence of eating disorder symptoms and alcohol abuse among young categorized athletes.

Methods: The questionnaire sample included 212 young athletes, 121 males and 91 females, aged 18 to 21 years ($M = 18.74$, $SD = 0.92$). For data collection, we used the measurement instruments EAT -26 and AUDIT, designed to test risk for eating disorders and risky drinking patterns.

Results: Analysis of questionnaire responses showed that young, categorized female athletes had significantly higher mean EAT -26 test scores and male athletes had significantly higher mean AUDIT test scores. Female athletes report significantly higher clinically important eating disorder symptoms. There are no gender differences in clinically important risk drinking behaviors. There is an important, albeit small, association between age and riskier drinking patterns.

Discussion and conclusion: It was found that young categorized athletes frequently report eating disorder symptoms and frequently engage in risky and harmful drinking patterns. At first glance, the test results may not seem alarming, but interpretation could be tricky, depending on age and due to the ubiquity of alcohol in Slovenia. Strong denial is common when reporting eating disorder symptoms. Our results show, that 73% of young athletes consumed alcohol at least occasionally and 12% of young athletes had risky drinking patterns. Considering the fact that alcohol consumption is dangerous for young people, the results can be interpreted as exaggerated and indeed disturbing. It is also apparent that 2.5% of participants report symptoms of alcohol dependence. In all likelihood, symptoms of an eating disorder and risky drinking behavior are not properly recognized in young, categorized athletes. Therefore, it would be advisable to assemble an appropriate team of trained professionals to identify and treat the problems in question.

Keywords: sports, youth, categorization, eating disorders, alcohol

Posterji

Poster presentations

Telesna dejavnost študentov med pandemijo Covid-19: pilotna študija

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Uvod: Omejitve zaradi pandemije COVID-19 so vplivale na vsakdanje življenje študentov in posredno tudi na spremembe v telesni dejavnosti (TD). Namen naše raziskave je bil preveriti vpliv pandemije COVID-19 in študijskega programa na raven TD pri študentih za obdobje zadnjih treh let.

Metode: V pilotni študiji je sodelovalo 50 študentov (66 % žensk, $24 \pm 1,78$ let) z Univerze v Novem Sadu. Na podlagi študijskih programov so bili razdeljeni v dve skupini. Prvo so sestavljali študenti Fakultete za šport in športno vzgojo in drugo študenti Filozofske fakultete, Fakultete za medicino in Znanstvene fakultete. Podatki o TD so bili izmerjeni s kratko različico Mednarodnega vprašalnika o telesni dejavnosti (IPAQ-SF) v treh časovnih obdobjih: pred pandemijo, med prvim in drugim valom pandemije in po drugem valu pandemije. Udeleženci so izpolnjeni vprašalnik med 2. in 17. februarjem 2022. Statistična analiza je bila izvedena v programu SPSS kjer sta bila za preverjanje razlik uporabljena Mann-Whitney in Friedmanov test.

Rezultati: Rezultati so pokazali značilno razliko v ravni TD študentov med tremi obdobji (pred pandemijo (4422,6 MET-min/teden), med prvim in drugim valom (3260,8 MET-min/teden) in po drugem valu (4175,1 MET-min/teden)) χ^2 ($df = 2$) = 28.011, $p = < 0,01$. Ko je bil v analize kot faktor vključen študijski program, se je izkazalo, da so bili študenti Fakultete za šport in športno vzgojo (PE) v obdobjih pred COVID-19 ($U = 165$, $p = 0,004$) in med prvim in drugim valom ($U = 185$, $p = 0,014$) pandemije v primerjavi z drugo skupino študentov več telesno dejavni. Kljub temu, da razlika za obdobje po pandemiji ni bila značilna, so bili študenti PE več telesno dejavni.

Razprava in zaključki: Ugotovitve kažejo, da lahko študijski program vpliva na ohranjanje ravni TD v težkih in zahtevnih okoliščinah, kot je pandemija COVID-19.

Ključne besede: študenti, gibalna aktivnost, pandemija COVID-19

Physical activity of students during the Covid-19 pandemic: a pilot study

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Introduction: The COVID-19 pandemic, with its restrictive measures, affected the student's everyday life and resulted in changes in physical activity (PA) behaviors. Our study aimed to investigate the influence of the COVID-19 pandemic and the study program on the student's level of PA for the period of the last three years.

Methods: A total of 50 students (66% female, 24 ± 1.78 years old) from the University of Novi Sad participated in this pilot study. They were divided into two groups based on their study programs. In the first group were students from the Faculty of Sport and Physical Education, and in the second were from the Faculty of Philosophy, Faculty of Medicine and from the Faculty of Sciences. Their PA level was measured with the adapted version of the Physical Activity Questionnaire- short form (IPAQ-SF), which included three time periods: before the pandemic, during the I + II second wave of the pandemic, and the period after that (nowadays). The participants completed the questionnaire between the 2nd and 17th of February in 2022. In addition, the Mann-Whitney and Friedman tests were performed to examine the differences in the SPSS program.

Results: The results showed a significant difference in the students PA level in general during the three-time period (before the pandemic (4422.6 MET-min/week), during the I + II wave (3260.8 MET-min/week) and nowadays (4175.1 MET-min/week)) χ^2 ($df = 2$) = 28.011, $p = < 0.01$. Furthermore, when we include a study program as a factor and divide the students into two groups, the students from the Faculty of Sport and Physical Education (PE students) maintained a higher level of PA for the time period before the COVID-19 ($U = 165$, $p = 0.004$) and for the I + II wave ($U=185$, $p= 0.014$) of the pandemic compared to the second group. Even though the difference for nowadays was not significant, the PE students had a higher level.

Discussion and conclusions: The findings indicate that the study program may have a little influence on maintaining the PA level during a more extended period or under difficult and challenging circumstances such as the COVID-19 pandemic.

Keywords: students; physical activity; COVID-19 pandemic

Primarno zdravstveno varstvo otrok pred in med epidemijo COVID-19

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Uvod: V skladu z Resolucijo nacionalnega plana zdravstvenega varstva 2016-2025, ki v središče postavlja tudi krepitev in varovanje zdravja, se v prispevku osredinjam na zdravstveno varstvo predšolskih in šolskih otrok na primarni ravni. V teoretičnem delu prikažem pravice otrok in mladostnikov znotraj formalno-pravnega okvira, saj je zdrav otrokov razvoj naložba za zdravje v prihodnosti. Za doseganje tega cilja, potrebujemo učinkovite celostne in dolgoročne programe vzgoje za zdravje. V času epidemije, so bile ustavljene vse zdravstvene storitve, razen nujnih. Moj namen je ugotoviti stanje in kritično ovrednotiti primarno zdravstvo otrok in mladine v času epidemije (tako zdravstvene storitve kot izvajanje programov za zdravje).

Metode: analiza (pravnih) dokumentov, analiza statističnih podatkov

Rezultati: Podatki Zdravstvenega statističnega letopisa kažejo, da se je število preventivnih obiskov predšolskih otrok (0-5 let), med letoma 2019 in 2020, zmanjšalo kar za 12,2%, šolskih otrok in mladine (6-19 let) pa kar za 23,2%, ravno tako pa podatki o planu in realizaciji za zdravstvene storitve (ZZZS, 2022) kažejo, da je bilo v letu 2021 izvedenih le slabih 30% dejavnosti zdravstvene vzgoje vezane na otroke in mladino. Posledice epidemije so se kazale v pogostejših zdravljenjih anksioznih in depresivnih motenj pri otrocih in mladostnikih, v Evropi pa živi kar devet milijonov otrok in mladostnikov z duševnimi motnjami (Poročilo Unicefa »Položaj otrok po svetu: v mojih mislih« 2021).

Razprava in zaključki: Epidemija je dejavnik tveganja za telesno in duševno zdravje, zato se je pomembno zavedati, da z varovanjem in krepitevijo zdravja preprečujemo nastanek duševnih bolezni ter izboljšujemo kakovost življenja. Po oceni strokovnjakov, otroci in mladostniki nosijo najhujše psihološko breme in, ker težave na področju duševnega zdravja z izzvanevanjem epidemije ne bodo izzvenele, je pomembno, da vrtec in šola služita kot podporna mreža pri izvajanju vzgoje za zdravje.

Ključne besede: duševno zdravje, preventiva, zdravstvena vzgoja, vrtec, šola

Primary health care for children before and during the COVID-19 epidemic

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Introduction: In accordance with the Resolution of the National Health Care Plan 2016-2025, which also focuses on strengthening and protecting health, I focus on the health care of preschool and school children at the primary level. In the theoretical part, I present the rights of children and adolescents within the formal legal framework, as healthy child development is an investment in health in the future. To achieve this goal, we need effective integrated and long-term health education programs. At the time of the epidemic, all health services except emergency services were stopped. My purpose is to identify the situation and critically evaluate the primary health care of children and young people during the epidemic (both health services and the implementation of health programs).

Methods: analysis of (legal) documents, analysis of statistical data

Results: Data from the Health Statistical Yearbook show that the number of preventive visits to preschool children (0-5 years) decreased by as much as 12.2% between 2019 and 2020, and that of school children and youth (6-19 years) by as much as 23.2%, as well as data on the plan and implementation for health services (ZZZS, 2022) show that in 2021 less than 30% of health education activities related to children and youth were carried out. The consequences of the epidemic have been reflected in more frequent treatments of anxiety and depressive disorders in children and adolescents, and as many as nine million children and adolescents with mental disorders live in Europe (UNICEF Report on the Situation of Children in the World: 2021).

Discussion and conclusions: The epidemic is a risk factor for physical and mental health, so it is important to be aware that by protecting and promoting health, we prevent the development of mental illness and improve the quality of life. According to experts, children and adolescents carry the worst psychological burden, and since mental health problems will not go away with the epidemic, it is important that kindergarten and school serve as a support network in the implementation of health education.

Keywords: mental health, prevention, health education, kindergarten, school

Uvajanje oralno-senzornega pristopa k učenju hranjenja skupine učencev v CIRIUS Vipava

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Uvod: Prehranski status, prehranski vnos in prehranjevalne navade otroka so pomembni dejavniki, ki vplivajo na otrokovo zdravje in postavljajo temelje posameznikovega zdravja v odraslem obdobju. V obdobju odraščanja je uravnoteženo prehranjevanje pomembno, ker omogoča optimalno zdravje, rast in razvoj otroka in preprečuje nekatere zdravstvene probleme kot so prenizka/prekomerna telesna teža ali nezadostna preskrba z esencialnimi hranilnimi snovmi. Težave na področju hranjenja so pri otrocih z motnjami v nevrološkem razvoju zelo pogoste. Z namenom preučitve možnosti uvajanja celostnih pristopov, ki bi omogočali oceno, načrtovanje in izvedbo obravnave otrok s težavami na področju hranjenja, smo v CIRIUS Vipava pilotno preizkusili stopenjsko oralno-senzorni pristop k učenju hranjenja (Sensory oral stimulation, SOS), ki ga je razvila pediatrična psihologinja dr. Kay Toomey v sodelovanju s sodelavkami.

Metode: SOS pristop k učenju hranjenja temelji na igri in postopnem senzoričnem navajanju otroka na hrano. Obravnavo v ustanovi izvajamo v oddelku posebnega programa vzgoje in izobraževanja, v katerega je vključenih 5 otrok starih med 7 in 8 let z motnjo v duševnem razvoju in različno stopnjo gibalne oviranosti. Načrtovanih je 12-tedenskih intervencij, na katerih se otroci preko igre srečujejo s senzorično in hranilno različnimi živili. Uvodni gibalni aktivnosti sledi strukturiran ritual s posedanjem za mizo ter vodenimi igralnimi aktivnostmi spoznavanja in sprejemanja živil. Na podlagi 25-stopenjske lestvice ocenjujemo stopnjo otrokove interakcije s hrano. V interdisciplinarno timsko obravnavo so v ožjo strokovno skupino vključeni logoped, delovni terapevt, specialni in rehabilitacijski pedagog, varuh in dietetik.

Rezultati: Intervencija še ni zaključena, ugotovitve na podlagi vmesnih rezultatov pa kažejo, da se je sprejemanje živil z različnimi senzoričnimi in hranilnimi lastnostmi bistveno izboljšalo v primerjavi s sprejemanjem živil pred pričetkom intervencije. Ugotovitve veljajo tako na nivoju skupine kot individualno.

Razprava in zaključki: Otroci in mladostniki z motnjami v nevrološkem razvoju se velikokrat soočajo s težavami na področju hranjenja, ki so posledica motorične okvare struktur, ki sodelujejo pri hranjenju ali njihove funkcije in/ali senzorične preobčutljivosti. Omenjene težave opažamo tudi pri številnih otrocih in mladostnikih, ki so vključeni v CIRIUS Vipava. Z namenom obravnave teh težav smo se odločili za pilotno izvedbo SOS celostne intervencije v skupini otrok znotraj vsakdanje šolske rutine. Avtorji ugotavljamo, da uporaba SOS pristopa z interdisciplinarnim sodelovanjem v šolskem okolju pozitivno vpliva na otrokovo pripravljenost spoznavanja različnih vrst živil. Pridobljene izkušnje nakazujejo smiselnost vključitve stopenjsko oralno-senzornega pristopa k učenju hranjenja kot sestavnega nabora programov strokovne terapevtske obravnave pri naslavljanju problematike prehranjevanja otrok z motnjami v nevrološkem razvoju.

Gljučne besede: interdisciplinarna prehranska obravnava, otroci z motnjami v nevrološkem razvoju, stopenjska senzorna stimulacija

Oral sensory approach to feeding - a school-based intervention addressing feeding difficulties of children in CIRIUS Vipava

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Introduction: The nutritional status, dietary intake and eating habits of a child are important factors that affect a child's health and lay the foundations of an individual's health in adulthood. During adolescence, a balanced diet is important because it enables optimal health, growth and development of the child and lowers risk of many health conditions. Nutritional problems are very common in children with neurological disorders. In order to examine the possibility of introducing integrated approaches that would enable the assessment, planning and implementation of nutrition interventions for children with feeding problems CIRIUS Vipava piloted a sequential oral-sensory approach to feeding (Sensory oral stimulation, SOS) developed by paediatric psychologist dr. Kay Toomey in collaboration with her colleagues.

Methods: The SOS approach to feeding is based on play and gradual sensory accustoming of the child to food. The treatment in the institution is carried out in a group form. 5 children aged between 7 and 8 with a mental development disorder and various levels of mobility impairment attend therapy sessions. 12-week interventions are planned, in which children encounter different sensory properties (appearance, smell, texture) and nutritional composition (proteins, carbohydrates, fats) of foods through play. The introductory movement activity is followed by a structured ritual with sitting at a table, washing hands, guided play activities of getting to know and accepting food. Based on a 25-point scale, the child's level of interaction with food is then assessed. The interdisciplinary team treatment includes a speech therapist, an occupational therapist, a special and rehabilitation pedagogue and a dietitian.

Results: The intervention is not yet complete. However, the interim results show that after only four meetings, the children were more willing to accept foods with different sensory and nutritional properties than before the intervention. The findings apply both at the group level and individually. *Discussion and Conclusions:* Children and adolescents with neurological disorders often face eating problems due to motor impairment of the structures involved in feeding or their functions and/or sensory hypersensitivity. These problems are also observed in many children and adolescents involved in CIRIUS Vipava. In order to address these issues, we decided to pilot an SOS integrated intervention in a group of children within the daily school routine. The authors find that use of the SOS approach to feeding combined with interdisciplinary cooperation in the school environment has a positive effect on the child's willingness to learn about different types of food. The gained experience supports the inclusion of a sequential oral-sensory approach to feeding as an integral part of professional therapeutic treatment programs in addressing the issue of nutrition of children with neurological disorders.

Keywords: interdisciplinary nutrition support, children with neurological disorders, sensory oral approach

Gibanje in šport – priložnost tudi za učence z najtežjimi motnjami

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Izhodišča in namen: Osebe s težjimi in težkimi kombiniranimi motnjami v duševnem in gibalnem razvoju imajo zaradi številnih težav v procesu zorenja in učenja manj gibalnih in senzoričnih izkušenj. Znižane intelektualne in gibalne sposobnosti jim otežujejo razumevanje navodil in samostojnost pri izvedbi aktivnosti. Kako učenca vključiti v športni program oziroma kako mu privzgajati rekreativne aktivnosti za zdravo preživljanje prostega časa? V CIRIUS-u Vipava smo našli odgovor v programu MATP (Motor Activities Training Program), prilagojeni športni vadbi ali obliki rekreacije za osebe s težjimi in težkimi motnjami v duševnem in gibalnem razvoju. Ponuja individualno načrtovano vadbo in prilagoditve športnih dejavnosti.

Predstavitev vsebine: Cilji programa MATP so tekmovalcem zagotoviti redne treninge, dati priložnost, da pokažejo svoje rezultate, in omogočiti sodelovanje na uradnih tekmovanjih Specialne olimpiade. Ob vključitvi tekmovalca v program izdelamo njemu prilagojen program s spretnostmi, ki se jih uči v povezavi s pripadajočim športom, nikoli izolirano. Zaznavanja okolja in sebe se ne da naučiti, zato moramo premišljeno ustvarjati situacije, v katerih bo tekmovalec najrazličneje zaznaval senzorne dražljaje in s tem pridobival izkušnje. MATP zajema aktivnosti na področju gibljivosti, ročnih spretnosti, udarjanja, brcanja, upravljanja vozičkov na ročni in električni pogon ter vodne aktivnosti. Veščine, ki jih tekmovalci pridobivajo, so usmerjene h gibalnemu razvoju v povezavi s športom. Treningi potekajo strukturirano v telovadnici ali na prostem. Športne spretnosti učimo preko igre in zabave ter se usmerjamo k napredku. Aktivnosti morajo biti načrtovane tako, da tekmovalci dosegajo uspeh. Homogene skupine oblikujemo glede na sposobnosti tekmovalcev. V trening vključujemo tudi pomočnike, tako trening poteka individualno, vendar v skupini. Pri izvedbi aktivnosti je tako na treningih kot na tekmovanju dovoljena pomoč trenerja. Vajo lahko izvede tekmovalec sam, lahko pa mu nudimo delno ali popolno pomoč. Pri izvedbi se beleži raven samostojnosti. Tekmovalci imajo možnost nastopiti na tekmovanjih MATP, ki jih Specialna olimpiada Slovenije organizira vsako leto. Na teh dogodkih, ki so redke priložnosti za samopotrjevanje, so v središču pozornosti in lahko pokažejo svoj napredek. Vsi prejmejo enake medalje, saj ne gre za medsebojno primerjanje rezultatov, ampak za prikaz osebnih dosežkov. Vodne igre organiziramo prostorsko in časovno ločeno od dvoranskih. V bazenu potekajo aktivnosti v treh sklopih in na treh težavnostnih ravneh.

Sklepne ugotovitve: Program MATP vključuje v športne aktivnosti osebe s težjimi in težkimi motnjami v razvoju. Z redno vadbo se izboljšujejo njihove motorične sposobnosti, fizična kondicija, funkcionalne sposobnosti in samopodoba. Tekmovalci več časa preživijo na prostem, kar pozitivno vpliva na njihovo počutje in zdravje. Z vključevanjem prostovoljcev in zunanjih sodelavcev v program se krepi prijateljstvo in povezanost s širšo skupnostjo.

Ključne besede: težja in težka motnja v duševnem in gibalnem razvoju, prilagojena vadba, specialna olimpiada, MATP

Training and sport – an opportunity for students with the most severe disabilities

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Introduction and purpose: People with combined severe and profound intellectual and motor disabilities have less motor and sensory experience due to a number of difficulties in the maturation and learning process. Their reduced intellectual and motor skills make it difficult for them to understand instructions and perform activities independently. How to involve the pupil in a sports program or how to introduce recreational activities for healthy leisure time? At CIRIUS Vipava, we have found the answer in the MATP (Motor Activities Training Program), an adapted sports training or recreation program for people with the most severe and profound intellectual and motor disabilities. It offers individually planned exercise and adaptations to sports activities.

Presentation of content: The objectives of the MATP program are to provide athletes with regular training, the opportunity to showcase their achievements, and the opportunity to participate in official Special Olympics competitions. When an athlete joins the program, we create a tailor-made program with skills that are taught in conjunction with the sport, never isolated. The perception of the environment and self-awareness cannot be taught, so we need to deliberately create situations in which the athlete will perceive sensory stimuli in a variety of ways and thus gain experience. MATP includes activities in the areas of flexibility, manual dexterity, striking, kicking, manual and powered wheelchair control, and aquatic activities. The skills acquired by the athletes are geared towards motor development in conjunction with sport. Training sessions are structured and take place in the gym or outdoors. Sports skills are taught through play and fun, with a focus on progression. Activities should be planned to help athletes achieve success. Homogeneous groups are formed according to the abilities of the athletes. We also involve assistants in the training, so training is individual but in a group. Coaching assistance is allowed for both training and competition activities. The exercise can be performed by the athlete alone, with partial or full assistance. The level of independence is recorded during the performance. Athletes have the opportunity to compete in the MATP events, which are organized annually by Special Olympics Slovenia. At these events, which are rare opportunities for self-affirmation, they are in the spotlight and can show their progress. They all receive the same medals, as it is not about comparing results with each other, but about showing personal achievements. We organize the Water Games in a separate space and at a different time from the indoor games. In the pool, activities take place in three sections and at three levels of difficulty.

Conclusions: The MATP program involves people with severe and profound developmental disabilities in sporting activities. Regular exercise improves their motor skills, physical fitness, functional abilities, and self-esteem. Athletes spend more time outdoors, which has a positive impact on their well-being and health. The involvement of volunteers and external collaborators in the program strengthens friendships and links with the wider community.

Keywords: severe and profound mental and motor development disorders, adapted exercise, Special Olympics, MATP

Vpliv prava na zdravje šolajočih se posameznikov v času pandemije SARS-CoV-2

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Uvod: Avtorici v prispevku analizirata pravne dokumente Evropske Unije in Slovenije v luči dejavnikov za zdravo in uspešno izobraževanje šolajoče se populacije. Izhajata iz pravno formalnega pogleda (ne)podpore učenja in poučevanja na daljavo. Ne glede kakšen je bil naš pogled do ukrepov za omejitev korona virusa, je namen prispevka ugotoviti in kritično ovrednotiti nekatere prakse izobraževanja na daljavo, ki so podpirale fizično in psihično zdravje šolajočega se posameznika.

Metode: analiza pravnih dokumentov, deskriptivna metoda in študija primera.

Rezultati: Skrb za psihično in fizično zdravje šolajočih se posameznikov je na prvem mestu. Iz pravnih dokumentov in rezultatov raziskave, izvedene na MLC Ljubljana med študenti in profesorji zaključimo, da je učenje in poučevanje na daljavo pod sprejetimi pogoji bila nuja za zaščito fizičnega zdravja posameznika. V študiju na daljavo so tako profesorji kot študenti videli več prednosti kot pomanjkljivosti. Kot največjo pomanjkljivost so navedli socialno izoliranost, kar je pri nekaterih vplivalo na njihovo psihično zdravje.

Razprava in zaključki: Za zagotavljanje zdravja šolajočih se posameznikov v izrednih razmerah je najprej pomembna odgovornost države, ki mora pravočasno zagotoviti ustrezne pravne sistemske rešitev za zagotavljanje zdravja posameznikov, kot tudi posameznika, individuuma, da krepi svoje zdravje in kompetence za čimbolj kakovostno in uspešno pridobivanje znanja in novih kompetenc, potrebnih v današnjem času in družbi.

Ključne besede: pravni dokumenti, fizično in psihično zdravje, šolanje na daljavo

Impact of the legislation on the health of schooling individuals during the SARS-CoV-2 pandemic

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Introduction: In this paper, the authors analyse the legal documents of the European Union and Slovenia with regard to the factors for healthy and successful education of the school population. They take a legally formal view of the (non-)support of distance learning and teaching. Regardless of where we stand on measures to limit the Corona virus, the purpose of this paper is to identify and critically evaluate certain practices of distance learning that support the physical and mental health of a schooling individual.

Methods: Analysis of legal documents, descriptive method and case study.

Results: Concern for the mental and physical health of schooled individuals is paramount. From the legal documents and the results of the survey conducted at MLC Ljubljana among students and professors, we conclude that distance learning and teaching under accepted conditions was a necessity for the protection of the physical health of individuals. Both professors and students saw more advantages than disadvantages in distance learning. The largest disadvantage mentioned was social isolation, which affected their mental health.

Discussion and conclusions: In order to ensure the health of schooling individuals in emergency situations, it is first a foremost an important responsibility of the state, which must provide an appropriate legal systematic solution in a timely manner to ensure the health of the individual. But it is also the responsibility of the individual to strengthen his or her health and competences to maximize the quality and successful acquisition of knowledge and new competences needed today in society.

Keywords: legal documents, physical and mental health, distance education

Samopregledovanje dojk pri mlajših

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Izhodišča in namen: Po podatkih Registra raka RS (SLORA) predstavlja rak dojke približno petino vseh rakov pri ženskah. Rezultat zdravljenja je odvisen od zgodnjega odkritja bolezni, k čemur lahko veliko prispevajo predvsem ženske same s samopregledovanjem dojk že v mladosti in poznavanjem dejavnikov tveganja za nastanek raka dojke. Zdravstvena vzgoja mladih v boju proti raku dojk je velik problem, še toliko bolj pri mladih, ki mislijo, da za rakom ne morejo zboleti. Poster ima namen predstaviti korake pri samopregledovanju dojk in pomembnost samopregledovanja ter poznavanja dejavnikov tveganja za nastanek raka dojk. S pregledovanjem dojk naj bi se začelo po 20. letu, ko je verjetnost nastanka bolezni dojk manjša. Tako bi lažje in hitreje opazile spremembo v višji starosti. Z zdravstveno vzgojo bi morali vse mlajše naučiti samopregledovanja in jih motivirati, da si svoje dojke pregledajo enkrat mesečno.

Predstavitev vsebine: Samopregledovanje dojk bi moralo biti rutina za vse ženske. Številne raziskave kažejo, da so mladi ljudje dovzetni za zdravstvenovzgojne akcije samo, če menijo, da so neposredno ogroženi. Čeprav je znanje o raku dojk in o samopregledovanju pomemben začetni korak, pa ni dovolj, če mlajši ne vedo, kako samopregledovanje opravljati v praksi. Zato je potrebno mlade v delavnicah naučiti samopregledovanja v obliko demonstracije. Zdravstvena vzgoja se najpogosteje uporablja pri mlajši populaciji, kar pomeni, da ima medicinska sestra v tem obdobju z njimi največ kontakta. Zdravstveno-vzgojno delo o znanju in samopregledovanju dojk lahko medicinska sestra opravi med vsakim sistematskim pregledom, kurativnim pregledom, pri urah zdravstvene vzgoje ter pri urah spolne vzgoje. Na tej stopnji opozarja na nevarnosti za zdravje, ki izhajajo iz delovnega in življenjskega okolja. Mlade opozarja, da do odkritja sprememb lahko pridejo le z ustreznim znanjem, pravilnim samopregledovanjem, poznavanjem dejavnikov tveganja in znakov, ki se pojavljajo ob tej bolezni.

Sklepne ugotovitve: Vloga medicinske sestre je zdravstvenovzgojno delo mlajših o pomenu in pravilnem izvajanju samopregledovanja dojk zelo pomembna. Na področju preventive in ozaveščanja je še veliko neizkoriščenih možnosti. Posterji so lahko eden izmed načinov, s katerimi se lahko mladim prikaže, jih seznanja in opozarja o tej bolezni.

Ključne besede: mladostniki, rak dojke, samopregledovanje, zdravstvena vzgoja.

Self-examination of breast in younger women

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Introduction and purpose: According to the Cancer Registry of the Republic of Slovenia (SLORA), breast cancer accounts for about a fifth of all cancers in women. The outcome of treatment depends on the event of the discovery of the disease, which can greatly contribute to the self-examination of the woman herself with the breast at an early age and knowledge of risk factors for breast cancer. Health education of young people in the fight against breast cancer is a big problem, especially for young people who think that they cannot get cancer. The poster aims to present the steps in breast self-examination and the importance of self-examination and knowledge of risk factors for breast cancer. Breast screening should be started after the age of 20, when the likelihood of developing breast disease is lower. This would make the change in older age easier and faster. With up bringing, he should teach all young people health self-examinations and motivate them to have their breasts examined once a month.

Content Presentation: Breast self-examination should be a routine for all women. Numerous studies show that young people are accepted for health education campaigns only if they feel they are directly threatened. Although knowledge of breast cancer and self-examination is part of the initial step, it is not enough if young people do not know how to perform self-examination in practice. Therefore, it is necessary to teach young people in workshops self-examination in the form of demonstrations. Health education is most often used in the younger population, which means that the nurse has the most contact with them at the time. Health education work on knowledge and self-examination of the breast can be performed by a nurse during each systematic examination, curative examination, in health education classes and in sex education classes. At this stage, it draws attention to health hazards arising from the work and living environment. He reminds young people that the discovery of change can only come with the right knowledge, proper self-examination, knowledge of risk factors and signs that occur with this disease.

Conclusions: The role of the nurse is very important for the health education work of young people on the importance and proper implementation of breast self-examination. There are still many untapped opportunities in the field of prevention and awareness. Posters can be one of the ways in which young people can be shown, informed and alerted to this disease.

Keywords: adolescents, breast cancer, self-examination, health education.

Pri pouku angleščine se gibamo

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Izhodišča in namen: Učitelji smo pogosto v skrbeh, ker med učenci opažamo padec v koncentraciji, nizko motiviranost za učenje ter vsesplošno neaktivnost med poukom. Vsi ti dejavniki lahko negativno vplivajo na učne rezultate ter na slabo učno okolje za vse udeležence. Odločila sem se, da nekaj spremenim v svoji učni praksi ter najti način, kako učence spodbuditi k razmišljanju, aktivnosti in posledično boljšemu učenju. V pouk sem začela vključevati gibalne aktivnosti. Z njihovo vključitvijo sem dosegla večjo aktivnost učencev, sprostitvev med poukom, pozitivno motivacijo ter boljši psihofizični razvoj učencev.

Predstavitev vsebine: V nadaljevanju bo predstavljenih nekaj gibalnih dejavnosti, ki so bile izvedene v okviru kombiniranih ur angleščine v 3. in 5. razredu. Učenci nižjih razredov z veseljem sodelujejo v takih dejavnostih, saj vsebujejo elemente igre, ki pa je za učenje seveda neprecenljiva, saj se tako učijo nezavedno. Pred poukom – gibalne dejavnosti, ki so uporabljene za aktivacijo možganov, npr. hoja po učilnici, kjer se učenci dotaknejo vseh miz ali pa v določenem lasu se usesti na pet različnih stolov. Med poukom: ponavljanje besedišča s skakanjem, branje med sprehajanjem po učilnici, skupinsko črkovanje besed s telesi.

Sklepne ugotovitve: Učenci v šoli preživijo velik del svojih dni. Večino teh dni presedijo, kar pa dolgoročno ne prinaša pozitivnih učinkov za zdravo življenje. Vnašanje gibanja v pouk je vsekakor eden od načinov postavljanja temeljev zdravega načina življenja. Gibanje med poukom je pri učencih pozitivno vplivalo na aktivnost, zbranost, pozornost ter nenazadnje tudi na medsebojne odnose v razredu, saj so morali pri večini aktivnosti sodelovati, si pomagati ter se spodbujati.

Gljučne besede: gibanje, pouk, osnovna šola, tuj jezik angleščina

We move while learning english

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Introduction and purpose: Teachers often worry about the students' drop in concentration and independence during class, low motivation to learn and, above all, their overall (in)activity. All of the latter can lead to poor results and a bad learning environment in general for all participants. I wanted to do something about that and change my teaching practice. My aim was to get students to think, be active and, consequently, learn better. I started including motor didactic methods in my lessons. In including those, I achieved active students' participation, relaxation during lessons, positive motivation and in the long term, their better motor and mental development.

Content presentation: In the following, some physical activities that were performed as part of the combined English lessons in 3rd and 5th grade will be presented. Lower grade students are happy to take part in such activities. They contain elements of play, which is of course an invaluable asset in learning, for students learn unconsciously. Before the lesson: motor activities used to activate the brain, such as walking around the classroom and touching every desk or sitting on five different chairs and returning quickly to their seats. During the lesson: revising vocabulary in pairs by jumping up and down, walking and reading or in groups, spelling words with their bodies.

Conclusion: Pupils spend a large part of their days in school. Most of these days are spent sitting down, which does not bring positive effects for a healthy life. Bringing movement into the classroom is definitely one of the ways to lay the foundations of a healthy lifestyle. Movement during lessons had a positive effect on the students' activity, concentration, attention and, last but not least, on the relationships in the classroom, as they had to participate in each other's activities, help each other and encourage each other.

Keywords: movement, lessons, primary school, English as a foreign language

Značilnosti internetne zasvojenosti pri hrvaških študentih med pandemijo COVID-19

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Uvod: V času pandemije COVID-19 so študenti poleg izobraževanja na daljavo pogosto uporabljali internet za različne namene, kot so socialno mreženje, spletne igre, izpolnjevanje univerzitetnih nalog in pridobivanje informacij o različnih predmetih. Povečanje časa, preživetega na spletu med pandemijo, se je predstavljalo kot pomemben dejavnik tveganja za razvoj odvisnosti od interneta pri tej populaciji. Namen te študije je bil raziskati razširjenost in značilnosti zasvojenosti z internetom pri hrvaških študentih med pandemijo COVID-19.

Metode: Aprila 2022 je bila na reprezentativnem vzorcu študentov Univerze v Osijeku v vzhodni Hrvaški izvedena presečna študija, v kateri je bil uporabljen validiran, anonimni vprašalnik, ki je vseboval vprašanja v zvezi z demografskimi podatki, in Youngov test odvisnosti od interneta.

Rezultati: V vzorec raziskave je bilo vključenih 792 študentov, povprečna starost je bila 21 let, 40,3 % moških in 59,7 % žensk. Skupna razširjenost zasvojenosti z internetom je bila 71,7-odstotna. Lažjo, zmerno in hudo odvisnost od interneta je bilo zaznati pri 48,7 %, 20,7 % in 2,3 % študentov. Glavni razlogi za uporabo interneta so bili učenje in fakultetne naloge (23,2 %), družabna omrežja in zabava (72,0 %) ter spletne igre (4,8 %). Pri zasvojenosti z internetom ni bilo statistično značilnih razlik glede na spol študentov, vrsto študija, vrsto študentskega stanovanja in status študentov. Pokazala pa se je statistično značilna razlika v zasvojenosti z internetom glede na glavni razlog za uporabo interneta, kjer je bilo spletno igranje veliko bolj tvegano v primerjavi z drugimi opazovanimi razlogi za uporabo interneta.

Razprava in zaključki: Zasvojenost z internetom je pomemben javnozdravstveni problem med hrvaškimi študenti, zaradi pandemije COVID-19 pa je ta problem pri tej ranljivi populaciji še bolj izrazit. Da bi lahko z ustreznimi preventivnimi ukrepi ustrezno odgovorili na ta izziv, je potrebno boljše razumevanje dejavnikov tveganja za odvisnost od interneta med študenti v času pandemije COVID-19. Potrebne so nadaljnje študije za identifikacijo drugih možnih dejavnikov tveganja za zasvojenost z internetom pri proučevani populaciji med pandemijo.

Gljučne besede: zasvojenost z internetom, študenti, dejavniki tveganja, pandemija COVID-19, Hrvaška

The features of internet addiction in Croatian university students during the COVID-19 pandemic

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Introduction: During the COVID-19 pandemic university students commonly used the internet for different purposes such as social networking, online gaming, fulfilling the university assignments, and obtaining information on various subjects, in addition to participating in distance education. Increased time spent online during the pandemic posed itself as a significant risk factor for the development of internet addiction in this population. This study aimed to investigate the prevalence and features of internet addiction in Croatian university students during the COVID-19 pandemic.

Methods: In April 2022 a cross-sectional study that employed a validated, anonymous questionnaire containing questions regarding demographic data, as well as Young's Internet Addiction Test, was conducted in a cross-faculty representative student sample of the University of Osijek in Eastern Croatia.

Results: The study sample included 792 university students, the median age was 21 years, 40.3% males, and 59.7% females. The overall prevalence of internet addiction was 71.7%. There were 48.7%, 20.7%, and 2.3%, students with mild, moderate, and severe internet addiction, respectively. The main reasons for internet usage were learning and faculty assignments (23.2%), social networking and entertainment (72.0%), and online gaming (4.8%). There were no statistically significant differences in internet addiction considering students' gender, faculty subject area, type of student housing, and students' status of employment. However, there was a statistically significant difference in internet addiction regarding the main reason for internet usage, where online gaming was much riskier in comparison to other observed reasons for internet usage.

Discussion and conclusions: Internet addiction is a significant public health issue among Croatian university students, and the COVID-19 pandemic made this problem even more prominent in this vulnerable population. To be able to adequately respond to this challenge with appropriate preventative measures, a better understanding of risk factors for internet addiction among university students during the COVID-19 pandemic is needed. Further studies are needed to identify other possible risk factors for internet addiction in the studied population during pandemics.

Keywords: internet addiction, university students, risk factors, COVID-19 pandemic, Croatia

Odnos študentov predšolske vzgoje do ukrepov za zajezitev širjenja okužbe s SARS-CoV-2 v vrtcih

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Uvod: Zdravje je v vrtcih zmeraj pomembna tema. Še bolj pomembna pa je postala s pojavom epidemije SARS-CoV-2. Cilj raziskave je ugotoviti, kakšen odnos in mnenje imajo študenti predšolske vzgoje o ukrepih za zajezitev širjenja okužbe s SARS-CoV-2 v vrtcih. Ukrepi za zajezitev okužbe so namreč zajeli tudi vrtnice, ki so, tako kot ostale institucije, svoja vrata zaprli marca 2020. S 18.5.2020 pa so vrtnice po več kot dveh mesecih postopoma začeli odpirati svoja vrata. Pokazala se je nujnost ponovnega odpiranja vrtnic, ki temelji na več razlogih. Prvi je vzpostavitev rednega procesa predšolske vzgoje, drugi socialnoekonomski dejavniki in možnost varstva otroka za to, da starši lahko opravljajo svoje delo. Zavod RS za šolstvo (2020) je s tem namenom pripravil priporočila za vračanje otrok v vrtnice. Namen priporočil je, "da ob vračanju otrok v vrtnice z usmeritvami na nacionalnem nivoju aktivnosti usmerimo tako, da bodo otroci v vrtcih v čim krajšem času ponovno pridobili občutek varnosti in zaupanja" (ZRSŠ, 2020, str. 2). Pri tem dodajajo, naj bo načrtovanje in izvedba aktivnosti za ponovno uvajanje otrok v vrtnice izvedeno tako, da bo to za otroke čim manj stresno, Kurikulum pa naj se izvaja fleksibilno in v skladu s potrebami otrok v oddelku glede na trenutno stanje. Dodatni poudarek pa je namenjen delovanju na področju čustvenih in vedenjskih odzivov otrok ter sodelovanju s starši (prav tam). Temu pa so sledili tudi higieni in zdravstveni ukrepi z navodili s strani NIJZ. Nekaj raziskav, ki se ukvarjajo z ugotavljanjem odnosa študentov do ukrepov za zajezitev okužbe, je bilo opravljenih, predvsem v tujini na vzorcih študentov medicine, nege in zobozdravstva. Vse te raziskave kažejo, da so študentje sprejeli stroge ukrepe za zajezitev epidemije kot nujne. Med študenti, bodočimi učitelji, pa so bile izvedene raziskave, ki vsebinsko ugotavljajo odnos le-teh do študija na daljavo.

Metode: Izvedli smo raziskavo z uporabo spletnega vprašalnika na vzorcu 150 študentov predšolske vzgoje. Študente smo med drugim vprašali, kakšna je stopnja strinjanja s posameznimi ukrepi za preprečevanje širjenja okužbe s COVID-19 v vrtcih.

Rezultati: Študenti so izrazili največje strinjanje z ukrepi, ki so v praksi najbolj uporabni, smiselni in so bili v preteklosti že v uporabi (higiena kašlja, umivanje rok, preživljanje časa zunaj, prezračevanje prostorov ...). Najnižje strinjanje pa so izrazili z ukrepi, kot je varnostna razdalja med zaposlenimi in takšnimi, ki jih je v praksi najtežje izvesti.

Razprava in zaključki: Visoka stopnja strinjanja z ukrepi je spodbudna za soočanje s to in tudi drugimi boleznimi, ki se lahko pojavijo v vrtcih in na splošno v družbi.

Gljučne besede: SARS-CoV-2 ukrepi, vrtnice, študenti

Attitudes of preschool students towards measures to stop the spread SARS-CoV-2 infection in kindergartens

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Introduction. Health has always been an important topic in kindergartens. With the outbreak of the SARS-CoV-2 epidemic, it has become even more important. The aim of the study is to find out what attitudes future preschool teachers have toward measures to stop the spread of the COVID-19 in kindergartens. Measures to stop the infection included kindergartens, which, like other facilities, closed their doors in March 2020. In May 2020, kindergartens gradually began to open their doors after more than two months. The need to reopen the kindergarten became clear for several reasons. The first is the establishment of a regular process of preschool education, the second is the socio-economic factors and the possibility of protecting the child so that parents can do their work. For this purpose, the National Institute of Education of the Republic of Slovenia (2020) has prepared recommendations for the return of children to kindergarten. The purpose of the recommendations is »to guide activities when children return to kindergartens with guidelines at the state level so that children in kindergartens regain a sense of security and confidence in the shortest possible time« (ZRSŠ, 2020, p. 2). They add that the planning and implementation of activities to reintegrate children into kindergarten should be done in a way that is as stress-free as possible for the children, and that the curriculum should be implemented flexibly and in accordance with the needs of the children. Additional emphasis is placed on working in the area of children's emotional and behavioural responses and working with parents (ibid.). Hygienic and health measures with the instructions were also presented. Some studies of student attitudes toward infection control measures have been made, mainly abroad, on samples of medical, nursing, and dental students. All of these studies show that students consider strict epidemic control measures to be necessary. Some surveys were made among students, future teachers, but mainly to determine their attitudes toward distance education.

Methods: We used an online questionnaire on a sample of 150 future preschool teachers. We asked students how strongly they agree with certain measures to prevent the spread of COVID-19 in kindergarten.

Results: Students expressed the highest level of agreement with the measures that are most useful in practice and have been used before (coughing, washing hands, spending time outdoors, room ventilation ...). The lowest level of agreement is for measures such as distance between employees, as these are the most difficult to implement in practice.

Conclusion: A high level of agreement with the measures is encouraging news for the management of this and also other diseases that may occur in the kindergarten and society.

Keywords: SARS-CoV-2, kindergarten, students

Stres in strategije obvladovanja med dijaki srednjih zdravstvenih šol med klinično prakso: analiza latentnih profilov

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Uvod: Klinična praksa je ključnega pomena za izobraževanje v zdravstveni negi, a tudi velik vir stresa. V zadnjih letih so bile raziskave usmerjene v strategije obvladovanja stresa med učenci. Namen tega prispevka je bil identificirati profile učencev s podobnimi simptomi, povezanimi s stresom, in razlike med temi profili pri uporabi strategij spoprijemanja z uporabo analize latentnega profila (LPA) kot na osebo osredotočenega statističnega pristopa.

Metode: Izvedena je bila presečna raziskava na vzorcu 390 dijakov dveh srednjih zdravstvenih šol. Poleg sociodemografskega vprašalnika smo v študiji za zbiranje podatkov uporabili lestvico fizio-psiho-socialnih odzivov in popis vedenja obvladovanja.

Rezultati: Z uporabo LPA so bili identificirani štiri različni profili, ki so predstavljali: 1) nizke telesne, psihološke in socialne simptome (60 %), 2) zmerne telesne, psihološke in socialne simptome (30,2 %) 3) zmerne psihološke in socialne simptome ter nizke telesne simptome (7,1 %), 4) zmerne psihološke in socialne simptome z visoko stopnjo telesnih simptomov (2,8 %). Multivariatna analiza variance je bila uporabljena za analizo razlik med temi profili pri uporabi strategij obvladovanja. Razlike med profili so bile zabeležene za tri od štirih strategij obvladovanja: izogibanje, reševanje problemov in ohranjanje optimizma. Profil 1 je imel najnižjo oceno pri izogibanju, sledil mu je profil 2, medtem ko sta imela profila 3 in 4 najvišje ocene pri izogibanju, brez opaznih razlik. Profil 4 je imel najnižjo oceno pri reševanju problemov, medtem ko pri ostalih treh profili razlike ni bilo. Profil 3 je imel najnižjo oceno ohranjanja optimizma, sledili so mu profili 4, 2 in 1.

Razprava in zaključki: Rezultati te študije so skladni s predhodnimi študijami, ki kažejo, da bo zavedanje stresa pri učencih med klinično prakso s strani medicinskih sester, in potreba po zagotavljanju ustrezne podpore, osredotočene na učence, pomagalo pri učenju zdravih načinov prilagajanja stresu.

Ključne besede: učenci, klinična praksa, stres, strategije obvladovanja, analiza latentnega profila

Stress and coping strategies among secondary medical school pupils during clinical practice: an analysis of latent profiles

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Introduction: Clinical practice is crucial for nursing education, but also a major source of stress. In recent years, research has been directed towards stress coping strategies among pupils. The purpose of the present paper was to identify student profiles with similar stress-related symptoms and differences between these profiles in the use of coping strategies by employing latent profile analysis (LPA) as a person-centered statistical approach.

Methods: A cross-sectional study was conducted using a sample of 390 pupils from two secondary medical schools. Apart from the Socio-demographic Questionnaire, this study used Physio-psychosocial Response Scale and Coping Behavior Inventory to collect the data.

Results: Using LPA, four distinct profiles were identified accounting for: 1) low physical, psychological and social symptoms (60%), 2) moderate physical, psychological and social symptoms (30.2%) 3) moderate psychological and social symptoms, and low physical symptoms (7.1%), 4) moderate psychological and social symptoms with high-level physical symptoms (2.8%). Multivariate analysis of variance was used to analyze differences among these profiles in the use of coping strategies. Differences in profile types were recorded for three out of four coping strategies: avoiding, problem solving, and optimism retention. Profile 1 had the lowest score on avoidance, followed by Profile 2, while Profiles 3 and 4 had the highest scores on avoidance, without differences observed. Profile 4 had the lowest score on problem solving, whereas the difference was not found in the other three profiles. Profile 3 had the lowest score on optimism retention, followed by profiles 4, 2 and 1, respectively.

Discussion and conclusions: This study results are consistent with several prior studies indicating that awareness of stress in pupils during clinical practice by nurse educators and the necessity of providing appropriate pupil-centered supports will help them learn healthy ways to adapt to stress.

Keywords: pupils, clinical practice, stress, coping strategies, latent profile analysis

Pogostost uporabe rekvizitov za aktivno sedenje učencev med poukom na razredni stopnji

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Uvod: Med poukom je pri učencih razredne stopnje moč opaziti nemirno sedenje, saj vsakih nekaj sekund iščejo nov udoben položaj. Razlog za to je v nezmožnosti neaktivnega sedenja v takšnih časovnih intervalih, kakršna je dolžina učnih ur. Namen naše raziskave je bil ugotoviti, kako pogosto učitelji svojim učencem ponudijo možnost uporabe rekvizitov za aktivno sedenje in katerih se poslužujejo v največji meri.

Metode: V procesu pridobivanja podatkov je z izpolnjevanjem spletnega vprašalnika sodelovalo 71 učiteljev (6 moških in 65 žensk) razrednega pouka na slovenskih osnovnih šolah. Za raziskovalni pristop smo uporabili kvantitativno raziskovanje, metoda pa je bila kavzalno-neeksperimentalna.

Rezultati: Več kot polovica učiteljev (58 %) pri pouku svojim učencem ne ponuja možnosti uporabe kakršnih koli rekvizitov za aktivno sedenje. Znotraj tega deleža jih je največ odgovorilo, da je razlog za takšno stanje v težji dostopnosti do virov njihovega financiranja (54 %) ter v neznanju svetovanja učencem o njihovi pravilni uporabi (32 %). Učitelji, ki rekvizite za aktivno sedenje vključujejo v pouk, pa v ta namen najpogosteje uporabljajo blazino za sedenje (67 %), gimnastično žogo (60 %), napeto elastiko na nogah stola (57 %) in teniško žogico (30 %). Le 37 % učiteljev omenjene rekvizite uporablja vsako učno uro, 33 % do trikrat tedensko, 10 % do petkrat mesečno.

Razprava in zaključki: Iz pridobljenih podatkov lahko razberemo, da je delež učiteljev, ki pri pouku svojim učencem omogočajo in ponujajo nabor različnih rekvizitov za aktivno sedenje, relativno nizek. Na podlagi njihovih odgovorov lahko sklepamo, da večina učiteljev ni dovolj dobro seznanjena o namenu in načinih uporabe takšnih rekvizitov, zaradi česar posledično tudi ne poznajo prednosti njihove uporabe. Priporočljivo je, da bi učitelji učencem za omogočanje aktivnega sedenja in posledično izboljšano koncentracijo, motivacijo in sodelovanje najprej ponudili različne rekvizite le pri določenih učnih urah, po ustrezni prilagoditvi učencev na takšen pouk, pa bi morali zvišati pogostost njihove uporabe.

Gljučne besede: aktivno sedenje, rekviziti, učenci, razredna stopnja

The frequency of use of active seating props in primary school

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Introduction: During class, you can see upper class students sitting restlessly, trying to find a new comfortable position every few seconds. This is because they are not able to sit idle for as long as the class lasts. The purpose of our study was to find out how often teachers offer their students the opportunity to use active sitting aids, and which ones are used most often.

Methods: A total of 71 primary school teachers (6 male and 65 female) in Slovenian elementary school participated in the data collection by completing an online questionnaire assessing the intensity and volume of PA in children and adolescents. The research approach was quantitative and the method was causal and non-experimental.

Results: More than half of the teachers (58%) do not provide their students the opportunity to use active seating aids during classes. Within this proportion, most respondents indicated that this was due to the difficulty in obtaining sources of funding for these aids (54%) and the lack of knowledge on how to teach students to use them properly (32%). However, teachers who incorporate active seating aids into their lessons most often use a seat cushion (67%), an exercise ball (60%), a rubber band on the chair legs (57%), and a tennis ball (30%) for this purpose. Only 37% of teachers use these tools every class, 33% use them up to three times per week, and 10% use them up to five times per month.

Discussion and conclusions: The obtained data show that the proportion of teachers who provide their students with a range of active seating aids in the classroom is relatively low. Based on their responses, it can be concluded that most teachers are not sufficiently familiar and educated about the purpose and use of such props and consequently do not know the benefits of their use. In order to enable students to sit actively and consequently improve their concentration, motivation and participation, it is recommended that teachers initially offer various props only in certain lessons and, once students have become accustomed to them, increase the frequency of their use.

Keywords: active sitting, props, pupils, primary school

Z gibanjem do uspešnejšega dela pri pouku

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Izhodišča in namen: Otrok mora biti aktiven delček v lastnem življenju. Starši morajo vanj zaupati in mu to z odgovornimi nalogami dokazati. Na ta način bo otrok zaupal v svoje sposobnosti in motiviran bo za nadaljnje delo. Zavedati se moramo, da so prve vzpodbude za njegov nadaljnji razvoj izjemno pomembne. Otrok se rodi z določeno dovzetnostjo, ki mu je prirojena v že vnaprej. V kolikšni meri se bodo njegove dispozicije razvile, je odvisno od otrokove lastne aktivnosti in od okolja, ki nanj vpliva.

Predstavitev vsebine: Z raziskavo, sem želela potrditi in dokazati, kako pomembna je gibalna aktivnost za uspešno delo. Preveriti sem želela povezave med gibalno aktivnostjo otrok, starih 13 in 14 let – 11 učencev 8. razreda in 5 učencev 9. razreda in vplivom le tega na njihovo učinkovitejše delo pri razumevanju, raziskovanju in spoznavanju sveta okoli sebe. Izvajala sem ure, in sicer tako, da sem en mesec imela klasičen pouk brez gibanja med samim poukom, brez aktivnega odmora in tudi brez minute za zdravje. Drugi mesec sem izvajala učne ure z vsemi pristopi, tako da sem za pouk uporabila gibalne aktivnosti prepletene z igro, saj se otrok z gibanjem uči, veseli, sprosti, in tako se mu izboljšuje telesno zdravje, razvijajo se socialne veščine, intelektualne funkcije in oblikuje se njegov značaj. Vključila sem FIT aktivno sedenje (učence sem med poukom spodbujala k spremembi položaja sedenja na stolu in pa FIT metode – ABEC-EDA (Zapišem besedo na tablo. Učenci razdeljeni v dve skupini, vsak zase zapišejo na delovni list vseh 25 črk. Z iskanjem črk po prostoru sestavijo besedo. Besede nato povežejo v smiselno zvezo) AKTIVNI BALONI (vsak učenec si vzame en balon, nanj zapiše besedo, ki se je navezovala na učno snov. Med seboj si odbijajo balone, toliko časa dokler ne reče učitelj stop. Poišče si nato vsak najbližjega sosedo in tvorita par. Skupaj tvorita smiselno besedno zvezo) in KOMAR (učenec z zavezanimi očmi (človek, na katerega se prisesajo komarji) postavimo na sredino igralne površine za črto. Okrog njega se igralci s ščipalkami pripenjajo, istočasno dve osebi. Če se ga človek dotakne se zamenja vloga. Pomembno je, da se vsi otroci čim večkrat zvrstijo v vlogi človeka). Vsak mesec posebej sem analizirala njihovo učinkovitost, tako, da sem merila čas koncentracije in podatke beležila. Po dveh mesecih dela sem rezultate primerjala. Na željo otrok in po moji presoji, da je padla koncentracija in storilnost pri pouku sem vključila minuto za zdravje, pred in med učenjem – krajši odmor (3-5 min), ter aktivni odmor 15-20 min. Že krajši odmori med učenjem in aktivni so zmanjšali nemir, hiperaktivnost in zasanjanost ter olajšali pomnjenje, mišljenje in koncentracijo.

Sklepne ugotovitve: Rezultati so pokazali, da so bili učenci, z vključitvijo gibalne aktivnosti, bolj umirjeni, že med samo uro, lažje so sodelovali pri pouku, imeli so večjo motivacijo za delo. Učenje je potekalo hitreje in kvalitetneje.

Ključne besede: Otroci, gibalna/športna aktivnost, dejavniki tveganja, anketa

Using movement towards more successful work in the classroom

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Introduction and purpose: Children must be active parts in their own lives. Parents have to trust them and prove it to them with responsible tasks. In this way, children will have confidence in their abilities, and will be motivated to continue working. We must be aware that the first stimuli are extremely important for the children's further development. A child is born with a certain susceptibility that is innate in a pre-determined environment. The extent to which the dispositions will develop, depends on the child's own activity and the environment that affects him or her.

Presentation of content: I wanted to confirm and prove how important physical activity is for students' successful work. I wanted to check the connections between the physical activity of children aged 13 and 14 – 11 students from 8th class and 5 students from 9th class - and the impact of this on their efficiency in understanding, researching and learning about the world around them. I practiced classes in such a way that for one month I carried out a classic lesson without movement during the lesson itself, without an active break and also without a minute for health. In the second month, I conducted lessons with all approaches, using play activities, as the child learns, has fun, relaxes with movement, thus improving his physical health, developing social skills and intellectual functions. I included FIT active sitting (I encouraged students to change the position of sitting on a chair during classes and FIT methods – ALPHABET (I write a word on the board. The students are divided into two groups, each writing all 25 letters on the worksheet. They search for letters in the classroom and put words together. The words are connected into a meaningful phrase.), ACTIVE BALLOONS (each student writes a word that relates to the topic we are currently discussing on a balloon. They exchange balloons with each other until I say stop. Then, each student finds the closest schoolmate and they form a pair. the pair forms a meaningful phrase.), and MOSQUITO (a blindfolded student – a man, bitten by a mosquito is placed in the middle of the play area behind a line. The other students pinch him with clothes pegs. If a »human« touches the mosquito, they switch roles. It is important that every student is a »human« as many times as possible). I analyzed the methods' effects each month by measuring focus time, concentration and noted the data. After two months of activities, I compared the results. At children's request and when I judged that the concentration and productivity of the class dropped, I included a minute for health, before and during learning - a short break (3-5 minutes), and an active break 15-20 minutes. Short movement breaks between learning and active breaks have reduced restlessness, hyperactivity and drowsiness, stimulated and activated the body and brain, relaxed and facilitated memory and thinking, and helped to establish and maintain focus.

Conclusions: The results showed that the students were calmer during the lesson, they participated in the class easier, they had more motivation to work and their learning was better.

Keywords: children, physical activity, risk factors, survey

Psihosocialna svetovalnica na UL kot prostor skrbi za duševno zdravje študentov in študentk

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Izhodišča in namen: Na osnovi ugotovljenih potreb študentov po dostopnosti svetovanja na področju osebnih in študijskih težav je na Pedagoški fakulteti v Ljubljani leta 2014 začela delovati Psihosocialna svetovalnica za študente, študentke in zaposlene. V prispevku predstaviva razvoj svetovanja na tem področju (od svetovalnice ene fakultete do svetovalnice za celotno Univerzo v Ljubljani, ki deluje na treh lokacijah, od začetkov s petimi svetovalci do sodelovanja s kar štirinajstimi svetovalci).

Predstavitev vsebine: Psihosocialno svetovanje študentom je v svetu že uveljavljena praksa, medtem ko je pri nas, ob siceršnji zelo dobri podpori osnovnošolcem in srednješolcem (v šolskih svetovalnih službah), bilo to do sedaj le redko in v majhnem obsegu. Naraščajoče stiske študentk in študentov (predvsem na področju anksioznih motenj) in iz njih izhajajoče potrebe po duševnem zdravju, so pripeljale do razvoja svetovalnice. To se seveda odraža tudi v številu študentov, ki obiščejo svetovalnico kot v številu izvedenih svetovanj. Namen svetovalnice ni le v strokovnem predelovanju različnih študijskih, osebnih, družinskih, partnerskih ipd. težav, temveč nudi tudi varno zavetje za kakršenkoli razgovor, t.i. skupni razmislek o katerikoli življenjski temi. Varo okolje svetovalnice zagotavljamo z osnovnimi koncepti: prostovoljnosti, hitre dostopnosti, zagotavljanjem anonimnosti, diskretnosti in zaupnosti, ter zagotavljanjem strokovne usposobljenosti vseh svetovalcev in svetovalk. Kritično se bomo ozrli na načela delovanja, na razmejitve psihosocialnega svetovanja v razmerju s (psiho)terapijo, informiranjem in nasvetovanjem ter na najpogosteje obravnavane teme – tako tiste »vstopne«, s katerimi se študentje na začetku oglasijo v svetovalnici, kot tiste, ki jih naslavljajo nekoliko kasneje in so običajno v ozadju drugih, ponujenih simptomov.

Sklepne ugotovitve: Ob osvetljevanju pomena skrbi za duševno zdravje je pomembno osvetlili tudi, katere skupine študentov so posebej ranljive in, katere so bile specifične delovanja v času epidemije.

Ključne besede: študentje in študentke, psihosocialno svetovanje, duševne stiske, podpora, skrb za duševno zdravje

Psychosocial counseling center at the University of Ljubljana as a place of care for the mental health of students

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Introduction and purpose: Due to the identified need of students (for counseling in personal and study problems), the Psychosocial Counseling Center for Students was established at the Faculty of Education in Ljubljana in 2014. In this paper we present the development of counseling in this area (from counseling at one faculty to counseling for the entire University of Ljubljana, operating at three locations, from the beginning with five to cooperation with up to fourteen counselors). *Content presentation:* Psychosocial counseling for students is already an established practice worldwide, while in Slovenia - where there is very good support for primary and secondary school students (within school counseling services) - it has been rare and limited. We intend to present in more detail the increasing distress of students (especially in the area of anxiety disorders) and the resulting mental health needs that have led to the development of Counseling Center for Students. This is, of course, reflected in the number of students who seek out the counseling center, as well as the number of counseling sessions offered. The purpose of counseling is not only to professionally deal with various academic, personal, family, partnership, etc. problems, but also provides a safe haven for any conversation, i.e. joint reflection on any topic of life. We provide a safe environment for the counseling center with basic concepts: voluntariness, quick access, guaranteeing anonymity, discretion and confidentiality, and ensuring the professional qualifications of all counselors. We critically examine the principles of operation, the distinction between psychosocial counseling and (psycho)therapy, information and counseling, as well as the most frequently discussed topics - both the »initial topics« with which students first come into contact in the counseling center and those they address somewhat later, which are usually in the background of other symptoms offered.

Conclusions: To highlighting the importance of mental health services, we will also illuminate which groups of students are particularly at risk and the specifics of the operation at the time of the epidemic.

Keywords: male and female college students, psychosocial counseling, mental distress, support, mental health services.

Zdravje otrok in mladostnikov
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