

Book of Summaries



**8 MEĐUNARODNA
KONFERENCIJA
"SPORTSKE NAUKE I
ZDRAVLJE"**
*8th INTERNATIONAL
CONFERENCE ON "SPORTS
SCIENCE AND HEALTH"*

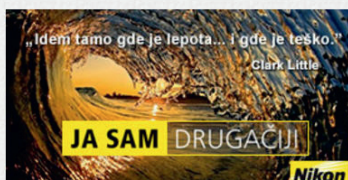
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KAZAKH NATIONAL PEDAGOGICAL
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FAKULTET ZA SPORT I TURIZAM





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PROBLEMI I DILEME IDENTIFIKACIJE MLADIH TALENATA U VRHUNSKOM SPORTU SA ASPEKTA ZDRAVLJA

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SAŽETAK

Identifikacija talentovanih mladih sportaša i njihovo pravovremeno uključivanje u proces treniranja sportske discipline, koja najviše odgovara njihovim sposobnostima je jedan od od najvažnijih zadataka sa kojim se bavi sportska nauka i struka. Pogrešne odluke su brojne i veoma bolne. Problem talentovanih pojedinaca je u činjenici da oni nisu sposobni samo na jednom području, nego po pravilu na brojnim područjima. Osnovna dilema je vezana sa odlukom izbora sportske discipline i vremena uključivanja u specifičan sport. Dali je rano uključivanje dece u sport korisno ili ne? Odgovor je da i ne! Rano uključivanje dece u sport je inače trend u savremenom sportu. Mnogi mladi talentovani sportaši prebrzo izgara-ju ("Burn out"). Mnogi treneri i previše ambiciozni roditelji imaju često puta sasvim nerealna očekivanja oko sportskih rezultata svoje dece. Mladi talentovani sportaši često puta završavaju svoju sportsku karijeru zbog predimenzioniranog i previše specifičnog treninga, zbog povreda i pomanjkanja unutrašnje motivacije.

Ključne reči: sportski talenat, selekcija, povrede, motivacija, vrhunski sport.

ABSTRACT

Identification of sport talented individuals and their timely introduction in the training process of a sport that corresponds the most to their abilities is one of the most demanding procedures in the modern sport science. Wrong decisions are frequent and usually very painful. The

problem of talented individuals is in the fact that they are not talented only in one area but they are, as a rule, successful in many areas. The basic dilemma is related to the decision about which sports to engage in and how much time to devote to a specialised sport. Is early engagement of children in sport useful or not? The answer is yes and no. However, early engagement in sport has become trendy in contemporary sport. Many young champions burn out too soon. Coaches and too ambitious parents often have completely unrealistic expectations about the sports results of their children. Due to oversized and extremely specialised trainings, young athletes sustain injuries relatively frequently on average and also lack internal motivation.

Key words: sport talent, selection, injuries, motivation, elite sport.

PRETILOST I POSTURALNI STATUS DJECE I ADOLOSCENATA

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SAŽETAK

Tehnički i tehnološki napredak i savremeni način života doprinose produženju prosječnog životnog vijeka, ali s druge strane dovode do novih psihosomatskih i zdravstvenih prijetnji i problema. Visok stepen industrijalizacije i automatizacija doveli su do toga da hipokinezija i gojaznost nisu postali problem samo odraslih osoba već i sve većeg broja djece. Nivo fizičke aktivnosti u svim fazama rasta i razvoja djece sve više opada, a dugo vrijeme sjedenja uz televizijski ekran, igrice na računaru rastu uz istovremeno neograničen pristup velikim količinama ukusne i masne visokokalorične hrane, povećava rizik za razvoj pretilosti i i niza drugih bolesti i poremećaja. Zdravstvene posljedice ovakvog stanja populacije su posebno štetne za djecu i adolescente, jer osim što doprinose nizu posturalnih poremećaja i bolesti, doprinose i psihičkim poremećajima i bolestima (Wabitsch, 2000). Pretilost i narušen posturalni

status sve je više prisutan kod djece i omladine, a njihov trend je u stalnom porastu. Veliki broj nacionalnih istraživanja ukazuje o sve manjoj fizičkoj aktivnosti djece, što za posljedicu ima povećan broj pretilih djece i djece sa posturalnim poremećajima, povećanu agresivnost među djecom, nasilnom ponašanjem u školama, zloupotrebi alkohola i droga.

Važnost poznavanja i utvrđivanja stanja pretilosti i posturalnog statusa djece i omladine, te izrada programa za prevenciju i otklanjanje navedenih problema treba biti primarni zadatak i obaveza svih onih koji su na bilo koji način u interakciji sa djecom i učenicima u svim uzrasnim kategorijama. U ovaj proces neophodna je uključenost svih faktora koji čine obrazovni sistem, uključujući ministarstva, lokalne vlasti, roditelje i prosvjetne radnike koji rade u vaspitno-obrazovnom procesu sa svim uzrasnim kategorijama djece.

Ključne riječi: pretilost, posturalni poremećaji, aparat za kretanje, djeca, adolescenti

OBESITY AND POSTURAL STATUS OF CHILDREN AND ADOLESCENTS

Osmo Bajric

ABSTRACT

Technical and technological advances and modern lifestyles contribute to prolonging life expectancy, but on the other hand they lead to new psychosocial and health problems. High levels of industrialization and automation have led to hypokinesia and injury not in adults, but also in increasing number of children. The level of physical activity at all stages of growth and development of children is declining, spending time in front of television, computer games associated with large quantities of tasty and fatty high-calorie food, increases the risk of developing obesity and number of other illnesses and disorders. The health consequences of this condition of the population are particularly harmful for children and adolescents, as a part from contributing to a series of postural disorders and illnesses, they also contribute to

psychological disorders and diseases (Wabitsch, 2000). Obesity and disrupted postural status is increasingly present in children and adolescents, and growing. A large number of national research studies indicates reduction of physical activity of children, resulting in an increased number of obese children and children with postural disorders, increased aggression among children, violent behavior in schools, abuse of alcohol and drugs.

The importance of knowing and identifying the condition of obesity and postural status of children and adolescents, and the development of programs for the prevention and elimination of these problems, should be the primary task and obligation of all those who are in any way involved in interaction with children and students in all age categories. It is necessary to include ministries, local authorities, parents and educators working in the educational process in this process.

Keywords: obesity, postural disorder, locomotor apparatus, children, adolescents

AEROBNI KAPACITET ZNAČAJ VO₂ MAX. KOD SPORTISTA U USLOVIMA OPTREĆENJA VISOKOG INTENZITETA

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SAŽETAK:

U vrhunskom sportu dominiraju opterećenja visokog intenziteta što zahteva dobro razvijenu aerobnu sposobnost organizma. Njenu meru predstavlja maksimalna potrošnja kiseonika (VO₂max.), koja je najvećim delom uslovljena stepenom treniranosti. Univerzalni izvor energije u organizmu predstavlja Adenozin-trifosfat (ATP), jedinjenje bogato energetskim vezama. Postoje tri metabolička puta preko kojih se vrši

stalno snabdevanje mišićnih vlakana ATP-om. Osnovni i trajno održivi (aerobni) put zahteva stalno prisustvo kisonika a dva anaerobna predstavljaju rezervne pomoćne(rezervne) i traju kratko. Od njihove usklađenosti u toku fizičkog rada (treninga) zavisi pojava zamora ali i odmor i oporavak. Brzina kojom se sportista oporavlja posle maksimalnih napora, predstavlja izuzetno važan parametar u trenažnom procesu. Za kontrolu ukupnog metaboličkog kapaciteta sportiste koriste se brojni testovi. Za procenu aerobnog kapaciteta najbitnija je maksimalna potrošnja kiseonika (VO_2max), a anaerobni je najviše uslovljen koncentracijom mlečne kiseline (laktata) u krvi (mmol/l). Opterećenja sportista u anaerobnoj zoni (izdržaj u anaerobnoj zoni) su neophodna da bi došlo do povećanja fizičkog radnog kapaciteta ali treba voditi računa i o brojnim rizicima. Trajanje i učestalost opterećenja u anaerobnoj zoni moraju biti stručno i iskusno kontrolisana. U praksi se to postiže Intervalnim treningom koji se sprovodi kombinovano u aerobnoj i anaerobnoj zoni treninga. Pravilno odrađen program treninga učiniće da rad srca bude ekonomičniji, srčane kontrakcije efikasnije a broj srčanih otkucaja bude manji (usporavanje pulsa). Očekivano sniženje pulsa je univerzalni pokazatelj uspešnosti treninga i predstavlja objektivnu meru povećanja fizičkog radnog kapaciteta.

Ključne reči: Aerobni kapacitet, VO_2max ., anaerobni prag, zamor, oporavak, trening

AEROBIC CAPACITY IMPORTANCE OF $VO_2 MAX$. IN ATHLETES IN TERMS BURDENS OF HIGH INTENSITY

Milisav Čutović, Gordana Bajić, Vesna Vuković Dejanović

SOFTVERSKE I MENADŽMENT TEHNOLOGIJE U DRUŠTVU ZASNOVAMO NA ZNANJU

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APSTRAKT:

Promene u dinamici znanja tokom vremena dovodi do sve bržih promena i razvoja različitih koncepcija naučno-tehnološkog progressa i industrijskih i proizvodnih koncepcija. Tako je početak 2000-ih godina obeležen razvojem društva znanja (KS) ili društva zasnovanog na znanju (KBS). Dok je Nemačka akademska i industrijska elita 2011. godine zvanično objavila početak nove četvrte industrijske revolucije nazvane Industrija 4.0 (pametne i digitalizovane fabrike). Novo društvo zasnovano na znanju (KBS) i nova proizvodna filozofija Industrija 4.0 zasnovani su na kombinaciji sajber-fizičkih sistema (CPS) i digitalnih, softverskih i menadžment tehnologija. Na taj način je obezbeđeno integralno i inteligentno sadejstvo procesa proizvodnje, u kojoj se povezuju fizički, digitalni i virtuelni svet. U radu je dat pregled softverskih i menadžment tehnologija koje su osnova društva zasnovanog na znanju (KBS) i pokretačka snaga pametnih i digitalizovanih fabrika (tzv. Industrije 4.0).

Ključne reči: Društvo zasnovano na znanju (KBS), Industrija 4.0, softverske tehnologije, menadžment tehnologije.

SOFTWARE AND MANAGEMENT TECHNOLOGIES IN KNOWLEDGE-BASED SOCIETY

Predarg Dašić

ABSTRACT:

Changes in the dynamics of knowledge over time lead to faster changes and development of different concepts of scientific and technological progress and industrial and production concepts. Thus, the beginning of the 2000 was marked by the development of a Knowledge Society (KS) or a knowledge-based society (KBS). With the German academic and industrial elite in 2011 official announcement of the launch of a new fourth industrial revolution called Industry 4.0 (smart and digitized factories), the new knowledge-based society (KBS) and the new production philosophy Industry 4.0 appeared, based on a combination of cyber-physical systems (CPS) and digital, software and management technologies. In this way, an integral and intelligent collaboration of the production process is ensured, in which the physical, digital and virtual world is connected. The paper presents an overview of software and management technologies that are the basis of a knowledge based society (KBS) and the driving force of smart and digitized factories (the so-called Industry 4.0).

Keywords: Knowledge-based society (KBS), Industry 4.0, software technologies, management technologies.

MOTIVACIJA ZA UKLJUČIVANJE U SPORTSKO –REKREATIVNE AKTIVNOSTI OSOBA SREDNJE ŽIVOTNE DOBI

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SAŽETAK:

Motivacija je proces pokretanja ličnosti na aktivnost. Proces motivacije se može definisati kao cjelokupni proces pokretanja aktivnosti i usmjeravanja te aktivnosti prema određenim ciljevima. Motivi su pobude koje čovjekovo djelovanje usmjeravaju prema nekom određenom cilju, održavaju to djelovanje i pojačavaju njegov intenzitet i uzroci su ljudskog ponašanja. Želimo li postići da što veći broj ljudi usvoji aktivan životni stil, nužno je istražiti razloge zbog kojih ljudi vježbaju. Međutim, potpunu sliku motivacijske strukture nije moguće dobiti ako ne istražimo koji motiv pokreće osobe srednje životne dobi za bavljenje sportsko-rekreativnim aktivnostima. Osnovni cilj rada bio je utvrditi motivacijsku strukturu 916 – 56,3% muškaraca i 712 – 43,7% žena srednje životne dobi od 40-65 godina (prema kriterijumu WHO; UN: WHO, 1982). Za procjenu motivacije o učešću u sportsko-rekreativnim aktivnostima osoba srednje životne dobi korišteno je osam indikatora (ajtema), za mjerenje intenziteta preferencije motiva (upitnik primjenjen u istraživanju: Perić i sar., 2016). Rezultati pokazuju da je najistaknutiji motiv motiv zdravlja. Zatim su slijedili motivi socijalne interakcije, raspoloženja, zabave i razonode, druženja, a na začelju se nalaze motivi opuštanja, postignuća i samodokazivanja. Intenzitet motivacije je znatno izraženiji kod ispitanika koji su već uključeni u redovno bavljenje sportsko-rekreativnim aktivnostima, a distribucija pojedinih motiva u okviru skale ukazuje na tendenciju njihovog hijerarhijskog ispoljavanja, tako da je kod vježbača najizraženiji motiv za očuvanje zdravlja, zatim raspoloženja, druženja, zabave i razonode. Kod ispitanika koji se ne bave redovnom fizičkom aktivnošću najizraženiji

je motiv raspoloženja tako da je iz toga moguće zaključiti da su, ponajprije zbog neuključenosti u nekakav vid sportsko-rekreativnih aktivnosti, ali i zbog načina života, posla i životnih uslova, svjesni činjenice da je njihovo zdravlje ugroženo.

Ključne riječi: fizičko vježbanje, motivi za fizičko vježbanje, zadovoljstvo životom, vježbači, nevježbači

MOTIVATION FOR INCLUSION IN SPORT-RECREATIONAL ACTIVITIES OF THE PEOPLE OF MIDDLE AGE

Ernest Šabić, Mirko Tufegđžija

ABSTRACT

Motivation is the process of initiating personal-ity into activity. The motivation process can be defined as the overall process of initiating activities and directing these activities towards certain goals. Motives are initiatives that direct human action towards a certain goal, maintain this action and intensify its intensity, and the causes of human behavior. If we want to achieve that as many people as possible adopt an active lifestyle, it is necessary to explore the reasons why people are practicing. However, it is not possible to get a full picture of the motivational structure and do not investigate which motive drives middle-aged people to engage in sports and recreational activities. The basic goal of the work was to determine the motivational structure of 916 - 56.3% of men and 712 - 43.7% of women of the middle aged 40-65 years (according to the WHO criteria, UN: WHO, 1982). In order to assess the motivation for participation in sports and recreational activities of people of the middle age, eight indicators were used to measure the intensity of the motive preference (questionnaire used in the research: Perić et al., 2016). The results show that the most prominent motive is health. Then the motives of social interaction, mood, entertainment and entertainment, socializing followed, and at the bottom there are motives of relaxation, achievement

and self-expression. The intensity of motivation is much more pronounced in respondents already involved in regular sports and recreational activities, and the distribution of individual motifs within the scale indicates the tendency of their hierarchical manifestation, so that the trainer is the most prominent motive for the preservation of health, then mood, socializing, entertainment and entertainment. The respondents who do not engage in regular physical activity are the most expressive motive of the mood so that it is possible to conclude that, primarily because of the lack of involvement in some kind of sports-recreational activities, but also because of the way of life, work and living conditions, they are aware that their health jeopardized.

Keywords: physical exercise, physical exercise motives, life satisfaction, recreational athlete, non-recreational athlete

PROMJENE FUNKCIONALNOG FITNESA MUŠKARACA STARIJIH OD 65 GODINA

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SAŽETAK

Starenje je biološki proces koji ranije ili kasnije zahvata ljudski organizam. Sa starenjem dolazi i do neminovnog opadanja funkcionalnih sposobnosti. Funkcionalni fitnes definiše se kao sposobnost osobe da sigurno, nezavisno i efikasno obavlja svakodnevne životne aktivnosti. U istraživanje je bilo uključeno 120 muškaraca starijih od 64 godine sa područja banjalučke i prijedorske regije. Cilj ovog istraživanja bio je da utvrdi razlike na polju funkcionalnog fitnesa kod osoba starijih od 65 godina, podijeljenih u četiri starosne kategorije i da se utvrdi između kojih starosnih kategorija postoje najveće razlike. Rezultati testiranja pokazuju statistički značajnu razliku ($p > 0,05$) između

grupe 65-69 godina i grupe 80+ kod svih testova osim kod testova snage. Grupa 80+ se statistički značajno razlikuje kod fleksibilnosti donjih ekstremiteta od sve tri preostale grupe. Najveća heterogenost zabilježena je u parametrima snage gornjih ekstremiteta, gdje rezultati progresivno opadaju od 60 godine. Aerobne sposobnosti se statistički značajno razlikuju između grupe 65-69 godina (430.42 ± 60.94 m) i grupe 80+ (370.57 ± 76.727 m). U ovom istraživanju utvrđeno je da najveći pad funkcionalnog fitnesa se bilježi kod grupe 80+ godina.

Ključne riječi: funkcionalni fitnes, starenje, snaga, fleksibilnost, aerobna izdržljivost

CHANGES IN FUNCTIONAL FITNESS OF MEN OLDER THAN 65 YEARS

Ilija Stijepić, Tamara Popović

ABSTRACT

Aging is a biological process which sooner or later affects the human organism. Aging changes the biochemical composition of the tissue and decline in functional abilities is inevitable. We define functional fitness as the physical capacity to perform daily activities independently and without the appearance of fatigue. One hundred and twenty participants were involved in this research older than 64 from Banja luka and Prijedor region. The aim of this study was to determine the differences in physical fitness in elderly men divided into four age categories to determine which of the four age categories (65–69, 70–74, 75–79 and over 80 years) carries the greatest changes. Results show a statistically significant difference ($p > 0.05$) between the group 65-69 years and the 80+ group in all tests except for strength tests. The subjects aged 80+ significantly differ in flexibility of the lower extremities ($p < .05$) compared to subjects aged 65-69, 70–74 and 75–79 years of age. The greatest homoogeneity was found in the parameters of upper body strength, with values progressively decrease from age 65 to

80+. The greatest differences in the parameters of aerobic endurance were between the group 65-69 (430.42 ± 60.94 m) years and the 80+ group (370.57 ± 76.727 m). In this study, we found that the greatest decline in functional fitness was recorded in the group of 80+ years.

Key words: Functional fitness, aging, strength, flexibility, aerobic endurance

UKLJUČIVANJE ŽENSKE POPULACIJE SA POTEŠKOĆAMA U RAZVOJU U TRENAŽNI PROCES KROZ UTVRĐIVANJE KVANTITAVNIH PROMJENA MORFOLOŠKIH KARAKTERISTIKA PRIMJENOM TROMJESEČNOG FITNES PROGRAMA „HARD BODY“ PREDVIĐENOG HELTY PROGRAMOM SPECIJALNE OLIMPIJADE BIH

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SAŽETAK:

Specijalna olimpijada Bosne i Hercegovine je jedina akreditovana sportska organizacija koja sprovodi treninge i takmičenja za osobe sa poteškoćama u razvoju. U okviru "Zdravstvenog programa" koji se obavezno sprovodi u svim članicama Special Olympicsa najbitniji je Program Funfitnes kojim se omogućava kvalitetan trenažni proces za osobe sa poteškoćama u razvoju. Fitness je stanje optimalnog zdravlja i performansi kroz adekvatnu fizičku aktivnost, ishranu i hidrataciju. Fitness programiranje omogućava sportistima sa poteškoćama u razvoju da preuzmu vlastitu brigu o svom zdravlju. Svjetska Specijalna olimpijada /SOI/ je podržala tri modela fitnes programa koji su se pokazali efikasnim; Fit Families, SOfit i Unified Fitness Clubs.

Testovi za ispitivanja pojedinih motoričkih dimenzija, odnosno skale za procjenu motoričkog razvoja, konstruirani su u prvom redu s ciljem da se istraži motoričko funkcioniranje osoba prosječne inteligencije, da se s izvjesnim vremenskim pomakom ti mjerni instrumenti koriste i u uzorcima osoba ometenih u mentalnom razvoju. Kao rezultat toga provodi se veći broj komparativnih istraživanja u kojima istraživači nastoje utvrditi da li mentalno ometeni ispitanici zaostaju u motoričkom razvoju za ispitanicima prosječne inteligencije, te ako zaostaju, koliko je to zaostajanje. Ovo istraživanje obuhvatilo je žene sa poteškoćama u razvoju na području Tuzlanskog kantona, koje su uključene u sportske klubove i koje pripadaju drugoj diviziji, što podrazumijeva da su umjerenog stepena onesposobljenja.

Ključne riječi: žene sa poteškoćama u razvoju, trening, fitness program, morfološke karakteristike, sastav tijela

INCLUSION OF FEMALE POPULATION WITH DEVELOPMENTAL DIFFICULTIES IN THE TRAINING PROCESS BY DETERMINING QUANTITATIVE CHANGES IN MORPHOLOGICAL CHARACTERISTICS BY APPLYING THE THREE-MONTH FITNESS PROGRAM "HARD BODY" FORESEEN BY THE HELTY PROGRAM OF THE SPECIAL OLYMPICS OF BIH

Kada Delić-Selimović, Velimir Vukajlović

ABSTRACT:

The Special Olympics of Bosnia and Herzegovina is the only accredited sport organization that conducts trainings and competitions for people with disabilities. Within the "Health Program",

which is mandatory for all members of the Special Olympics, the most important is the Program Funfitness, which provides a quality training process for people with developmental disabilities. Fitness is a state of optimal health and performance through adequate physical activity, food and hydration. Fitness programming allows athletes with disabilities to take on their own care of their health. The World Special Olympics / SOI / has supported three models of fitness programs that have proven to be effective; Fit Families, SOfit and Unified Fitness Clubs.

Tests for the testing of individual motor dimensions, or the scale for the assessment of motor development, were designed primarily for the purpose of researching the motor function of people with average intelligence, that by means of certain time shifts these measuring instruments are also used on samples of people with mental disabilities. As a result, a number of comparative research is being conducted in which researchers are trying to determine whether the mentally disturbed respondents are lagging behind in motor development for the average intelligence of the respondents, and if they lag behind, how much is lagging behind.

These research included women with disabilities in the Tuzla Canton area, involved in sports clubs and belonging to another division, which implies a modern degree of incompetence.

Key words: women with developmental difficulties, training, fitness program, morphological characteristics, body composition.

SURGICAL TREATMENT OF ACHILLES TENDON RUPTURE

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INTRODUCTION:

Rupture of the Achilles tendon usually occurs as a result of indirect trauma of previously degenerative altered tendon. It is most common in athletes, especially men. The incidence is about 0.2% in general population.

OBJECTIVE: To present the surgical technique of reparation of ruptured Achilles tendon.

MATERIALS AND METHODS: The study included 107 patients (98 men and 9 women) who underwent surgical treatment of Achilles tendon ruptures (in 5 cases on both sides), in period from 1991. to 2017. Until 2008, we performed only tenoplasty of Achilles tendon by Shigo and since 2008. till now we have been performing a percutaneous suture of Achilles tendon, depending on the indications.

RESULTS: Achilles tendon rupture occurs most common in middle aged men. Surgical treatment was a method of choice for all patients. In the majority of patients excellent or very good treatment results were achieved. Complications appeared in one patients - slow wound healing.

CONCLUSION: The best treatment of ruptured Achilles tendon is surgical. In younger patients the method of choice is percutaneous suture of Achilles tendon, due to shorter post-operative recovery time and rehabilitation and faster return to activities of daily living.

SEKSUALNA FUNKCIJA VRHUNSKIH HRVATSKIH GIMNASTIČARA

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SAŽETAK:

Cilj ovoga rada bio je utvrditi kvalitetu seksualne funkcije vrhunskih hrvatskih natjecatelja u športskoj gimnastici opisanu učestalošću erektilnih smetnji i preuranjene ejakulacije. Specifičan je cilj bio utvrditi povezanost broja sati treninga, konzumacije suplemenata i cigareta s čimbenicima seksualne funkcije športaša. Uzorak sudionika činilo je deset vrhunskih hrvatskih muških natjecatelja u športskoj gimnastici u dobi od 20 do 30 godina. Instrument za procjenu indeksa erektilnih smetnji bio je hrvatska verzija skraćene inačice Međunarodnog indeksa erektilne funkcije (IIEF). Rezultati jednog od rijetkih istraživanja čimbenika seksualnog zdravlja na uzorku vrhunskih športaša upućuju na vrlo kvalitetnu erektilnu funkciju vrhunskih hrvatskih gimnastičara uspoređujući s prosječnom populacijom muškaraca u Zagrebu dok u učestalosti preuranjene ejakulacije bilježe rezultate slične prosječnoj populaciji. Gimnastičari koji su u stalnoj ljubavnoj vezi seksualni odnos upražnjavaju u prosjeku svaki treći dan. Gimnastičari koji konzumiraju veći broj cigareta imaju veći rizik pojave erektilnih smetnji, a oni koji svakodnevno konzumiraju cigarete upražnjavaju i manje seksualnih odnosa. Za generiranje preciznijih zaključaka o seksualnom zdravlju vrhunskih športaša potrebna su daljnja istraživanja razine seksualne želje, kvalitete seksualne funkcije i ukupnog zadovoljstva seksualnim životom na većem uzorku športašica i športaša različitih športskih grana.

Cljučne riječi: erektilna funkcija, erektilna disfunkcija, preuranjena ejakulacija, šport, tjelesno vježbanje

SEXUAL FUNCTION OF CROATIAN TOP LEVEL GYMNASTS

Luka Leško¹, Marijo Možnik¹, Anamaria Ivanko², Filip Lovričević¹, Maja Ban¹

ABSTRACT

The aim of this paper was to determine the quality of sexual function of Croatian top level athletes in sports gymnastics described by the prevalence of erectile difficulties and premature ejaculation. The specific aim was to determine the correlation between the number of training hours, the supplements and cigarettes consumption with the factors of the athletes' sexual function. A sample consisted of ten Croatian top level male competitors in sports gymnastics aged 20 to 30. The instrument for assessing the erectile difficulties index was the Croatian version of short International Erectile Function Index (IIEF). The results of one of the few studies of sexual health among top athletes point to the high-quality erectile function of gymnasts compared to the average male population in Zagreb while the prevalence of premature ejaculation scores were similar to the average population. Gymnasts who are in permanent love relationship have sexual intercourse every third day in average. Gymnasts who consume more cigarettes have worse erectile function and those who consume cigarettes on daily basis have less sexual intercourse. To generate more precise conclusions about the sexual health of top level athletes, further studies of the sexual desire level, quality of sexual function and overall satisfaction with sexual life on a larger sample of female and male athletes in different sports are needed.

Keywords: erectile function, erectile dysfunction, premature ejaculation, sport, physical exercise

SEKSUALNO ZDRAVLJE VRHUNSKIH HRVATSKIH NATJECATELJICA U SINKRONIZIRANOM KLIZANJU

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SAŽETAK

Cilj rada bio je utvrditi kvalitetu seksualnog zdravlja vrhunskih hrvatskih natjecateljica seniorskog uzrasta u sinkroniziranom klizanju, opisanog razinom seksualne želje, kvalitetom seksualne funkcije i ukupnim zadovoljstvom seksualnim životom. Uzorak sudionica činilo je 12 vrhunskih hrvatskih natjecateljica u sinkroniziranom klizanju u dobi od 18 do 26 godina. Instrumente za procjenu čimbenika seksualnog zdravlja činili su skraćena hrvatska verzija upitnika za procjenu seksualnog zadovoljstva i čestice hrvatske verzije međunarodnog Brief Index of Sexual Functioning for Women upitnika. Rezultati jednog od rijetkih istraživanja čimbenika seksualnog zdravlja na uzorku vrhunskih športašica upućuju na kvalitetnu razinu seksualne želje klizačica u odnosu na prosječnu hrvatsku populaciju pri čemu niti jedna športašica nije iskazala hipoaktivnu seksualnu želju. Iznadprosječni rezultati u odnosu na prosječnu populaciju utvrđeni su i po pitanju odsustva poteškoća povezanih s lubrikacijom i boli tijekom seksualnih odnosa dok je jedina izražena poteškoća u športašica ona s postizanjem orgazma tijekom seksualnih odnosa. Sve seksualno aktivne športašice iskazale su zadovoljstvo seksualnim životom. Učestalost postizanja orgazma tijekom seksualnih odnosa pokazala se važnim čimbenikom ukupnog zadovoljstva seksualnim životom. Za generiranje preciznijih zaključaka o seksualnom zdravlju vrhunskih športašica potrebna su daljnja istraživanja na većem uzorku športašica različitih sportskih grana.

Cljučne riječi: seksualna želja, seksualna funkcija, seksualno zadovoljstvo, sport, tjelesno vježbanje

SEXUAL HEALTH OF CROATIAN TOP LEVEL FIGURE SKATERS

Luka Leško¹, Lea Bušac², Anamaria Ivanko³

ABSTRACT

The aim of study was to determine the quality of sexual health of Croatian top level female figure skaters, described by the level of sexual desire, quality of sexual function and total satisfaction with sexual life. The sample was consisted of 12 top level Croatian senior female athletes in figure skating aged from 18 to 26 years. Instruments for sexual health assessment were Croatian short version of the questionnaire for assessing sexual satisfaction and particle items of Croatian version of the International Brief Index of Sexual Functioning for Women questionnaire. The results of one of the few researches of sexual health on a sample of top level athletes suggest a high level of sexual desire of figure skaters compared to the average Croatian population, while no one reported a hypoactive sexual desire. Above average results were also found in the absence of difficulties associated with lubrication and pain during the sexual intercourse whereas the only significant difficulty in athletes was with achieving an orgasm during the sexual intercourse. All sexually active athletes expressed good satisfaction with sexual life. The frequency of achieving an orgasm during the sexual intercourse has proven to be an important factor in overall sexual satisfaction. To produce more precise conclusions about the sexual health of top level athletes, further research on a larger sample of athletes in different sports is needed.

Keywords: sexual desire, sexual function, sexual satisfaction, sport, physical exercise

PREVALENCE OF OVERWEIGHT, OBESITY AND THE LEVEL OF PHYSICAL ACTIVITY AMONG THE CHILDREN OF 12 YEARS OLD

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ABSTRACT

Obesity has become a global epidemic and it is considered as one of the main causes of the death in a large number of people all around the world. The main causes of obesity are considered genetic factor, lack of physical activity, imbalance between energy consumption and energy expenditure. The aim of this cross sectional study was to determine the prevalence of overweight, obesity and physical activity levels among the 12 years old children. Sample of this research were two hundred and seventy seven (277) voluntary children aged 12, from three public schools. One hundred and forty (140) of them were boys and one hundred and thirty seven of them were girls. To be more representative the sample were selected from three regions of the city. Anthropometric measurements including body mass (kg) and body height (cm) were taken on the children, while Body Mass Index is calculated according to the formula $BMI = \text{body mass (kg)} / \text{body height}^2 \text{ (cm)}$. Physical activity levels were measured by Physical Activity Questionnaire for children-PAQ-C. Using Cole, et.al.2000, cut off points we found that 202 subjects or 72.92 % had normal body mass, 58 subjects or 20.94 % were overweight and 17 subjects or 6.14 % were obese. We found significant differences ($p = 0.004$) between genders where boys have inclination in overweight. Using T-test analyzes we found that boys were more active compared to girls ($p = 0.004$). Moreover we found significant differences in a proportions and levels of physical activity as well,

Pearson chi-square² analyzes ($p = 0.04$). Physical activity of normal body mass and overweight children did not found significant difference between ($p=0.08$). Prevalence of overweight and obesity in children of Prishtina has shown to be higher than the average of European countries. We compared our results with other studies from different countries and the prevalence of overweight including obesity has shown to be high especially in boys. The need for implementation of a intervention program in order to prevent, it would be a step that will be set up by the relevant institution.

Key words: overweight, obesity, physical activity, children, prevalence

RELACIJE KOMPOZICIJE TELA I MAKSIMALNE POTROŠNJE KISEONIKA MLADIH STONOTENISERKI

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SAŽETAK:

Stoni tenis spada u grupu polistrukturalnih aciklicnih sportskih aktivnosti čiji rezultat ne zavisi i ne određuje samo specifičnost tehnike izvođenja pojedinih udaraca, nego u velikoj meri funkcionalne i motoričke sposobnosti. Cilj istraživanja je da se utvrde relacije između varijabli telesne kompozicije (kao sistema prediktorskih varijabli) i maksimalne potrošnje kiseonika, manifestovane kriterijskom varijablom za procenu aerobne sposobnosti kod stonoteniserki uzrasta 14-22,6 godina. Vrednosti Pirsonovog koeficijenta korelacije ukazuju da su sve četiri prediktorske varijable (Telesna visina, Telesna masa, Indeks telesne mase i Masno tkivo) u statistički značajnoj negativnoj korelaciji sa kriterijumom. Sistem prediktorskih varijabli objašnjava 54% zajedničkog vari-

jabiliteta kriterijumske varijablje (VO₂max), dok se ostalih 46% varijabiliteta može pripisati nekim drugim karakteristikama i sposobnostima koje nisu bile obuhvaćene primenjenim sistemom prediktora (motivacija, trenutni stepen treniranosti sportista i stanje mišića, stanje drugih funkcionalnih sistema u organizmu sportista i dr.).

Ključne reči: telesni sastav, aerobna izdržljivost, korelacija, stoni tenis

RELAXATION OF THE COMPOSITION OF MAXIMUM AND MAXIMUM CONSUMER EXPERIENCE OF YOUNG STONOTHERISM

Branko Đukić¹, Vladimir Ivanek², Snežana Vujanović¹, Goran Glamović¹

SUMMARY:

Table tennis belongs to a group of polystructural acyclic sports activities whose outcome does not depend on determining not only the specificity of performing individual strokes technique but rather of the functional and motor skills. The aim of the research is to determine the relationship between body composition variables (as a system of predictor variables) and maximal oxygen consumption, manifested by a criterion variable for assessing aerobic ability in table tennis women players aged 14-22.6 years. The Pirson correlation coefficient values indicate that all four predictor variables (Body height, Body weight, Body Mass Index and Fat tissue) are statistically significant negative correlation with the criterion. The system of predictor variables explains 54% of the common variability of the criterion variable (VO₂max), while the other 46% of the variability can be attributed to some other characteristics and abilities that were not covered by the applied predictor system (motivation, athletes' training and muscle state current level, other athletes functional systems state, etc.).

Key words: body composition, aerobic endurance, correlation, table tennis

STRUKTURALNE PROMJENE MOTORIČKIH SPOSOBNOSTI DJEVOJAKA 16 – 18 GODINA POD UTICAJEM PROGRAMA AEROBIKA

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SAŽETAK

Istraživanje je provedeno na uzorku 88 ispitanica - djevojaka uzrasne dobi 16 -18 godina, koje su redovno upražnjavale aerobik. U istraživanju je primijenjeno pet varijabli za procjenu fleksibilnosti i četiri varijable za procjenu repetitivne snage. Osnovni cilj istraživanja bio je utvrđivanje nivoa kvalitativnih promjena primijenjenih varijabli djevojaka uzrasta 16 do 18 godina pod uticajem troiplo mjesečnog programa aerobika.

U cilju utvrđivanja kvalitativni promjena pod uticajem programa aerobika primjenjena je faktorska analiza, uz primjenu Varimax rotacije, s ciljem da se maksimalno izdiferenciraju veličine faktorskih težina.

Dobijeni rezultati ukazuju da je pod uticajem aerobika došlo do kvalitativnih promjena u smislu da je došlo do promjene strukture izolovanih latentnih dimenzija. Prva izolovana latentna dimenzija, prije eksperimentalnog tretmana, je definisana kao faktor fleksibilnosti, a poslije tretmana kao faktor repetitivne snage. Dakle, vježbe iz programa aerobika su više uticale na jačanje mišića, a što je u krajnjem slučaju rezultiralo na smanjenje elastičnosti mišića.

Ključne riječi: aerobik, motoričke sposobnosti, strukturalne promjene, faktorska analiza

STRUCTURAL CHANGES OF MOTOR SKILLS OF GIRLS 16 - 18 YEARS BY USING AEROBIC PROGRAMS

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Begović²

SUMMARY

The research was conducted on 88 female subjects - aged 16 to 18, who regularly practiced aerobic exercises.

During the research, 5 variables for evaluation of flexibility and 4 variables for evaluation of repetitive strength were applied. The main focus of the research was determining the level of qualitative variations of applied variables of girls aged 16 to 19, under the influence of three and a half long aerobic training program.

In order to determine qualitative variations under the influence of aerobic training, factor analysis was applied, in particularly Varimax rotation. It was used in order to achieve maximum differentiation of factor weight.

The obtained results show that under the influence of aerobic exercise, there were qualitative variations in terms of structural changes of isolated latent dimensions.

The first isolated latent dimension before the experimental treatment was defined as a factor of flexibility, while after the treatment it was defined as a factor of repetitive strength. Hence, the aerobic exercises initiated the strengthening of muscles, which in finality resulted in decreasing of muscle elasticity.

Key words: aerobic training, motor skills, structural changes, factor analysis.

ESTABLISHMENT OF THE CURRENT PHYSICAL DEVELOPMENT OF CHILDREN WITH SPECIAL EDUCATIONAL NEEDS

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ABSTRACT:

The aim of the present research is the establishment of the current physical development of children with SEN. Subject of the research is the physical education and sport of children with intellectual disabilities. Object of the research are the signs of the physical development of children with special educational needs. Contingent of the research are 44 11-13 year old children with special educational needs. The battery of tests (4) delivers information about the physical development of the examined children with intellectual difficulties. The experimental and the control group are homogeneous regarding the examined signs of height and height with stretched arm. Regarding the BMI indicator of the examined extract it and the weight are located in the approximate homogeneity zone.

Key words: children with special educational needs, physical development, anthropometry

FIZIOTERAPIJA FASCIJALNIM TEHNIKAMA KOD OZLJEDA U JEDRENJU

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SAŽETAK

Terapijskim djelovanjem kroz fasciju osim transformacijske promjene u novim manualnim pristupima znatna je rehabilitacijska dobrobit u

strukturnom, anatomskom i proprioceptivnom integritetu osobe. Fascijalne tehnike kao integracija rehabilitacije sportaša su učinkovite u dijagnozama gdje se simptomi javljaju dalje od izvora tegoba. Upravo fascijalni kontinuitet, podrška, zaštita, apsorpcija šokova, posturalna i termoregulacijska adaptacija s pohranjivanjem memorije dovode do velike mogućnosti oporavka i regeneracije ozljeđenog. Posljednja dva desetljeća jedrenje je prepoznato kroz interes i popularnost u rekreativnom, profesionalnom i olimpijskom sportu. Zbog izrazito motoričkog i funkcionalnog opterećenja, ozlijede kod jedriličara su širokog raspona od toplinskih, akustičnih, kinetoza, mehaničkih do najčešćih ozljeda lokomotornog sustava. U rehabilitaciji ozljeda presudan je holistički pristup važan za dinamički, kinetički, ali i emocionalni proces oporavka sportaša.

Cljučne riječi: fizioterapija, fascija, ozlijede u jedrenju, holistički pristup

PHYSIOTHERAPY OF FACIAL TECHNIQUES WHIT INJURIES IN SAILING

Albina Hržić

ABSTRACT

New manual therapeutic treatments through the fascia, beside transformative changes, also lead to significant rehabilitative benefits in the structural, anatomical and proprioceptive integrity of the patient. Fascial techniques as the integration of athlete rehabilitation are effective in diagnoses where the symptoms appear far from the source of the ailment. Fascial continuity, support, protection, shock absorption, postural and thermoregulative adaptation with memory effect lead to fast recovery and regeneration of the patient. For the past two decades sailing has seen popularity as a recreational, professional and Olympic sport. Because of its severe motor and functional load, sailors suffer a wide range of injuries including thermal, acoustic and mechanical injuries, in particular injuries of the locomotor system, and kinetosis. A holistic approach to rehabilitation of injuries is vital for the dynamic, kinetic and emo-

tional recovery of the athlete.

Keywords: physiotherapy, fascia, sailing injuries, holistic approach

POTENCIJALNO DOPING PONAŠANJE U VRHUNSKOM PLIVANJU; ANALIZA NEKIH PREDIKTORA

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ABSTRAKT

Ovo istraživanje pokušalo je utvrditi stupanj potencijalnog doping ponašanja (PDP), te specifične faktore povezane s PDP u vrhunskom plivanju, uključujući neke sociodemografske varijable, sportske faktore, znanja o prehrani i doping. Uzorak ispitanika sačinjavalo je 148 plivača iz Slovenija (67 žena), 20,61±2 godine starosti koji su učestvovali na prvenstvu države 2017. Varijable su prikupljene prethodno validiranim upitnikom. Primijenjena je multinominalna regresijska analiza s kriterijem PDP (negativan stav – neutralan stav – pozitivan stav prema doping) Povećani rizik PDP uočen je kod muškaraca I stoga su sve regresijske analizirane uključivale spol kao ko-faktor. Postignuti natjecateljski rezultat u olimpijskim disciplinama prepoznat je kao protektivan faktor za PDP. Upotreba prehrambenih suplemenata, znanje o prehrani I znanje o doping nisu značajno povezani s PDP. Daljnje studije su potrebne kako bi se utvrdili specifični faktori utjecaja na PDP u različitim sportovima

Ključne riječi: doping, plivanje, prehrambeni suplementi, prediktori

POTENTIAL DOPING BEHAVIOUR IN HIGH LEVEL SWIMMING; AN ANALYSIS OF SOME POTENTIAL CORRELATES

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ABSTRACT

This study aimed to identify prevalence of potential doping behaviour PDB and specific associations which may exist between socio-demographic-variables, sport-related factors, knowledge on sports nutrition (KSN), knowledge on doping (KD), with potential doping behaviour (PDB) in swimming. The sample comprised 148 swimmers (67 females; 20.61±2.01 years of age) who participated at the National Championship 2017. Variables were collected by previously validated questionnaires. Multinomial logistic regression was applied for criterion PDB (Negative PDB – Neutral PDB – Positive PDB). The higher risk for PDB is found in males and therefore all regressions were additionally adjusted for Gender. Competitive achievement is evidenced as being a protective factor against PDB. The consumption of dietary supplements, KSN, KD, and opinion about doping presence in swimming were not related to PDB The findings on relationships between studied variables and PDB should be incorporated in targeted anti-doping efforts in swimming. Further studies examining specific correlates of PDB in other sports are warranted.

Key words: doping, swimming, dietary supplementation, predictors

USPOREDBA PLUĆNIH VENTILACIJSKIH SPOSODNOSTI KOD SINKRO- PLIVAČICA I KONTROLNE SKUPINE

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SAŽETAK:

Redovito praćenje ventilacijskih sposobnosti od iznimne je važnosti kako bi se uočile promjene i eventualne smetnje kod mladih sportaša. U sinkroniziranom plivanju, obzirom na specifičnost sporta; duge izdržaje pod vodom bez disanja i visoke frekvencije rada srca prilikom izvođenja elemenata i koreografije, do izražaja prvenstveno dolaze ventilacijske sposobnosti sinkro-plivačica. Cilj ovog istraživanja bio je utvrđivanje ventilacijskih sposobnosti i razlika između sinkro-plivačica i kontrolne skupine. S takvim ciljem zapravo bi ustanovili postoje li oštećenja u dišnom sustavu obzirom na specifičnosti sporta te koja skupina ima bolje razvijene dišne, odnosno ventilacijske sposobnosti. U istraživanju je sudjelovalo 15 sinkro-plivačica juniorki i 15 cura u kontrolnoj skupini (plesalice 15±0.72 godina). Pored mjerenja tjelesne težine i tjelesne visine, sve ispitanice su radile laboratorijski test spirometrije. Deskriptivnom statistikom, T-testom i korelacijskom analizom obrađeni su prikupljeni podaci. Rezultati pokazuju kako skupina sinkro-plivačica ima bolji FVC pluća od ispitanica u kontrolnoj skupini. T-test pokazuje statistički značajnu razliku među rezultatima ostvarenih kod testiranja statičke komponente spirometrije: forsiranog vitalnog kapaciteta pluća (FEV 1), ali i dinamičkih komponenti, FVC-a, MVV-a. Evidentirana je korelacija dviju antropometrijskih varijabli te dviju plućnih; forsiranog vitalnog kapaciteta (FVC) i maksimalnog izdahnutog volumena u prvoj sekundi izdaha (FEV1). Obzirom da su to plućne funkcije koje kod zdravih osoba jednako osciliraju i imaju značajan pozitivan utjecaj na natjecateljski rezultat,

može se smatrati kako sinkronizirano plivanje pozitivno utječe na poboljšanje plućne funkcije kod mladih sportašica.

Ključne riječi: Spirometrija, estetski sport, kapacitet pluća

ABSTRACT:

Regular monitoring of lung ventilation capabilities is of great importance in order to detect changes and evasive handicap in young athletes. In synchronized swimming, regardless of the sport characteristics; long immersion and high heart rate when performing elements and choreography, the ventilation capabilities of synchro-swimmers are very important. The aim of this study was to determine the ventilation capability and the difference between the synchro-swimmers and the control group. That aim would actually determine whether there is some damage to the respiratory system due to the specificity of the sport and which group has better developed respiratory or ventilation capability. The study involved 15 junior synchro-swimmers and 15 dancers in the control, all aged 15 ± 0.72 years. In addition to measuring body weight and body height, all participants performed a laboratory spirometry test. Descriptive statistics, T-test and correlation analysis were used to collected data. The results show that the synchro-swimmer group has better in FVC (Forced Vital Lung Capacity) than the subjects in the control group. The T-test shows a statistically significant difference between the results obtained in testing the static component of spirometry: Forced Lung Capacity (FEV 1), but also the dynamic components of FVC, MVV. There is a correlation between two anthropometric variables and two variables from spirometry test; Forced Vital Capacity (FVC) and Maximum Exhaled Volume in the First Second (FEV1). Given that these pulmonary functions, that equally oscillate in healthy subjects have a significant positive impact on the competitive outcome, it can be considered that synchronized swimming positively affects the improvement of lung functions in young athletes.

Keywords: Spirometry test, aesthetic sport, lung capacity

HOW SAFE ARE OLYMPIC COMBAT SPORTS?

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ABSTRACT

Olympic Games in Tokyo 2020 will be the first to include five combat sports in the program (boxing, wrestling, judo, taekwondo and karate). Despite the differences in the rules applied, these sports have the same objective – to defeat an opponent in the direct clash by using specific combat technique. Even if it is a fight in the controlled environment, it is reasonable to expect a high rate of injuries. Aim of this paper is to show incidence and type of injuries in Olympic combat sports and to suggest adequate preventive measures. EBSCO Database was searched with different keywords combined. All the articles about combat sports injuries issued in the time period 2000-2017. were selected and analyzed. When we take into account injury incidence on the Olympic Games, the highest percentage of injuries among combat sports was found in Taekwondo. With an injury rate of 27% and 39% in 2008 and 2012 Olympic, Taekwondo was among the sports with the highest injury incidence. In difference to these results, other combat sports included (judo, boxing and wrestling) had an average injury rate when compared to other Olympic sports. To conclude, combat sports do not have higher rate of injuries due their combative nature. They are safe to practice as any other Olympic sport.

Keywords: judo, karate, boxing, wrestling, taekwondo.

SAVREMENI PRINCIPI PRIMJENE MAGNETOTERAPIJE U FIZIKALNOJ MEDICINI I REHABILITACIJI

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SAŽETAK:

Uvod: Magnetoterapija je jedna od najstarijih metoda liječenja i kroz istoriju medicine prolazi put od alternativne do zvanične metode. U XXI vijeku veliki broj naučnih istraživanja proširuje indikaciona područja zasnovana na magnetoterapiji. Cilj rada: Cilj rada je da se prikažu: istorijski razvoj, vrste magnetoterapije, njihovi biološke efekti, klinička primjena i mehanizmi djelovanja. Materijal i metode: Korištena je dostupna svjetska literatura iz oblasti bazičnih i kliničkih istraživanja o magnetoterapiji. Rezultati: Bazične studije ukazuju da leukociti, trombociti, osteoblasti, hondrociti, fibrinogen, fibrin, citokini, faktori rasta, kolagen, elastin i slobodni radikali pokazuju alteraciju u svom djelovanju kad su izloženi magnetnom polju. Magnetna polja utiču na proliferaciju ćelija, epitelizaciju, fagocitozu, vazodilataciju što svakako poboljšava fiziološku sredinu koja doprinosi regeneraciji i izlječenju. Terapijski efekti zavise od svih karakteristika elektromagnetnog polja i od stanja pacijenta. Najširu primjenu (PEMP) ima u stimulaciji osteogeneze (loše srasli prelomi, pseudoartrtroza, zarastanje spinalnih fuzija), osteoartritis, osteoporoze i kod bolnih stanja. Transkranijalna magnetna stimulacija ima sve veću primjenu u neurorehabilitaciji. Zaključak: Precizni mehanizmi djelovanja elektromagnetne terapije još uvijek nisu poznati, što je svakako jedan od razloga različitih pristupa i nedovoljne i na dokazima utemeljene kliničke primjene ovog fizikalnog modaliteta. Precizna dozimetrija, dobro definisani laboratorijski uslovi, dizajnirane kliničke studije, definisani protokoli liječenja bi svakako doprinijeli jasnijom kliničkoj primjeni, kao i aktuelnosti magnetoterapije i u budućnosti.

Ključne riječi: magnetoterapija, klinička primjena, PEMP (pulsno elektromagnetno polje), TMS (transkranijalna magnetna stimulacija)

PRIMJENA IZOKINETIČKE DIJAGNOSTIKE U SVRHU UTVRĐIVANJA STANJA FUNKCIJE MIŠIĆA I ZGLOBOVA I MIŠIĆNE PRIPREME SPORTISTA

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SAŽETAK

Izokinetička dijagnostika predstavlja postupak mjerenja parametara mišićno-koštanog sistema. Izokinetičko testiranje predstavlja ispitivanje funkcionalnih parametara mišića i zglobova u aktivnom pokretu i realnom vremenu u odnosu na uzrast, pol, tjelesnu težinu, svakodnevnu sportsku aktivnost i individualne potrebe. Izokinetički uređaj omogućava testiranom sportisti razvijanje maksimalne sile tokom cijelog obima pokreta uz prilagođavanje otpora na bol ili zamor, zbog čega se prilikom mjerenja ne može pojaviti preopterećenje mišića ili zglobnih struktura. Izokinetička vježba je jedini način vježbe, gdje su mišići opterećeni maksimalno kroz cijelu amplitudu pokreta. Izokinetika se primjenjuje u svrhu mjerenja – dijagnostike, vježbanja – treninga i rehabilitacije. Ono što je bitno za izokinetički pokret jeste da subjekt nikad nije suprotstavljen otporu, koji ne može savladati, jer je otpor cijelo vrijeme jednak primijenjenoj sili. To znači da je izokinetički trening siguran.

Izokinetička dijagnostika koristi se u sportskom treningu u svrhu utvrđivanja inicijalnog stanja, utvrđivanja trenutnih efekata provedenog programa i utvrđivanja dugoročnih efekata programa vježbanja. Izokinetička dijagnostika je od izuzet-

ne važnosti za pravovremeno otkrivanje mišićnih disbalansa karakterističnih za većinu sportista. Analizom se utvrđuje stepen i oblik disfunkcije ispitivanog segmenta i biomehaničke cjeline. Analiza testa je nacrt terapeutu ili treneru za rehabilitacijski ili trenažni postupak. Izokinetički postupak enormno skraćuje vrijeme korekcije disfunkcije, rehabilitacije i odsustva iz procesa treninga te smanjuje rizik od povreda.

Ključne riječi: izokinetika, mišići, trening, rehabilitacija, mjerenje

APPLICATION ISOKINETIC DIAGNOSIS FOR THE PURPOSE OF DETERMINING THE STATE FUNCTIONS MUSCLES AND JOINTS AND MUSCLE PREPARATION OF ATHLETES

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ABSTRACT

Izokinetic Diagnostics is the method of measurement of the parameters of the musculoskeletal system. Izokinetic testing is an examination of the functional parameters of the active and real-time muscle and joints in relation to age, gender, weight, daily sport activity and individual needs. The isokinetic device allows tested athletes to develop maximum force throughout the entire range of motion by adjusting the resistance to pain or fatigue, which is why no overload of the muscles or hinged structures can occur during the measurement. Isokinetic exercise is the only exercise mode, where muscles are loaded at maximum throughout the amplitude of the movement. Oxygen is applied for measurement purposes - diagnostics, exercise - training and rehabilitation.

What is important to an isokinetic movement is that the subject never opposes resistance, which can not be overcome, because resistance is always equal to the applied force. This means that isokinetic training is SURE.

Izokinetic diagnosis is used in sports training to determine the initial state, to determine the current effects of the implemented program and to determine the long-term effects of the exercise program. Isokinetic diagnosis is of utmost importance for the timely detection of muscular imbalances characteristic of most athletes. The analysis determines the degree and form of dysfunction of the examined segment and the biomechanical entity. The test analysis is a draft therapist or trainer for a rehabilitation or training procedure. The isoquinate procedure EXCESSIVELY shortens the time of correction of dysfunction, rehabilitation and absence from the training process and reduces the risk of injury.

Key words: isoquinetics, muscles, training, rehabilitation, measurement.

DISKRIMINACIONA KANONIČKA ANALIZA SITUACIONE USPJEŠNOSTI RUKOMETNE IGRE U ODNOSU NA BRZINU REALIZACIJE FAZE NAPADA

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SAŽETAK

Cilj svake savremene plistrukturalne loptarske igre jeste postići pogodak više, i na taj način ostvariti pobjedu. U tom kontekstu težnja savremene rukometne igre ka najvećim dostignućima i uspjesima, dovodi do toga da upravo fokus svakog istraživanja u okviru rukometne igre bude baziran na najznačajnijim elementima u kompleksnoj

strukturi rukometne igre, koji direktno utiču na uspješnost rukometne igre, između ostalog i brzinu realizacije faze napada. Upravo to i jeste bio cilj ovog mini istraživačkog rada, tj. da pokušamo izvršiti procjenu uspješnosti rukometne igre u odnosu na brzinu realizacije faze napada. Kao uzorak ispitanika uzeta su 32 igrača učesnika finalne utakmice memorijalnog turnira. Uzorak varijabli je sačinjavala baterija od 12 testova situacione uspješnosti, a rezultati primjenjene diskriminativne kanoničke analize su potvrdili da postoji statistički značajna razlika u situacionoj uspješnosti u odnosu na brzinu realizacije faze napada između istraživanih ekipa.

Ključne riječi: diskriminaciona kanonička analiza, rukometna igra, situaciona uspješnost, brzina, faza napada

DISCRIMINATION CANONICAL ANALYSIS OF SITUATION SUCCESS OF HANDBALL GAME IN RELATING TO THE SPEED OF THE REALIZATION THE STAGE OF ATTACK

Izudin Tanović¹, Azer Korjenić²

SUMMARY

The goal of every modern polystructural ball game is to score more, thus winning. Precisely in this context, the tendency of the modern handball game to the greatest achievements and successes leads to the fact that the focus of each research in the handball game is based on the most important elements in the complex structure of handball, which directly affect the performance of handball, among others, the speed of realization phases of attack. That is precisely what this miniature research work was aimed, to try to evaluate the performance of the handball in relation to the speed of the realization of the attack phase. As a sample of the respondents, 32 players participated in the final match of the memorial tournament.

The sample variables consisted of a battery of 12 situational success tests, and the results of the applied canonical analysis confirmed that there was a statistically significant difference in situational performance relative to the speed of the implementation of the phase of the attack between the investigated teams.

Key words: Disciplinary canonical analysis, handball, situational success, speed, attack phase.

Key words: situational karate tests, karate elements, sports fights, competitors and representatives, factor analysis

STRUCTURE OF SITUATION MOTOR STEREOTYPES OF KARATE COMPETITORS AND KARATE REPRESENTATIVES

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ABSTRACT

This survey was conducted on a deliberate sample of 32 respondents, 16 karate competitors and 16 karate representatives, male, from the Republic of Macedonia. The main goal of this research was to determine the structure of situational motor stereotypes (situational karate tests) between karate competitors and karate representatives in a sports fight for each category separately. In the study, a total of 15 variables of karate elements applied in a sports karate combat divided into 5 spaces were used: three variables of attack with one hand strike, three variables of attack with two hands techniques, three variables of attack with three hands techniques, three variables of attack with one stroke with leg and three variables of attack with combined techniques of hands and legs. The results of the factor analysis obtained by this study show the extraction of 3 significant latent dimensions in the category of competitors and 5 significant latent dimensions in the category of representatives.

UTICAJ AGILNOSTI NA REZULTATE TESTOVA SITUACIONE MOTORIKE U FUDBALU

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SAŽETAK:

Istraživanje je provedeno na uzorku od 52 ispitanika – fudbalera uzrasta od 14 do 16 godina koji treniraju fudbal u fudbalskim klubovima najmanje dvije godine. Ispitanici su polaznici fudbalskih škola: FK „Borac“ Banja Luka, FK „BSK“ Banja Luka i FK „Krupa“ Krupa na Vrbasu.

Osnovni cilj ovog istraživanja odnosi se na utvrđivanje značaja i veličine uticaja segmenata motoričkog prostora definisanog kao agilnost na rezultate izvođenja situaciono-motoričkih testova. U istraživanju je primijenjeno sedam varijabli za procjenu agilnosti (prediktorske varijable) i osam varijabli za procjenu situaciono-motoričkih sposobnosti kao kriterij. Za utvrđivanje značaja i veličine uticaja segmenata motoričkog prostora definisanog kao agilnost na rezultate izvođenja situaciono-motoričkih testova primijenjen je niz regresionih analiza.

Dobijeni rezultati regresionih analiza ukazuju da je sistem prediktoraskih varijabli koje su predstavljali testovi agilnosti ostvario statistički značajan uticaj na rezultate u testovima situacione motorike sa visokim i značajnim koeficijentom multiple korelacije na nivou statističke značajnosti $p = .01$ i $p = .05$.

Glavne riječi: fudbal, agilnost, situaciona motorika, uticaj, regresiona analiza.

ABSTRACT:

This research was conducted on a sample of 52

footballers aged 14 to 16 who have been training football in football clubs for at least two years. Respondents are members of the following football schools: FC "Borac" Banja Luka, FC "BSK" Banja Luka, and FC "Krupa" Krupa na Vrbasu.

The main objective of this research was to determine the significance and magnitude of the influence of the motor space characteristics, defined as agility, on the results of situational motor skill tests. In this study, seven variables were used to evaluate agility (predictor variables) and eight variables for assessing situational motor skills as a criterion. A number of regression analyzes were used to determine the significance and magnitude of the influence of the motor space characteristics, defined as agility, on the results of situational motor skill tests.

The obtained results of regression analyzes indicate that the system of predictor variables, represented by agility tests, had a statistically significant influence on the results in situational motor skill tests with a high and significant coefficient of multiple correlation at the level of statistical significance of $p = .01$ and $p = .05$.

Key words: football, agility, situational motor skills, regression analysis.

iskazane u četiri tehnike, znanje i sposobnosti omogućavaju obogaćivanjem sopstvenog profesionalnog radu. Cilj rad je da se utvrde relacije rezultata u plivanju sa obimom i masom tijela. Uzorak ispitanika činilo je 12 studenata muškog pola od ukupnog broja (42) po evidencije za prisustvo teorijskoj i praktičnoj nastavi druge godine studija Fakulteta fizičkog vaspitanja i sporta Univerzitet u Istočnom Sarajevu upisanih u školsku 2017/2018 godinu. Uzorak varijabli odnosio se na: obim grudnog koša, obim nadlaktice, obim trbuha, obim natkoljenice, obim potkoljenice, i masa tijela kao prediktorski set, a kriterijumske varijable odnosile su se na stilizovani oblik kretanja, slobodno (kraul) i plivanje leđno na 100 m. Deskriptivnom statistikom mjera centralne tendencije i regresionom analizom utvrđeni su pokazatelji efekata obima i mase tijela na plivanje slobodno i leđno na dionici 100 m. Negativan uticaj na rezultatsku uspješnost plivanja imale su obim trbuha i obim grudnog koša, a neznatan obim potkoljenice, dok obima natkoljenica imao je znatan uticaj prediktorskih varijabli na kriterijumske.

Cljučne riječi: studenti, slobodno, leđno plivanje, takmičenje, regresiona analiza

RELACIJE REZULTATA PLIVANJA SA OBIMOM I MASOM TIJELA

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RAZVOJ REZULTATA PLIVAČA NACIONALNIH TAKMIČENJA U ODNOSU NA FINALISTE KONTINENTALNIH PRVENSTVA

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SAŽETAK:

Plivanje, spada u prirodne oblike kretanja, a jedan je od bitnih predmet za sve koji završavaju visoko obrazovanje, a posebno studenti Fakulteta fizičkog vaspitanja i sporta. Osim primjene sopstvenog znanja kretanja stilizovanog oblika

SAŽETAK:

U ovom istraživanju su obuhvaćeni finalisti na nacionalnim i evropskih takmičenjima u periodu od 2008 do 2016. godine. Plasman obuhvata 8 takmičara što za period od 5 prvenstava daje uzorak od 40 ispitanika. U skladu sa istim brojem je

uzet broj nacionalnih ispitanika što ukupno iznosi 80 ispitanika. Svi ispitanici su u kategoriji seniora i svi su muškog pola. Uzorak varijabli odnosio se na stilizovane oblike kretanja tehnikom kraul na dionici od 50 m postignutih na nacionalnim i evropskim prvenstvima. Evropsko prvenstvo održavaju se svake druge godine u istraživanju su uzeti periodi: (2008., 2010., 2012., 2014 i 2016.). Prikupljeni rezultati odnose se na finaliste nacionalnih i evropskih prvenstava mjereni elektronskim uređajima sa tačnošću od jedne stotinke (stoti dio sekunde). Istraživanje je obuhvatilo vremena finalista, a po svakom prvenstvu u finalu su plasirani 8 plivača. U ovom istraživanju akcenat je stavljen na vrijeme prva tri plivača iz finalne grupe, vrijeme pobjednika i rekordno vrijeme predstavnika nacionalnih takmičenja. Pored nacionalnih u radu su interpretirani i rezultati evropskih prvenstava koji su se odnosili na prva tri mjesta iz finalne grupe, vrijeme najboljeg u grupi i rekordno vrijeme na šampionatu.

KLjučne riječi: kraul, dionica, deskriptivna statistika, trend, t-test

DEVELOPMENT OF THE RESULTS FROM NATIONAL COMPETITIONS SWIMMERS IN RELATION TO FINALIST FROM CONTINENTAL CHAMPIONSHIPS

Željko Panić¹, Relja Kovač², Milomir Trivun³

ABSTRACT:

This research covered the finalist of national and European competitions in period from 2008 until 2016. Ranking covers 8 competitors which, for the period of 5 championships, gives the specimen of 40 examinees. In a line with that figure, the number of national examinees was taken into consideration, which bring us to total figure of 80 examinees. All examinees all in senior category and all are male. Variable samples are related to stylized forms of movement in freestyle

swimming technique in a distance of 50 meters achieved on national and European competitions. European championships are conducted every second year and research covered following years: 2008., 2010., 2014., and 2016.. Gained results are related to the finalists of national and European championships measured with electronic devices with one cent accuracy. Eight finalist achieved the results in all championships. During this research the accent was put on the score of three first swimmers from final group, winner's score and the scores of the national competitions representatives that set records. Besides national results the research interpreted the results from European representatives related to first three positions from the final group, scores of the best competitor within the group and the record set at the championship.

Key words: free style swimming, distance, descriptive statistics, trend, t-tests

CONCEPTUAL MODEL OF SPORT PREPARATION OF YOUNG BASKETBALL PLAYERS

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ABSTRACT:

The preparation of the modern basketball players and their presentation in competitions is a well-organized model created by the coach, club leadership or national federation. The aim of the article is to present a theoretical conceptual model for sport training of young basketball players. This will give the opportunity to improve the sport training in basketball.

Key words: basketball, conceptual model, sport training

UTICAJ TRENINGA NA POBOLJŠANJE KOORDINACIJE KOD MLADIH FUDBALERA UZRASTA 10-12 GODINA

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SAŽETAK:

Istraživanje uticaja treninga na poboljšanje koordinacije provedeno je na uzorku mladih fudbalera uzrasta 10-12 godina članova fudbalskih klubova na teritoriji Grada Banja Luka. Eksperimentalnu grupu je sačinjavalo 60 mladih fudbalera koji su, pored standardnog programa treninga u klubu, provodili i dodatne trenažne sadržaje za razvoj koordinacije pokreta. Kontrolnu grupu je činilo 45 dječaka koji su provodili standardni program treninga i nisu imali dodatne sadržaje za razvoj koordinacije. Cilj istraživanja je bio da se utvrdi da li primijenjeni program treninga za razvoj koordinacije može uticati na poboljšanje ove motoričke sposobnosti kod eksperimentalne grupe. Rezultati istraživanja su pokazali da je došlo da statistički značajnog poboljšanja nivoa koordinacije samo kod eksperimentalne grupe, dok kod kontrolne grupe nije bilo poboljšanja. Rezultati ovog istraživanja su pokazali da se pravilno programiranim treningom sa dodatnim sadržajima usmjerenim na poboljšanje koordinacije može značajno uticati na ovu motoričku sposobnost i na taj način stvoriti pretpostavke za kvalitetniji proces učenja i formiranja mladih fudbalera.

Ključne riječi: trening koordinacije, mladi fudbaleri

THE IMPACT OF TRAINING ON MOVEMENT COORDINATION IMPROVEMENT IN YOUTH FOOTBALL PLAYERS AGED 10 TO 12 YEARS

Nikola Ilić^{1,2}, Željko Sekulić³, Slavko
Dragosavljević⁴, Slobodan Goranović³

SUMMARY:

The study was conducted with the aim to evaluate impact of training on improving coordination in a sample of U12 youth football players from football clubs in the city of Banja Luka. The experimental group consisted of 60 young footballers who, in addition to the standard training program at the club, implemented additional training program with the aim to improve movement coordination. The control group consisted of 45 boys who carried out a standard training program and did not have additional content for the development of a coordination. The aim of the study was to determine whether the training program can influence the improvement of this motor abilities in the experimental group. The results of the study showed that there was statistically significant improvement in the level of coordination only in the experimental group, while there was no improvement in the control group. The results of this research have shown that properly programmed training with additional content aimed at improving coordination can significantly influence this motoric ability and in this way create the preconditions for a better process of learning and development of young footballers.

Keywords: coordination training, youth soccer players

KONCEPTUALNO METODOLOŠKA RAZRADA PSIHOLOŠKO-SEMANTIČKE REFLEKSIVNOSTI TAKMIČARSKOG USPJEHA ŽENA U FUDBALU

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SAŽETAK:

Svi polistrukturalni sportovi, ne izuzimajući i sam ženski fudbal, isprepleteni su nizom kompleksnih tehničko-taktičkih situacijskih problema, koji imaju direktan uticaj na samu situacijsku uspješnost. Uopšteno govoreći uspješnosti u svim ovim polistrukturalnim aktivnostima, u našem slučaju i ženskom fudbalu, obuhvaćeno je niz faktora koje podrazumjeva hijarhijska formula uspješnosti ove sportske grane, a između ostalog i konativno-kognitivnim faktorima, čijem se utjecaju u igri dosada nije posvetilo dovoljno pažnje (Tanović, Krsmanović, 2010). Naime, ponašanje igračica, njihova psihološko-semantička refleksivnost, odnosno igračka inteligencija, koja nije jednostavno izvor znanja, već sredstvo upravljanja taktičko - tehničkim dejstvima, ima ključnu ulogu u konačnom uspjehu u fudbalu, a samim tim i u ženskom fudbalu. Upravo to i jeste bio osnovni problem ovog rada, da se putem naučnog i teorijskog pristupa pokuša analizirati i odgonetnuti problem situacijskog takmičarskog ponašanja i njegove povezanosti sa sveukupnom uspješnošću žena u fudbalu.

Ključne riječi: metodologija, psihološko-semantička refleksivnost, takmičarska uspješnost, žena, fudbal.

CONCEPTUAL AND METHODICAL DEVELOPMENT OF PSYCHOLOGICAL AND SEMANTIC REFLEXIVITY A COMPETITION SUCCESS OF WOMEN IN FOOTBALL

Izudin Tanović¹, Nedeljko Stanković¹

SUMMARY:

All polystructural sports, not excluding as well as the women's football, intertwined in a series of complex technical and tactical situational problems, which have a direct impact on the success in every situation. In general, success in all these polystructural activities, in our case, and women's football, is covered by a number of factors, including, the hierarchical formula of the performance this sport branch, but also the conative-cognitive factors that can influence on the game, but did not pay enough attention yet (Tanovic, Krsmanovic, 2010).

The behavior of the players, their psychological and semantic reflexivity or game intelligence, which is not just a source of knowledge, more asset management of tactical and technical operations, plays a key role in the ultimate success in football, and therefore in women's football.

Precisely, this was the basic problem of this work that through a scientific and theoretical approach analyze and try to figure out the problem of situational competitive behavior and relation to the overall success of women in football.

Key words: methodology, psychological and semantic reflexivity, competitive success, women, football.

EFEKTI TRENINGA REPETITIVNE SNAGE I FLEKSIBILNOSTI KOD MLADIH FUDBALERA UZRASTA 10-12 GODINA

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SAŽETAK:

Istraživanje uticaja treninga na poboljšanje repetitivne snage i fleksibilnosti provedeno je na uzorku mladih fudbalera uzrasta 10-12 godina članova fudbalskih klubova na teritoriji Grada Banja Luka. Eksperimentalnu grupu je sačinjavalo 60 mladih fudbalera koji su, pored standardnog programa treninga u klubu, provodili i dodatne trenažne sadržaje za razvoj repetitivne snage i fleksibilnosti. Kontrolnu grupu je činilo 45 dječaka koji su provodili standardni program treninga i nisu imali dodatne sadržaje za razvoj ovih sposobnosti. Cilj istraživanja je bio da se utvrdi da li primijenjeni program treninga za razvoj repetitivne snage i fleksibilnosti može uticati na poboljšanje ovih motoričkih sposobnosti kod eksperimentalne grupe. Rezultati istraživanja su pokazali da je došlo da statistički značajnog poboljšanja nivoa repetitivne snage i fleksibilnosti samo kod eksperimentalne grupe, dok kod kontrolne grupe nije bilo poboljšanja.

Cljučne riječi: trening repetitivne snage i fleksibilnosti, mladi fudbaleri

EFFECTS OF TRAINING OF MUSCULAR ENDURANCE AND FLEXIBILITY IN YOUTH FOOTBALL PLAYERS AGED 10 TO 12 YEARS

Nikola Ilić^{1,2}, Željko Sekulić³, Slavko
Dragosavljević⁴, Slobodan Goranović³

SUMMARY

The study was conducted with the aim to evaluate effects of training on muscular endurance and flexibility in a sample of U12 youth football players from the clubs in the city of Banja Luka. The experimental group consisted of 60 young footballers who, in addition to the standard training program at the club, implemented additional training program with the aim to improve muscular endurance and flexibility. The control group consisted of 45 boys who carried out a standard training program and did not have additional content for the improvement of these abilities. The aim of the study was to determine whether the training program for muscular endurance and flexibility can influence the improvement of these motor abilities in the experimental group. The results of the study showed that there was statistically significant improvement only in flexibility in the experimental group, while there was no improvement in the control group.

Keywords: muscular endurance and flexibility training, youth football players

UTJEČE LI KLASIČNI KOŠARKAŠKI TRENING NA AGILNOST?

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SAŽETAK:

Reaktivna agilnost ocijenjena je kao jedan od najvažnijih faktora košarkaške igre i brojna istraživanja ukazuju na važnost analiziranja (reaktivne) agilnosti. Cilj rada je analizirati promjene nastale u reaktivnoj i nereaktivnoj agilnosti u košarci nakon 2 mjeseca treniranja košarke. Kako bi se što bolje razumio kontekst predmeta istraživanja, u radu su opisani testovi nereaktivne agilnosti te potom i testovi reaktivne agilnosti. Rezultati pokazuju da primijenjena vrsta treninga ne dovodi do značajnih promjena u ni jednoj od promatranih vrsta agilnosti.

Cljučne riječi: agilnost, testiranje, košarka

WHETHER THE CLASSIC BASKETBALL TRAINING AFFECTS AGILITY?

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ABSTRACT:

Reactive agility has been assessed as one of the most important factors in the game and numerous studies point to the importance of analyzing the (reactive) agility. Aim of the paper is to analyze the changes in occurring reactive and non reactive agility in basketball after two months of training basketball. In order to better understand the context of the case studies, in paper describes

tests not reactive agility and then reactive agility test. Results show that the applied type of training does not lead to significant changes in any of the species agility.

Key words: agility, testing, basketball

AERODINAMIKA I PODEŠAVANJE JEDRILJA U NATJECATELJSKIM UVIJETIMA U KLASI LASER

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Spasić

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SAŽETAK

Razumijevanje osnovnih fizikalnih načela, kako vjetar i more utječu na jedro i trup jedrilice te na koji način se odražavaju na njeno kretanje je preduvjet za optimalno upravljanje jedrilicom. Za zadovoljavanje tih principa potrebna je adekvatna vještina podešavanja njenog jedrilja s ciljem iskoristavanja maksimalne snage vjetra i performansi jedrilice. Samom jedriličaru, ako ne radi na razvoju jedrilja, poznavanje općih fizikalnih principa je sasvim dovoljno da bi efikasno upravljao jedrilicom, stoga ulazak u dublju problematiku aerodinamike i hidrodinamike nije potreban i zasigurno nije od presudne važnosti za vrhunsku izvedbu, naročito, u klasi laser u kojoj nisu dozvoljene izmjene na trupu i jedrilju.

Cljučne riječi: jedrenje, vjetar, jedriličari

BRZINA REAKCIJE PLIVAČA NA STARTU U DISCIPLINAMA NA 50 METARA

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APSTRAKT:

Cilj ovog istraživanja je bio da utvrdi polne razlike u brzini reakcije na startu plivačkih trka u disciplinama na 50 metara. Analizirano je vreme brzine reakcije svih učesnika kvalifikacionih i finalnih trka, 425 plivača i 368 plivačica, u disciplinama na 50 metara koje su održane na svetskom prvenstvu u Budimpešti. Za obradu podataka korišćen je t-test za nezavisne uzorke. Rezultati su pokazali da postoje razlike u vremenu brzine reakcije između polova u korist muškog pola.

Ključne reči: plivanje, start, vreme reakcije, 50 m discipline

SWIMMING REACTION SPEED IN DISCIPLINE AT 50 METERS

Veljko Vukićević¹, Velimir Miličković²

ABSTRACT:

The aim of this study was to determine the full differences in the speed of the reaction at the start of swimming events in disciplines at 50 meters. The speed response time of all participants in qualifying and final races, 425 swimmers and 368 swimmers was analyzed in 50 meters disciplines held at the world championship in Budapest. Data processing was used for the t-test for independent samples. The results showed that there are differences in the time of the reaction rate between the sexes in favor of the male sex.

Keywords: swimming, start, reaction time, 50 m discipline

RELACIJE RAZLIČITIH VRSTA PLESOVA NA KOORDINACIJU U RITMU I MUZIKALNOST

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SAŽETAK:

Savremeni i sportski ples, kao koordinacijski složene vrste fizičke aktivnosti, karakterišu raznovrsni pokreti koji se izvode različitom brzinom, uz određeni muzičkim ritam i tempo. S tim u vezi, istraživanje je sprovedeno sa ciljem da se utvrde relacije različitih vrsta plesova na koordinaciju u ritmu i muzikalnost. Istraživanje je sprovedeno na uzorku 69 ispitanika ženskog pola prosečne starosti 15,2 godine, podeljenih u dve eksperimentalne i jednu kontrolnu grupu. Prvu eksperimentalnu grupu činile su plesačice sportskog plesa (N=23), dok se drugu eksperimentalnu grupu činile plesačice savremenog plesa (N=23). Kontrolnu grupu su sačinjavale učenice drugog razreda srednje škole (N=23), koje se nisu bavile ni jednom vrstom plesa. Efekti savremenog i sportskog plesa praćeni su u prostoru koordinacije u ritmu (3 varijable), a za procenu muzikalnosti primenjen je Sišor test. Dobijeni podaci obrađeni su osnovnim deskriptivnim i komparativnim statističkim procedurama. Na osnovu dobijenih rezultata može se zaključiti da različite vrste plesova imaju uticaj na koordinaciju u ritmu i muzikalnost. Naime, savremeni ples shodno prirodi plesnih struktura, u najvećoj meri ima uticaj na razvoj koordinacije u ritmu i muzikalnost, u odnosu na sportski ples, u kojima dominantnu ulogu imaju pokreti donjih ekstremiteta.

Ključne reči: plesači, savremeni ples, sportski ples.

RELATIONS OF DIFFERENT TYPES OF DANCES ON COORDINATION IN RHYTHM AND MUSICALITY

Zorana Miljkovac, Sanja Mandarić, Milinko Dabović

ABSTRACT:

As a coordination complex type of physical activity, contemporary and sporty dance are characterized by various movements that are performed at different speeds, with a certain musical rhythm and tempo. The research was conducted with the aim of determining the relation of different types of dances to coordination in rhythm and musicality. The research was conducted on a sample which consisted of 92 female subjects average age of 15.2 years, divided into two experimental and one control group. First experimental group (E1) consisted of sport dance dancers (N=23), while second experimental group (E2) consisted of contemporary dance dancers (N=23). Control group (K) consisted of the second-grade high school students (N=23), which were not engaged in any type of dance. The effects of contemporary and sport dance were monitored in the space of coordination in rhythm (3 variables), and Seashore test was used for the assessment of musicality. Gathered data were analyzed through basic descriptive and comparative statistical procedures. Based on the results, it can be concluded that different types of dances have effect on the coordination in rhythm and musicality. In the other words, according to the nature of dance structures, contemporary dance has the greatest influence on the development of coordination in rhythm and musicality in regard to sports dance in which the mobility of the lower extremities play a dominant role.

Key words: contemporary dance, dance sport, dancers

TRAJECTORY OF THE MOVEMENT - FOOT KICK AND BODY CENTER OF GRAVITY WHILE PERFORMING ASHI MAVASHI GERI

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ABSTRACT:

Due to the great application and efficiency of Ashi Mavashi Geri, the attention of the researchers is directed towards the kinematical analysis when performing the technique under certain conditions. The aim of this study is to determine and describe the trajectory of the foot movement of the karate athlete and the body's center of gravity when performing Ashi Mavashi Geri from sixteen karate fighters, in conditions when the karate athlete performs the kick in attack and when the karate athlete performs the kick in situation of diae (when attacked by an opponent). With the system for kinematic analysis (Ariel Performance Analysis System - APAS), the recorded material with three digital cameras (60 Hz) is processed according to the order of the modules from the system, and then the results of the displacement of the foot and the body center of gravity of the karate athlete in the three directions (x, y, z). Moving the foot during the execution of the technique in attack in the highest value in the vertical direction is 156.5 cm, the anthero posterior is 54 cm, while the media lateral direction is only 11 cm. Also, the center of gravity of the body in the vertical direction is mostly displaced in comparison with the other two directions. The displacement of the foot during the performance of the technique in the case of diae, the highest value in the vertical direction is 148.16 cm, the anthero posterior is

28 cm, while in the media lateral direction it is only 17.5 cm. The center of gravity according to the values is mostly displaced in the vertical direction. A statistically significant difference between the two embodiments of the technique is registered in the displacement of the foot following the antero posterior direction (Sig = 0.017), and also for the body center of the gravity the difference is significant in the vertical direction (Sig = 0.00). These differences occur because the karate athletes are striving to carry out a kick that would intercept an opponent without raising them upward.

Keywords: ashi mavashi geri, trajectory, displacement, foot, body center of gravity

DISKRIMINATIVNA ANALIZA BAZIČNIH MOTORIČKIH SPOSOBNOSTI DJECE KOJI IMAJU RAZLIČIT EKSTENZITET KINEZILOŠKIH AKTIVNOSTI

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SAŽETAK:

U cilju utvrđivanja globalnih kvantitativnih razlika motoričkih sposobnosti učenika VI do IX razreda koji imaju rezličit obim kinezioloških aktivnosti primijenjena je kanonička diskriminativna analiza u manifestnom prostoru.

Za procjenu motoričkih sposobnosti ispitanika primijenjene su varijable po programu Eurofita. Rezultati istraživanja su pokazali da je statistička značajnost izolovane diskriminativne funkcije motoričkih sposobnosti i kod inicijalnog i kod finalnog mjerenja na nivou $p < 0.01$.

Ključne riječi: kvantitativne razlike, učenici, motoričke sposobnosti, diskriminativna analiza

ANALYSIS OF SPECIFIC FOOTBALL PREPAREDNESS OF BOYS WITH INTELLECTUAL DISABILITIES

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ABSTRACT:

The aim of the present research is an analysis to be made of the current condition of the specific preparedness of children with educational needs before specialized influences by the means of the football game. Subject of the research is the physical education and sport of children with intellectual disabilities. Object of the research are the signs of specific preparedness of children with special educational needs and the impact on them by the means of the football game. Contingent of research are 11-13 year old children with special educational needs. The battery of tests (6) delivers information about the specific preparedness of the researched children with intellectual difficulties before the experiment. In the beginning of sport-pedagogic experiment significant differences between the average levels of the studied signs of all examined signs of the specific preparedness do not exist, which is a sign of propriety at the start of the experiment.

Key words: specific football preparedness, mental disability, children with special educational needs, anthropometry.

PONAŠANJA U VEZI SA ZDRAVLJEM I NASTAVA FIZIČKOG VASPITANJA U INKLUZIVNOM OBRAZOVANJU

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APSTRAKT:

Inkluzija je proces koji traje i u kojem se teži promjenama za dobrobit svih učenika u njihovom fizičkom, moralnom, intelektualnom, emocionalnom i socijalnom razvoju. Pri tom je zdravlje učenika temeljna pretpostavka tom razvoju. Na osnovu analize pojedinih zakonskih odredbi iz oblasti vaspitanja i obrazovanja (predškolsko, osnovno i srednje), te sadržaja nastavnog plana i programa za predmet Fizičko vaspitanje u osnovnoj školi, identifikovali smo ponašanja koja se odnose na brigu o zdravlju učenika u inkluzivnom obrazovanju. Zaključili smo da aktivnosti koje proizlaze iz navedenih odredbi, mogu uticati na formiranje pravilnog odnosa prema zdravlju. Sagledavanjem pedagoške stvarnosti kroz teoriju i praksu u inkluzivnim uslovima rada, do izražaja je došla višestruka uloga fizičkog vaspitanja. Procijenili smo da fizičko vaspitanje, koje je veoma važno sa aspekta odnosa prema zdravlju i samog uticaja na zdravlje učenika, ima značajnu ulogu u pravilnom formiranju ličnosti učenika, a posebno u socijalizaciji učenika sa smetnjama u razvoju.

Ključne riječi: zdravlje, fizičko vaspitanje, inkluzivno obrazovanje

HEALTH BEHAVIORS AND TEACHING OF PHYSICAL EDUCATION IN INCLUSIVE EDUCATION

Gordana Dukic

ABSTRACT:

Inclusion is a process that takes place and strives for changes for the benefit of all students in their physical, moral, intellectual, emotional and social development. At the same time, student health is a fundamental precondition for this development. Based on the analysis of certain legal provisions in the area of education and training (pre-school, primary and secondary school), and based on contents of the curriculum for the subject of Physical education in primary school, we identified behaviors related to care of students' health in inclusive education. We concluded that the activities that result from the above provisions can influence the formation of a proper attitude towards health. By observing the pedagogical reality through theory and practice in conditions of inclusive work, multiple roles of physical education have been emphasized. We have estimated that physical education, which is very important from the point of view regarding attitude towards health, and the effect itself on the health of the student, plays a significant role in the proper formation of the student's personality, especially in the socialization of disabled students.

Key words: health, physical education, inclusive education.

OBJEKTIVNOST PROCJENE DEFORMITETA KRALJEŽNICE KOD UČENIKA NIŽIH RAZREDA OSNOVNE ŠKOLE

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OBJECTIVITY IN ASSESSING SPINE DEFORMITIES IN CHILDREN OF LOWER GRADES OF PRIMARY SCHOOL

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ABSTRACT:

On the sample of 110 respondents aged 11 and 12 in primary school, a research was conducted to determine the objectivity in the assessment of poor body posture using the method of N. Wolanski (Napoleon Wolański) by independent evaluators, professors of physical education. Six variables of poor body posture were analyzed: head posture, shoulder posture, scoliotic posture, chest posture, abdominal support, and shoulder blades posture. Using the method and the main component, a very high correlation was established among evaluators for all 6 body variables ranging from .873 in scoliotic posture variable VOSKO to .962 in abdominal posture VODRTR. In other tests, the correlation between the estimators ranged between these correlations, which indicates a very high degree of concordance in assessing poor posture and deformity. Using matrix factorization in all 6 tests, one specific root was isolated whose values ranged from .938 for VODGK variable of chest posture to .966 for VODRLO variable of shoulder blade posture. All other variables had a characteristic

root ranging among these values. Through the matrix structure, we obtained a very high agreement of all the evaluators with one main component. Assessors are very well trained for this type of assessment and this method has proven to be efficient and applicable in the school system.

Key words: objectivity, body deformities, N. Wolanski method

MORFOLOŠKE I MOTORIČKE KARAKTERISTIKE SPORTISTA I NESPORTISTA MLAĐEG ŠKOLSKOG UZRASTA

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Subotica

SAŽETAK:

Cilj ovog istraživanja je da se utvrdi uticaj sistemskog bavljenja sportom na morfološke karakteristike i motoričke sposobnosti učenika mlađeg školskog uzrasta. Uzorak u ovom istraživanju je ukupno 57 učenika prvog do četvrtog razreda osnovne škole: 25 sportista (atletika 5, mini-basket 12, rvanje 4, fudbal 3, plivanje 1), prosečnog uzrasta $8,52 \pm 1,13$ godina 32 nesportista prosečnog uzrasta $8,59 \pm 1,14$ godina. Prikazane su morfološke karakteristike i motoričke sposobnosti učenika koji su podvrgnuti određenom uticaju treninga u navedenim sportovima i motoričke sposobnosti i morfološke karakteristike učenika mlađeg školskog uzrasta koji nisu u trnažnom procesu označeni kao nesportisti. Posmatrane su 3 varijable za procenu morfoloških karakteristika i 5 varijabli za procenu motoričkih sposobnosti. Za testiranje razlika aritmetičkih sredina između grupa u pojedinačnim varijablama koristići se dvosmerni T – test za male nezavisne uzorke.

Gljučne reči: trening, sport, učenici, nesportisti, fizičko vaspitanje

SUMMARY

The aim of this research is to determine the in-

fluence of systematic sports activities on morphological characteristics and motor skills of pupils of young school age. The sample in this exercise consisted of 25 athletes (athletics 5, mini-basket 12, wrestling 4, football 3, swimming 1), the average age of 8.52 years 32 non-adults of the average age 8.59 years. The morphological characteristics and motor skills of students who are subjected to a certain influence of training in these sports and morphological characteristics and motor skills of pupils of young school age who are not in the training process are marked as non-sportsmen. Three variables were evaluated for the evaluation of morphological characteristics and 5 variables for assessment of motor abilities. To test the differences in arithmetic meanings between groups in individual variables, a two-way T-test for small independent samples will be used.

Keywords: training / sport / students / non-sportists / physical education

EFIKASNOST INKLUZIVNE NASTAVE TJELESNOG ODGOJA U PROCESU ADAPTACIJE NA KRETANJE U VODU ZA DJECU S DOWN SINDROMOM

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APSTRAKT:

Neosporna je činjenica da bi uključivanje djece s teškoćama u razvoju u redovni odgojno-obrazovni proces predstavljalo dobru osnovu i preduslov za njihovu integraciju u društvo. Shodno tome, cilj ovog istraživanja bio je utvrditi efikasnost inkluzivne nastave tjelesnog odgoja u procesu adaptacije na kretanje i vježbanje u vodi za djecu s Down sindromom. Istraživanje je provedeno na uzorku od 8 učenika sa teškoćama u psihomotornom razvoju (Down sindrom). Ispitanici su bili uključeni u inkluzivnu nastavu kroz redovni program osnovoškolskog obrazovanja (4 djevoj-

čice i 4 dječaka), dobi 9 ± 0.6 godina. Za procjenu nivoa prilagođenosti na vodu korišteno je sedam varijabli. Za analizu rezultata inicijalnog i finalnog testiranja korišten je t-test za zavisne uzorke. Analiza rezultata t-testa za zavisne uzorke, ukazuje na visok nivo statističke značajnosti u svim varijablama: samostalan ulazak u vodu ($SUV < .000$); gnjuranje pod vodu ($GRO < .001$); transverzalna rotacija ($TRO < .000$); longitudinalna rotacija ($LRO < .001$); sagitalna rotacija ($SLO < .000$); plutanje na stomaku ($PNS < .001$); skok na noge ($SNG < .000$). Na osnovu rezultata istraživanja, može se zaključiti da je primjenjeni program imao znatnog efekta na sve ispitanike, kako u poboljšanje psihološke adaptacije na boravak u plivalištu i njihovu socijalizaciju, tako na poboljšanje osnovnih kretnih elemenata u vodi.

Ključne riječi: plivanje, edukacija, školski sport

EFFICIENCY OF INCLUSIVE PHYSICAL EDUCATION IN THE PROCESS OF ADAPTATION TO WATER MOVEMENT FOR CHILDREN WITH DOWN SYNDROME

Aldvin Torlaković¹, Roman Kebat¹

ABSTRACT:

It is definitely the fact that involving children with disabilities in the regular educational process would represent a good basis and a prerequisite for their integration into society. The aim of this study was to determine the effectiveness of inclusive physical education in the process of adaptation to movement and exercise in water for children with Down syndrome. Research was done on the sample of 8 pupils with disabilities in psychomotor development (Down syndrome). The participants were involved in inclusive teaching within elementary schools (4 girls and 4 boys), age 9 ± 0.6 years. For the purpose of evaluation of the water adaptation level, seven variables have been used. A paired samples t-test was used for

the analysis of the results of the initial and final test. Results of the t-test indicate statistically significant changes in all applied variables after the implementation of the programme: SUV – entering the water on its own ($p < .000$); GRO – snorkelling under the water ($p < .001$); TRO – transverse rotation ($p < .000$); LRO – longitudinal rotation ($p < .001$); SLO – sagittal rotation ($p < .000$); PNS – floating on a belly ($p < .001$); NSG – feet jump into water ($p < .000$). Based on the results of the research, it can be concluded that the applied program had a significant effect on all respondents, both in improving the psychological adaptation to stay in the water (swimming pool), their socialization, and improving the basic elements movement in the water.

NEKA SPECIFIČNA OGRANIČENJA KOD TJELESNOG VJEŽBANJA OSOBA S POSEBNIM POTREBAMA

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ABSTRAKT:

Osobe s posebnim potrebama suočavaju se sa specifičnim ograničenjima koje onemogućavaju njihovo participiranje u programima tjelesnog vježbanja. U ovom radu osvrnuli smo se na neka od tih ograničenja, a kako bi se ista efikasnije uklonila. Pokušalo se identificirati i diskutirati tri najčešća ograničenja s kojima se suočava ova populacija. Prva grupa ograničenja vezana je za fizičke prepreke, druga za osobne stavove, a treća za uvjete rada. Profesionalci u području sporta i rekreacije trebali bi se upoznati s prepoznatim ograničenjima kako bi pronašli načine da se iste otklone, te kako bi okruženje u kojem se vježba bilo pristupačnije osobama s posebnim potrebama.

Ključne riječi: vježbanje, osobe s posebnim potrebama, ograničenja

SOME SPECIFIC BARRIERS OF PHYSICAL EXERCISING AMONG PEOPLE WITH SPECIAL NEEDS

Nataša Zenić¹, Mia Perić¹

ABSTRACT:

People with special needs often face specific barriers that restrict participation in a physical exercising. This article seeks to create awareness about obstacles that prevent individuals with special needs from participation in physical exercise. Also, this article tries to identify and discuss three of the most common barriers this populations face when participating in a fitness setting. The first group of barriers is related to physical accessibility, the second one to attitudinal barriers, and the third one is named as resource-related barriers. Fitness professional experts should identify the barriers and seek to create an exercise environment that is more welcoming and desirable for people with special needs

Key words: physical exercising, persons with special needs, barriers

ANALIZA KVANTITATIVNIH PROMJENA POKAZATELJA MOTORIČKIH ZNANJA UČENIKA SREDNJE ŠKOLE POD UTICAJEM REDOVNE NASTAVE TJELESNOG ODGOJA

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SAŽETAK:

Istraživanje je provedeno na uzorku ispitanika koji je obuhvatio 166 učenika „Mješovite srednje tehničke škole“ I. i II. razreda muškog spola iz Travnika koji su u toku školske 2016/2017 godine redovno pohađali nastavu tjelesnog odgoja. U istraživanju je primijenjeno ukupno 15 varijabli za procjenu nivoa usvojenosti motoričkih znanja (po tri varijable za procjenu motoričkih znanja košarke, odbojke, rukometa, odbojke i atletike).

Osnovni cilj istraživanja bio je da se longitudinalnom studijom u trajanju jedne školske godine utvrde kvantitativne promjene motoričkih znanja učenika srednje škole pod uticajem programskih sadržaja redovne nastave tjelesnog odgoja.

Kvantitativne promjene motoričkih znanja i analiza razlika između inicijalnog i finalnog mjerenja utvrđeni su analizom promjena pod modelom razlika i SSDIF analizom (Bonacin, 2004). Projekcijom podataka mjerenja defininisana je hipotetska matrica mjerenja, a eksplicacijom skupa linearnih pomaka na matricu asocijacije dolazi do strukturnog vektora koji opisuje kvantitativne promjene, uvažavajući relacije inicijalnih varijabli. Rezultati SSDIF analize ukazuju da je jednogodišnji nastavni program tjelesnog odgoja izazvao statistički značajne promjene motoričkih znanja na globalnom nivou ($p = 0.000$).

Prema dobijenim rezultatima kvantitativne globalne promjene su ne sumnjivo značajne i protežu se preko cijelog skupa analiziranih varijabli. Veći je broj varijabli koje doprinose tim kvantitativnim

promjenama, ali su doprinosi pojedinih varijabli diskriminativnoj funkciji relativno mali, što znači da su nastali efekti blagi, bez dramatičnih promjena i u njima pozitivno učestvuju gotovo sve varijable.

Ključne riječi: kvantitativne promjene, motorička znanja, tjelesni odgoj

ANALYSIS OF QUANTITATIVE CHANGE OF MOTOR CHILD INDICATORS OF SECONDARY SCHOOL STUDENTS UNDER THE INFLUENCE OF REGULAR PHYSICAL TEACHING EDUCATION

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ABSTRACT:

The research was conducted on a sample of 166 students of „Secondary Technical School Travnik “ first and second male class who regularly attended elementary education during the 2016/2017 school year. A total of 15 variables were used in the research to assess the level of motor skills (three variables for assessing the motor skills of basketball, volleyball, handball, volleyball and athletics).

The main aim of the research was to determine the quantitative changes of the motor skills of secondary school students through the longitudinal study in one school year duration under the influence of the program contents of regular physical education.

Quantitative changes in motor skills and analysis of differences between initial and final measurements were determined by analysis of changes under the difference model and SSDIF analysis (Bonacin, 2004). By projecting measurement data, a hypothetical measurement matrix is defined, and by explicating the set of linear displace-

ments on the association matrix, a structural vector is described describing quantitative changes, taking into account the relations of initial variables.

The results of the SSDIF analysis indicate that a one-year curriculum of physical education has caused statistically significant changes in motor skills at the global level ($p = 0.000$).

According to the results of the quantitative global changes, they are not suspectly significant and extend across a whole set of analyzed variables. The greater the number of variables that contribute to these quantitative changes, but the contributions of some variables to the discriminating function are relatively small, which means that the effects produced are mild, without dramatic changes, and virtually all variables contribute positively.

Keywords: quantitative changes, motor skills, physical education

UTICAJ ZAGAĐENJA VAZDUHA NA ZDRAVLJE STANOVNIŠTVA U GRADU TUZLA

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ABSTRAKT:

Zagađenje vazduha se smatra značajnim rizikom po zdravlje stanovništva. Materije koje zagađuju životnu sredinu nanose veliku štetu ljudima i drugim živim bićima. Zagađenje nastalo sagorijevanjem fosilnih goriva predstavlja primarnu prijetnju po zdravlje. Istraživanja provedena zadnjih deset godina su pokazala da se veliki dio oboljenja i smrtnih slučajeva može povezati sa zagađenjem vazduha.

Zagađenje vazduha na području Grada Tuzla je dugogodišnji problem i predstavlja značajan rizik po zdravlje stanovništva. Rezultati monitoringa

potvrđuju prisustvo štetnih materija u koncentracijama većim od graničnih. U zimskim mjesecima su izmjerene alarmantne koncentracije zagađujućih materija. Nadležne institucije nemaju jasnu strategiju preventivnog djelovanja u zaštiti građanstva.

Ključne riječi: zagađenje vazduha, zdravlje stanovništva, monitoring.

EFFECT OF AIR POLLUTION ON POPULATION HEALTH IN THE CITY OF TUZLA

Veljko Đukić¹, Denisa Kulanić¹, Ognjen Đukić²

ABSTRACT:

Air pollution is considered a significant risk to the health of the population. Substances that pollute the environment cause great damage to people and other living beings. Pollution caused by combustion of fossil fuels represents a primary health threat. Research conducted last ten years have shown that a large part of diseases and deaths can be linked to air pollution.

Air pollution in the City of Tuzla is a long-standing problem and represents a significant risk to the health of the population. Monitoring results confirm the presence of harmful substances in concentrations greater than the limit. In winter months, alarming concentrations of pollutants were measured. Relevant institutions have no clear strategy of preventive action to protect the citizens.

Key words: air pollution, population health, monitoring.

OD POČETNIKA DO OLIMPIJCA – STRATEŠKIM PLANIRANJEM SPORTKOG REZULTATA DO TOKIJA 2020

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SAŽETAK:

Nekada je grad Tuzla bio najsportskiji grad u EX-Jugoslaviji, čiji su sportisti bili učesnici Olimpijskih igara, Svjetskih i Evropskih prvenstava, Mediteranskih igara, Balkanskih prvenstava. Iz grada Tuzle su sportisti Stoljeca u Bosni i Hercegovini, košarkaš Mirza Delibašić i košarkašica Razija Mujanović. Evropske prvakinje u košarci bile su košarkašice KK "Jedinstvo" iz Tuzle, Dvoranski atletski prvak Evrope u bacanju kugle bio je Zlatan Saračević. Na Olimpijskim igrama nastupilo je 13 sportista iz grada Tuzle. Prvi olimpijca iz Tuzle je Vinko Galušić koji je 1976. godine nastupao na Olimpijskim igrama u Montrealu, i od tada grad Tuzla je imao učesnike olimpijskih igara, sve do 2016. godine, kada se se desilo da na Olimpijskim igrama u Rio de Genairu, nemamo niti jednog sportiste iz našeg grada. Od 13 olimpijaca, koliko je nastupalo iz Tuzle, čak 6 olimpijaca bili su članovi AK "Sloboda-Tehnograd. Veliki broj bosanskohercegovačkih atletičara-ki ostvaruje vrhunske rezultate u mladim uzrasnim kategorijama, gdje ispunjavaju norme za nastupe na međunarodnim takmičenjima. Nažalost, prelaskom u seniorske kategorije mnogi atletičari prestaju da se bave atletikom, Naši perspektivni sportisti i pored određenog napretka najčešće ne ostvaruju dugoročno zacrtane ciljeve, odnosno rezultate koji ih kvalifikuju za zvanična međunarodna takmičenja, te na onima na kojima učestvuju, rijetko postižu očekivane rezultate. Ocjena je da je to posljedica niza faktora, a prije svega: neadekvatnog nivoa stručne osposobljenosti trenera, neadekvatne i ugovorno neregulirane stimulacije stručnog kadra, nepostojanja timskog rada (trener, ljekar, psiholog, fizioterapeut, nutricionista), neadekvatnog broja dana priprema van mjesta boravka, nedovoljnog broja nastupa na međunarodnim takmičenjima.

Da bi naši atletičari ostvarili norme za nastup na Ljetnim olimpijskim igrama koje će se 2020. godine održati u Tokiju, Stručni Tim AK „Sloboda-Tehnograd“ je pravilnom selekcijom i dugogodišnjim strateškim planiranjem stvorio novog potencijalnog olimpijskog kandidata za nastup u Tokiju 2020. Rusmir Malkočević, takmičar u disciplini 400 m prepone je na osnovu ostvarenih dosadašnjih rezultata među potencijalnim kandidatima za nastup na Ljetnim olimpijskim igrama u Tokiju

Ključne riječi: strateški plan, selekcija, atletski trening, vrhunski rezultat, Olimpijske gre,

FROM STARTS TO OLYMPIA - STRATEGIC PLANNING OF SPORT RESULTS TO TOKYO 2022

Kada Delić-Selimović, Velimir Vukajlović

SUMMARY:

The city of Tuzla once was the most sporting city in ex-Yugoslavia, whose athletes were participants of the Olympic Games, World and European Championships, Mediterranean Games, Balkan Championships. From the city of Tuzla are Athletes of the Century in Bosnia and Herzegovina, basketball player Mirza Delibašić and basketball player Razija Mujanović. European champions in basketball were basketball players of KK "Jedinstvo" from Tuzla, the European athletics champion in the throwing of the ball was Zlatan Saračević. At the Olympics, 13 athletes from the city of Tuzla participated. The first Olympic athlete from Tuzla is Vinko Galusic, who played at the Olympic Games in Montreal in 1976, and since then the city of Tuzla has participated in the Olympic Games, until 2016, when it happened that at the Olympic Games in Rio de Genair, we have no Not an athlete from our city. Of the 13 Olympic men, from Tuzla, as many as 6 Olympic men were members of AK "Sloboda-Tehnograd". A large number of athletes from Bosnia and Herzegovina, who achieve top results in younger age

categories, where they meet standards for international competitions. Unfortunately, by switching to senior categories, many athletes cease to deal with athletics, and our prospective athletes, despite some progress, do not usually achieve long-term goals, that is, the results that qualify them for official international competitions, and those who participate in them rarely achieve the expected results. The assessment is that this is a consequence of a number of factors, and above all: inadequate level of professional competence of the trainer, inadequate and contractually unregulated stimulation of professional staff, lack of team work (trainer, doctor, psychologist, physiotherapist, nutritionist), inadequate number of days of preparation outside the place of residence, insufficient number of appearances in international competitions.

In order for our athletes to achieve the standards for participation in the Summer Olympics that will be held in Tokyo in 2020, the Professional Team AK "Sloboda-Tehnograd" has created a new potential Olympic candidate for the Tokyo 2020 show by correct selection and long-term strategic planning.

Key words: strategic plan, selection, athletic training, top score, Olympic Games

PROCJENA ZDRAVSTVENE PISMENOSTI SPORTISTA U PRIJEDORSKIM SPORTSKIM KOLEKTIVIMA

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SAŽETAK:

Cilj ovog rada jeste da se da utvrdi nivo zdravstvene pismenosti sportista iz prijedorskih sportskih kolektiva, kroz upućenost, znanja i stavove sportista o zdravstvenom ponašanju. Istraživanje je sprovedeno tokom novembra i decembra 2017 godine, putem Upitnika, kod 255 sportista u sedam sportskih disciplina. Nezadovoljavajući

nivo zdravstvene pismenosti sportisti su iskazali iz oblasti zdravstvene zaštite sportista, dok su odličan nivo zdravstvene pismenosti pokazali iz oblasti prehrane sportista, dopinga kao i korištenja suplemenata. Rezultati ovog istraživanja pokazuju pozitivan nivo zdravstvene pismenosti sportista nekih od prijedorskih sportskih kolektiva ali i potrebu za edukacijom u onim oblastima u kojima je nivo njihove zdravstvene pismenosti bio nezadovoljavajući.

Ključne riječi: sportista, zdravlje, stavovi, zdravstvena pismenost

SUMMARY

The aim of this paper is to determine the level of medical literacy of Athletes from Prijedor sports clubs, through the knowledge, attitudes and attitudes of athletes about health behavior. The research was conducted in November and December 2017, through the Questionnaire, with 255 athletes in seven sports disciplines. At unsatisfactory level of health literacy athletes have expressed in the field of health care of athletes, while excellent level of health literacy has been shown in the field of nutrition of athletes, doping and the use of supplements. The results of this research show a positive level of medical literacy of athletes of some of the Prijedor sports clubs, as well as the need for education in those areas where the level of their medical literacy was unsatisfactory.

Key words: athletes, health, attitudes, health literacy

PROTEINI U ISHRANI SPORTISTA I ADOLESCENATA MLAĐEG ŠKOLSKOG UZRASTA

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REZIME:

Proteini su nezamenljivi sastojci u ishrani sportista. Njihova uloga je veoma važna kako za rezultate tako i za pravilno funkcionisanje organizma. Oni su izgrađeni od amino-kiselina i u organizmu učestvuju u izgradnji tkiva, hormona, enzima... Osnovna jedinjenja koja čine amono-kiseline-esencijalne i neesencijalne. Esencijalne amino-kiseline se ne sintetišu u organizmu te se moraju unositi hranom, jer učestvuju u izgradnji neophodnih sastojaka za ljudski organizam (20 amino-kiselina od kojih je osam esencijalno). Jedno od čestih pitanja je: šta uzeti od suplemenata za poboljšanje performansi i viši nivo energije? Na prvom mestu bi istakli da treba uzeti u obzir cilj i aktivnost o kojoj je reč - suplementacija za jednog bodibildera i trkača maratonca ne može biti ista. Drugo, treba slušati svoje telo i ako konstantno osećate umor, to je signal koji Vaš organizam šalje da Vam je potreban odmor i ne treba ga ignorisati. Treće, sa suplementima koji imaju stimulatívno dejstvo treba biti umeren i ne preterivati sa dozama. U svakom slučaju, u pitanju su suplementi koji su provereni i nisu opasni za zdravlje, ali ukoliko se pretera sa njima mogu imati neželjena dejstva. Mnogi vežbači posežu za energetskim napicima. Ovi napici sadrže uglavnom veće količine kofeina i taurina, ali i često veliku količinu šećera. Obično deluju brzo i „naglo“, ali vas drže budnim i donekle mogu poboljšati performanse. Ako konzumirate energetske napitke, budite umereni i obratite pažnju na

sadržaj šećera. Ukoliko ste na dijeti imaćete samo bespotreban dodatni broj kalorija. **Ugljeni hidrati i masti** se smatraju glavnim izvorom energije za fizičko vežbanje, a unos je veoma bitan u ovakvim slučajevima. Tema ovog koautorskog rada je proteini u ishrani dece, koja se bave aktivno sportom. Predstavićemo rezultate ranijih i sadašnjih istraživanja o unosu proteina u ishrani dece sportista mlađeg školskog uzrasta i adolescenata.

KLjučne reči: sport, mladi sportisti, adolescenti, ishrana, protein, biohemija, ekologija čoveka

PROTEIN DIET AND ADOLESCENT ATHLETES OF YOUNGER SCHOOL AGE

Rade Biočanin¹, Tanja Milešević², Zdravko Aničić³

SUMMARY:

The proteins are indispensable ingredients in the diet of athletes. Their role is very important in order for the results and for the proper functioning of the body. They are composed of amino acids in the body part in the construction of tissue, hormones, enzymes... Basic compounds, which consists of amino acids in non-essential and nonessential. Essential amino acids are not synthesized in the organism and have to be taken in with food, because of better, part of the necessary ingredients for the human body (20 amino acids, of which eight essential). One of the most common questions is: what is taken from the supplements for improved performance and a higher level of energy? On the first point i would highlight the need to take into account the objective of the activity concerned - supplements for bodybuilders and a marathon runner can not be the same. Secondly, we should listen to your body and if you are constantly feeling tired, it's a signal that your body sends you need a break and should not be ignored. Third, with supplements that have a stimulating effect should be moderate and not overdo it with the doses. In any case, these are supplements that have been tested and

are not hazardous to health, but if you overdo it with them can have side effects. Many practitioners reach for energy drinks. These drinks usually contain large amounts of caffeine and taurine, but also often a large amount of sugar. Usually act quickly and "abruptly", or keep you awake and to some extent may improve performance. If you consume energy drinks, be moderate and pay attention to the sugar content. If you are on a diet, you will have only an unnecessary extra calories. Carbohydrates and fats are considered the main source of energy for physical exercise, and intake is very important in these slučajevima. Tema of this paper is co-authored protein in the diet of children, who are actively involved in sports. We will present the results of previous and current research on the protein intake in the diet of children athletes younger school children and adolescents.

Key words: sport, young athletes, adolescents, nutrition, protein, biochemistry, ecology of man

INVESTICIJE I EKONOMIČNOST GRADNJE SPORTSKIH OBJEKATA ZA MEĐUNARODNE SPORTSKE MANIFESTACIJE

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REZIME:

Sportski objekat je građevina, odnosno prostor (građevinski objekat, odnosno deo ili uređena površina), namenjen sportskim aktivnostima, koji ima prateći prostor (sanitarni, garderobni, spremišni, gledališni) i ugrađenu opremu (građevinsku i sportsku). Sport nije sam sebi cilj, on je sredstvo obrazovanja, vaspitanja, zabave, mode, statusnog simbola, egzistencije i biznisa. Svaki sportski događaj je je ekonomski, prostorno, vre-

menski i kadrovski determinisan. Ima određen početak, trajanje, precizno definisane termine i sam završetak događaja. Završetak sportskog događaja najčešće predstavlja njegov vrhunac i podrazumeva posebnu ceremoniju zatvaranja manifestacije, ali i trenutak za najavu nove. U sportu je svaki završetak sportskog nadmetanja ujedno i početak novog izazov za države-učesnice brojnih sportskih manifestacija na planeti Zemlji. Veliki sportski događaji podrazumevaju najveće svetske manifestacije koje su definisane brojem takmičara i posetilaca, ostvarenim prihodom i psihološkom odrednicom – događaj koji se mora videti ili događaj koji se ne može propustiti. Sportska nadmetanja, rezultati, podvizi i spektakli su inspirisali autore ovog naučno-stručnog rada, da predstave svoja mišljenja, interesovanja, zapažanja i istraživanja na velike investicije, ekonomske instrumente i moć država-organizatora velikih takmičenja, da ostvare svoje grandiozne ciljeve, posebno u narednom period (Rusija, Katar). Naravno, autori ovog rada očekuje aktivnost ostalih učesnika naučnog skupa, koliko se oni slažu sa ovim razmišljanjima, ocenama i procenama.

ključne reči: sportski objekti, investicije, sportska nadmetanja, ekonomska isplativost, eko-bezbednost, održivost obekata

INVESTMENTS AND COST OF CONSTRUCTION OF SPORTS FACILITIES FOR INTERNATIONAL SPORTS EVENTS

Olgica Nestorović¹, Admir Muslija², Edisa Brničanin³, Rade Biočanin¹

ABSTRACT:

The sports facility is a building or space (building structure or part or decorated surfaces), for sports activities, which has a trailing space (sanitary, dressing, storage, auditorium) and installed equipment (construction and sports). Sport is not an end in itself, it is a means of education, education, entertainment, fashion, status sym-

bols, livelihood and business. Each sporting event is the economic, spatial, temporal and personnel determined. It has a definite beginning, duration, precisely defined terms and the very end of the event. Completion sporting event usually presents its peak and includes a special closing ceremony of the event, but also a moment for the announcement of the new. In sports, the completion of each sports competition also marked the beginning of a new challenge for the countries-participants of numerous sporting events on the planet Earth. Large sporting events include the world's largest events that have defined the number of participants and visitors, revenues and psychological determinants - an event that has to be seen or an event not to be missed. Sporting events, results, accomplishments and spectacles inspired the authors of this scientific and professional work, to present their opinions, interests, observations and research on major investments, economic instruments and the power of state-organizers of major competitions, to realize their grandiose goals, particularly in the following period (Russia, Qatar). Of course, the authors of this work are expected activity of other participants of the scientific conference, how much they agree with these opinions, expectations and assessments.

Key words: sports facilities, investments, sporting events, economic viability, ecological security, sustainability of buildings are located

MENADŽERSKE ULOGE I USPJEŠNOST MENADŽERA U SPORTU

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SAŽETAK

Cilj ovog istraživanja je utvrđivanja menadžerskih uloga i predispozicija za uspješnost obavljanja menadžerskih poslova u sportu. Istraživanje je provedeno na uzorku od 120 rukovodilaca sportskih klubova sa teritorije Tuzlanskog kantona i Brčko distrikta. Uzorak od 20 varijabli je izvučen iz upitnika „Imaš li predispozicije da budeš menadžer?“. Rezultati istraživanja pokazuju da 31 ispitanik posjeduje mnoge vještine i sposobnosti koje su potrebne uspješnom menadžeru, 63 ispitanika posjeduju neke od vještina i sposobnosti za uspješno upravljanje i 26 ispitanika ne posjeduju adekvatne vještine i sposobnosti za uspješno upravljanje drugima.

Očigledno je da ispitanici koji žele da uspješno upravljaju treba da obrate pažnju na menadžerske vještine i tehnike u kojima se osjećaju najslabijim. Logično je da različiti nivoi menadžmenta imaju potrebu za različitim nivoima datih vještina i znanja. Na nižim nivoima menadžmenta izražena je potreba za većim nivoom tehničkih znanja. Činjenica je da top – menadžeri, za razliku od menadžera na nižim organizacionim nivoima, moraju posjedovati visoku sposobnost konceptualnog promišljanja zasnovanu na visokom stepenu kreacije i imaginacije. Riječ je o osobinama i vještinama koje se ne mogu steći kroz edukacijski proces.

Ključne riječi: menadžeri, vještine, sposobnosti, upravljanje, uspješnost

MENAGERIAL ROLES AND THE SUCCESS OF A MENAGER IN THE SPORT

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SUMMARY:

The aim of this research is determining the managerial role and predisposition for successful performance of managerial jobs in sports. The study was conducted on a sample of 120 managers of sports clubs in Tuzla canton and Brcko District. A sample of 20 variables is drawn from the survey "Do you have the potential to be a manager?". Survey results showed that 31 respondents possess many skills and abilities that are required for a successful manager, 63 respondents have some of the skills and abilities to successfully manage and 26 respondents do not possess adequate skills and the ability to successfully manage others.

It is obvious that respondents who want to successfully manage the need to pay attention to the managerial skills and techniques in which they feel the weakest.

It is logical that different levels of management with the need for different levels of given skills and knowledge. At lower levels of management pronounced the need for a higher level of technical knowledge. The fact that the top - managers, in contrast to managers at lower levels of the organization, must have a high ability of conceptual thinking based on a high degree of creation and imagination. It is the qualities and skills that can not be acquired through the educational process.

Keywords: managers, skills, abilities, management, success.

PROSPEKTIVNA ANALIZA POVEZANOSTI SPORTSKIH FAKTORA I PUŠENJA KOD ADOLESCENATA

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ABSTRAKT:

Ovo istraživanje je prospektivno ispitivalo povezanost sportskih faktora i pušenja kod starijih adolescenata. Dvogodišnja kohortna studija uključivala je 645 adolescenata u dobi od 16-18 godina (46% žena). Početno testiranje provedeno je na početku trećeg razreda srednje škole (2014. godine) kad su ispitanici imali 16 godina. Sljedeće testiranje je provedeno je 20 mjeseci kasnije, na kraju njihovog četvrtog razreda. Testirane prediktorske varijable bile su vezane za bavljenje sportom i sportske rezultate (četiri varijable). Kriterijske varijable su bile (i) pušenje na početku istraživanja, (ii) pušenje na kraju istraživanja, (iii) početak pušenja za vrijeme trajanja studije. Regresijskom logističkom analizom su procijenjene povezanosti između prediktorskih i kriterijskih varijabli. Kod adolescenata koji su u toj dobi već odustali od sporta postoji veća vjerojatnost da će biti pušači, kako na početku, tako i na kraju promatranog razdoblja. Međutim, natjecateljski uspjeh se, na početku dvogodišnjeg istraživanja, pokazao kao protektivni faktor kad je u pitanju početak pušenja u starijoj adolescentskoj dobi. Obzirom na kritičnu dob ispitanika, rezultati ove studije mogli bi se koristiti u kampanjama protiv pušenja među starijim adolescentima.

Ključne riječi: cigarete, sport, pubertet

PROSPECTIVE ANALYSIS OF THE RELATIONSHIP BETWEEN SPORT FACTORS AND SMOKING IN ADOLESCENTS

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ABSTRACT:

This study aimed to prospectively examine the associations between sport factors and smoking in 16- to 18-year-old adolescents. This 2-year prospective cohort study included 645 adolescents who were 16 years of age at baseline (46% females). Baseline testing was implemented at the beginning of the 3rd year of high school (September 2014) when participants were 16 years old. Follow-up testing was completed at the end of the 4th year of high school, which occurred 20 months later. The evaluated predictor variables were variables examining sport-participation and results (four variables). The outcome variables were (i) smoking at baseline, (ii) smoking at follow-up, and (iii) smoking initiation over the course of the study. We assessed the associations between predictors and outcomes using logistic regression models adjusted for age, gender, socioeconomic status, and conflict with parents. Adolescents who reported quitting sports were at greater odds of being smokers at baseline and follow-up. Sport competitive achievement at baseline was protective against smoking initiation during following two-year period. Sport achievement was identified as a significant protective factor against initiating smoking in older adolescents. Results should be used in development of anti-smoking preventive campaign in older adolescent.

Key words: cigarettes, sport, puberty

UČESTALOST SPECIFIČNIH NAVIKA ISPITANIKA PRIJE I NAKON POSTAVLJANJA DIJAGNOZE ISHEMIJSKE BOLESTI SRCA

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APSTRAKT:

Uvod. Ishemija miokarda, patofiziološki supstrat ishemijske bolesti srca, nastaje usljed neadekvatnog odnosa potrebe i snabdjevenosti miokarda krvlju. Etiopatogeneza ishemijske bolesti srca još uvijek nije u potpunosti razjašnjena zbog čega se govori o faktorima rizika koji predisponiraju određene osobe/populaciju da oboli od ishemijske bolesti srca sa većom učestalošću nego populacija koja nije izložena istim faktorima rizika. Cilj rada bio je da utvrdi uticaj specifičnih navika (pušenje, alkohol, fizička aktivnost, ishrana) na pojavu ishemijske bolesti srca i zastupljenost navedenih navika kod oboljelih od ishemijske bolesti srca prilikom postavljanja dijagnoze i nakon savjetovane promjene životnog stila.

Materijal i metode. Istraživanje je retrospektivno-prospektivna analiza prisustva specifičnih navika prije i nakon kardiovaskularnog događaja. Uzorak za istraživanje čini 107 pacijenata oboljelih od ishemijske bolesti srca. Svi pacijenti popunili su strukturisani upitnik koji obuhvata pitanja vezana za socio-demografske karakteristike (dob, mjesto stanovanja), specifične navike (pušenje, konzumacija alkohola, fizička aktivnost), navike u ishrani (broj obroka, zastupljenost određenih grupa namirnica).

Rezultati. Od specifičnih navika na ispitivanom uzorku prije kardiovaskularnog događaja najčešće su zastupljeni umjerena konzumacija alkohola kod 59 (55,1%) žena i 52 (48,6%) muškarca, neadekvatne navike u ishrani kod 68 (63,3%) i pušenje kod 35 (32,7%) pacijenata oba pola. Na-

kon kardiovaskularnog događaja i dalje je u visokom procentu zastupljena umjerena konzumacija alkohola i to kod osoba muškog pola 51 (47,7%) i neadekvatna ishrana kod 43 (40,2%) pacijenta oba pola. Prije kardiovaskularnog događaja umjereni fizički aktivnost imao je 81 (75,7%) pacijent, a nakon kardiovaskularnog događaja 90 (84,1%) pacijenata.

Zaključak. Nakon kardiovaskularnog događaja došlo je do statistički značajnog smanjenja broja pušača i pasivnih pušača ($p=0,000$) i broja pacijenata koji imaju umjerenu i prekomjernu upotrebu alkoholnih pića ($p=0,000$), muškarci i ($p=0,014$), žene. Takođe, nakon kardiovaskularnog događaja došlo je do statistički značajnog povećanja broja pacijenata sa umjerenom fizičkom aktivnošću ($p=0,000$) i pacijenata koji su usvojili zdrave navike u ishrani ($p=0,000$), što je rezultat savjetovane promjene životnog stila.

Ključne riječi: ishemijska bolest srca, specifične navike, životni stil.

POST AKTIVACIJSKA POTENCIJACIJA – PREGLED OSNOVNIH SPOZNAJA

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SAŽETAK:

Post aktivacijska potencijacija (PAP) je prolazna pojava koja dovodi miškulaturu u stanje pojačanih sposobnosti uslijed posebno programiranih protokola zagrijavanja, to jest potencijacije mišića. Ovaj rad prikazuje osnovne značajke i mehanizme, te kako pojedine varijable utječu na pojavu i trajanje PAP-a. Također, rad razmatra volumen i intenzitet protokola potencijacije koji dovodi do PAP-a, te kako različite pauze između potencijacije i početka željene aktivnosti utječu na manifestaciju PAP-a. Radi se o vrlo zanimljivom fenomenu koji u posljednje vrijeme zaokuplja pažnju istraživača iz sportskih znanosti, te se u narednom periodu može očekivati veći broj eks-

perimentalnih studija na ovu temu.

Ključne riječi: PAP, protokol potencijacije, sila, snaga

ABSTRACT

Post activation potentiation (PAP) is an acute increase in muscle performance after complex conditioning activity. This article describes characteristics and mechanisms of PAP and variables that affect occurrence and duration of PAP. Intensity and volume of the potentiating exercises leading to PAP, and duration of the recovery period following the conditioning activity is also reviewed. PAP is a phenomenon that has been studied recently in sport science, so future experimental researches are expected.

Key words: post activation potentiation, skeletal muscle, muscle strength, complex protocol

POVEZANOST STILOVA VOĐSTA I KOHEZIVNOSTI GRUPE KOD KOŠARKAŠA KADETSKOG I JUNIORSKOG UZRASTA

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SAŽETAK:

Ovo istraživanje ispitivalo je povezanost stilova vođstva i kohezivnosti grupe kod košarkaša kadetskog i juniorskog uzrasta. U istraživanju je učestvovalo ukupno 166 igrača, kadeta 85 i juniora 81, iz klubova učesnika Jedinствene kadetske lige i Jedinствene juniorske lige Srbije. Svaki od učesnika popunjavao je GEQ koji procenjuje kohezivnost i LSS koji procenjuje ponašanje vođe i stilove vođstva. T-testom za nezavisne uzorke na svim komponentama kohezivnosti (Individualna privlačnost grupi- socijalna komponenta (ATG-S) i komponenta u odnosu na zadatak (ATG-T), Jedinство grupe- socijalna komponenta (GI-S) i komponenta u odnosu na zadatak (GI-T)) i kom-

ponentama vođstva (Trening instrukcija (TI), Demokratsko ponašanje (DB), Autokratsko ponašanje (AB), Socijalna podrška (SS), Pozitivnog fidebeka (PF)) pokazano je da ne postoje razlike u vrednostima među kadetima i juniorima, tako da se svi ispitanici mogu posmatrati kao jedinstven uzorak. Korelacije na ukupnom uzorku ispitanika pokazale su statistički značajnu povezanost TI i PF sa ATG-S, ATG-T, GI-S, GI-T; SS je povezana ATG-S, GI-S, GI-T, a DB sa ATG-T, GI-T i GI-S. Za razliku od ovih pozitivnih korelacija, AB pokazalo je negativnu korelaciju sa ATG-S, dok sa ostalim komponentama kohezivnosti nije bilo statistički značajnih povezanosti. Ovi rezultati mogu omogućiti trenerima i ostalim sportskim stručnjacima konkretne dokaze o značaju kohezivnosti i uticaju ponašanja trenera na zajedništvo ekipe.

Ključne reči: PONAŠANJE/ ZAJEDNIŠTVO/ TRENER/ LSS / GEQ

Democratic Behavior (DB), Autocratic Behavior (AB), Social Support (SS), Positive Feedback (PF)) have shown that there are no differences in values among cadets and juniors, so that all respondents can be viewed as a unique sample. Correlations on the overall sample of the subjects showed statistically significant association of TI and PF with ATG-S, ATG-T, GI-S, GI-T; SS is connected to ATG-S, GI-S, GI-T, and DB with ATG-T, GI-T and GI-S. In contrast to these positive correlations, AB showed a negative correlation with ATG-S, while with other components of cohesiveness there was no statistically significant association. These results can provide coaches and other sports experts with concrete evidence of the importance of cohesiveness and the effect of the trainer's behavior on the team's team.

Key words: BEHAVIOR / COMMUNITY / TRAINER / LSS / GEQ

RELIABILITY OF THE STYLE OF LOVE AND COEFFICIENCY OF THE GROUP BY THE ROOF AND JUNIOR COAST

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ABSTRACT:

This study examined the relationship between leadership styles and cohesiveness of the group with basketball cadet and junior age. In the survey, a total of 166 players, 85 cadets and 81 juniors participated, from the clubs of the Unified Cadet League and the Unique Junior League of Serbia. Each participant was filled in by GEQ, which assesses cohesiveness and LSS that assesses the behavior of the leader and leadership styles. T-test for independent samples on all components of cohesion (ATG-S) and ATG-T, Unity Group - Social Component (GI-S) and the component relative to the task (GI-T)) and leadership components (Training Instructions (TI),

RAZLIKA DJELATNIČKIH PERFORMANSI U ODNOSU NA VRSTU SPORTA

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SAŽETAK:

U ovom istraživanju, ispitano je 45 ispitanika, odnosno po tri osobe iz svakog kluba. Uzorak istraživanja jesu administrativni kadar u klubovima, a to su predsjednici, rukovoditelji, vlasnici, menadžeri i glavni treneri. Ovo istraživanje je urađeno na uzorku od petnaest klubova, po pet klubova iz košarke, nogometa i rukometa. Rezultati su pokazali razliku performansi djelatnika u odnosu na vrstu sporta. Na osnovu dobijenih rezultata, vidi se da postoje statistički značajna razlika u deset varijabli faktora performansi sportskog djelatnika. Takođe ovi rezultati mogu da nam budu oslonac za dalji rad na terenu u sportskim klubovima. Analiziranjem performansi

sportskih djelatnika, dobijamo uvodne smjernice u početni program rada jednog kluba.

Ključne riječi: performance, klub, razlika

DIFFERENCES OF ACTIVE ANALYSIS IN RELATION TO SPORTS

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SUMMARY:

In this survey, 45 respondents – three people from each club – were interviewed. The survey sample includes sport professionals and decision-makers, e.g. administrative staff, presidents, managers, owners and head coaches within fifteen sport organizations/clubs in basketball, football and handball – divided respectfully per given sport (5). The data shows performance discrepancies in relation to specificity of particular sport. Further, it is noted significant differences within ten variables vis-à-vis performance of interviewed participants. Given data would serve as a foundation for organizational and functional reconstruction within examined sporting organizations and basis for producing applicable working plan.

Keywords: performance, sports club, differences

EFEKTI KINEZIOLŠKOG VEŽBANJA PO MODELU ŠKOLICE SPORTA PEDAGOŠKOG FAKULTETA NA PROMENE U MORFOLOŠKIM KARAKTERISTIKAMA PREDŠKOLSKE DECE

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SAŽETAK:

Predškolski uzrast dece karakteriše ubrzan rast kostiju koji nije ravnomeran za sve delove tela. Na uzorku od 50 ispitanika iz Bijeljine sprovedeno je istraživanje sa ciljem da se istraže efekti kineziološkog vežbanja po modelu Školice sporta Pedagoškog fakulteta na transformacije u morfološkim karakteristikama kod predškolske dece. Ispitanici su podeljeni u dve grupe, eksperimentalnu, koju su činili deca polaznici Školice sporta Pedagoškog fakulteta i kontrolnu, koju su činili deca koja su u trenutku testiranja pohađali JU Dječiji vrtić „Čika Jova Zmaj“ iz Bijeljine, a koji su realizovali kineziološke aktivnosti po planu i programu Ministarstva prosvete i kulture Republike Srpske za 2017/18 godinu. Kineziološki tretman trajao je tri meseca. Merenjem je obuhvaćeno osam antropometrijskih mera uz poštovanje Internacionalnog biološkog programa. Analizom izmerenih rezultata morfoloških karakteristika na finalnom merenju, dobijene su i precizno obrazložene sve promene koje su bile rezultat kineziološkog vežbanja po modelu Školice sporta Pedagoškog fakulteta.

Ključne reči: Školica sporta Pedagoškog fakulteta, morfološke karakteristike, predškolski uzrast.

EFFECTS OF KINESIOLOGICAL
EXERCISES ACCORDING
TO MODEL OF SCHOOL
OF SPORT OF THE
TEACHER'S TRAINING FACULTY
ON CHANGES IN
MORPHOLOGICAL
CHARACTERISTICS OF
PRESCHOOL CHILDREN

SUMMARY:

Pre-school age of children is characterized by accelerated bone growth that is not even for all parts of the body. A sample of 50 examinees from Bijeljina conducted a research aimed at investigating the effects of kinesiological exercises based on the model of the School of Sport of the Teacher's Training Faculty on transformations in the morphological characteristics of pre-school children. The respondents were divided into two groups, experimental, made by children from the School of Sport at the Teacher's Training Faculty and control, made up of children who attended the JU Children's Nursery "Čika Jova Zmaj" from Bijeljina at the moment of testing, who realized the kinesiological activities according to the plan and the program of the Ministry of Education and Culture of the Republic of Srpska for 2017/18. Kinesiological treatment lasted for three months. Measurement included eight anthropometric measures with respect to the International Biological Program. By analyzing the measured results of morphological characteristics at the final measurement, all the changes that were the result of kinesiological exercises according to the model of the School of Sport of the Teacher's Training Faculty were obtained.

Key words: School of Sports of the Teacher's Training Faculty, morphological characteristics, pre-school age.