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"SPORTS, RECREATION, HEALTH"**

BOOK OF ABSTRACTS

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FOREWORD

The role of sports and health sciences is always to respond to the current challenges of reality, so we focused the previous conference on the ongoing phenomenon of the time, the COVID-19 pandemic, gathering lecturers and conference participants from all over the world.

Now, the 5th conference focuses thematically and practically on the current challenges of sports, health and recreation, but also with significant potential implications for the future. We have gathered lecturers and conference participants primarily from the region, because through direct scientific cooperation we can most concretely improve the quality of everyday life. The guest lecturers are Edin Užičanin, from the Faculty of Physical Education and Sports at the University of Tuzla (BiH) and Adina Gembasu from the Faculty of Physical Education and Sports at the University of Bucharest (Romania).

As part of the conference, we wanted to open up the issue of the importance of physical activity at an early age and the increasingly important presence of young people in a virtual context.

Sedentary lifestyle at an early age is not only the issue of the time management of the youngest family members, but also a potentially far-reaching health problem for decades to come. On the other hand, the time spent in front of "screens", in addition to the immediate and delayed consequences for physical health, also brings the inevitability of the future in which the virtual world will be inescapable, and the task of science is to clarify the "extent" and the position of the virtual world in relation to reality. The conference also provides space to scientifically and practically discuss the relationship between sports achievement and healthy lifestyles, because only a psychophysically healthy athlete can provide constant sports results.

The conference is structured through two main sessions, sports and health. The participants of the conference come from seven countries and with their scientific papers and practical experience they contribute not only to international but also to interdisciplinary cooperation, exploring the domain of sports and health from the point of view of different fields of science and practice.

Conference Programme and Organizing Committee

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SPORT, RECREATION, HEALTH

GASTRONOMY IN RURAL HOUSEHOLDS OF SERBIA AND HEALTH RURAL FOOD (HRF)

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Abstract: In recent decades, more and more importance has been given to researching the frequency of healthy and organic food in rural gastronomy. On the other hand, quality food is of utmost importance for better human functioning in the social and physical sense, prolonged maintenance of health, but also a factor in attracting visitors to rural households. The goal of the research was to determine the extent to which the quality of rural gastronomy is evaluated, and whether any of the existing types of gastronomy can influence the better placement of healthy food in rural areas of Serbia. The results indicate that most of the services of the gastronomic rural offer are positively evaluated, and that organic and ecological gastronomy can greatly influence the greater use of healthy rural nutrition. It has only been shown that modern gastronomy has a negative effect. The innovativeness of the research is reflected in the addition of literature on the issue of healthy food and the larger dilemma of preparation in rural households. Also, the results can be used to improve rural tourism.

Keywords: *rural gastronomy, health food, Serbia*

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PR VALUE OF GREAT SPORTS EVENT ON THE EXAMPLE OF 36TH BELGRADE MARATHON

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Abstract: Great sports events occupy a special place in the modern event industry, with increasingly significant effects in the field of public relations in national, regional and planetary frameworks. Sports events that gather a large number of participants and spectators, enjoy great reputation, have tradition, include accompanying events, require greater human, financial and material-technical resources for organizing and that attract a lot of media attention are considered to be those events. Media-propaganda activities present the event to the general public in order to promote the value of sport and recreation, provide financial resources for its realization (through donors, sponsors and potential business partners) and satisfy the needs of users of sports information through printed and electronic media. That is why the PR value of great sports events is being taken into account more and more. The Belgrade Marathon is one of the largest sports events in Serbia and the Western Balkans region, with a long tradition and sporting, recreational, cultural, economic and media benefits, which is why it is categorized as an event of special national importance. This paper analyzes the PR value of the 36th Belgrade Marathon, as a kind of economic benefit from the implementation of appropriate communication strategies in public relations.

Keywords: *great sports events, Belgrade marathon, PR-public relations, PR value*

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PHYSICAL ACTIVITY ASSESMENT OF PEOPLE EMPLOYED IN THE IT SECTOR

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Abstract: The IT industry is known for its sedentary nature, as many IT jobs involve sitting in front of a computer for long periods of time, which can have negative effects on health. The move to working from home as a result of the pandemic eliminated many workday opportunities for physical activity. Even after the end of Covid-19 pandemic, remote type of work remained the most common choice among people employed in the IT sector. The aim of this paper was to assess the level of physical activity among male and female workers employed in informational technologies industry. The study lasted from March 29, 2023 to March 31, 2023. For the assessment, a questionnaire was conducted based on the „International Physical Activity Questionnaire - Short Form“, and a questionnaire of basic information about individual morphological characteristics and working conditions. Sample of respondents included 35 male and 24 female employees from 3 different private firms in Belgrade, Serbia. The average age of female respondents was 34,3, whereas average age of male respondents was 34,9. Average BMI for amounted to 25,4 among males, and 21,9 among females, which indicates that both groups met the conditions for inclusion in the study. Results of IPAQ-SF are expressed as MET levels, and the analysis shows that 20% of the surveyed men belong to the „HEPA active“ category, 77% to the „Minimally active“ category, and 3% to the „Inactive“ category. When it comes to women, they had slightly different results, where 33% of the respondents belonged to the „HEPA active“ category, 63% belonged to the „Minimally active“ category and 4% to the „Inactive“ category. Based on the results of the descriptive statistical analysis, it has been revealed that the average duration of sitting on workdays is approximately nine hours for both genders, male and female. Regular physical activity is essential for maintaining good health and preventing chronic diseases. As per the findings, a significant proportion of the group has satisfied the minimum physical activity criteria set forth by the World Health Organization (WHO).

Keywords: *hypokinesia, sedentary lifestyle, physical activity, health, IT industry*

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DIFFERENCES IN THE MOTOR ABILITIES OF FEMALE VOLLEYBALL PLAYERS AT DIFFERENT PLAYING POSITIONS

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Abstract: Given the existence of different positions in volleyball, it is likely that there are also differences in motor abilities among players due to the specific physical demands of each position. Most of the research so far has studied the differences in body composition and motor abilities of male and female volleyball players in different playing positions in the elite level of competition. In this regard, the aim of this research was to determine the differences in motor abilities of female volleyball players in different playing positions of the lower level of the competition. The sample of respondents consisted of volleyball players of the women's volleyball club "Student" from Niš who play in the second league "Istok" with an average chronological age of 21.4 ± 2.95 years, who have been training for an average of 10 ± 2.73 years. Explosive power (CMJ, CMJwas, SJ), agility (T-test, Illinois test, CODAT) and speed (5m, 10m, 20m) were measured. Based on the obtained results, we saw that there is no statistically significant difference between the parameters of motor abilities in volleyball players in different playing positions in the lower level of competition. Therefore, based on previous studies and this study, it can be concluded that there is a significant difference between volleyball playing positions between higher and lower levels of competition, but not within them.

Keywords: volleyball, playing positions, explosive power, agility, speed

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THE STRUCTURE OF THE RELATIONS BETWEEN THE DIMENSIONS OF PERSONALITY, PARENTING ATTITUDES AND PEER VIOLENCE IN CADET VOLLEYBALL PLAYERS

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Abstract: The aim of this cross-sectional study was twofold: (1) to define the latent structure of the dimensions of personality, and (2) to examine the effect of personality traits and parenting attitudes on peer violence among adolescents. The research was conducted on a pertinent sample ($N = 122$) of volleyball players from two volleyball clubs in Serbia. The average age of participants was $M = 17.32$ years of age ($SD = 5.26$). Following measuring instruments were applied: Peer Violence Assessment Questionnaire (PRONA), The Junior Eysenck Personality Questionnaire (JEPQ), and Parenting Attitudes Questionnaire (UVS). Analyzing the main components (PCA) within the construct of peer violence, three main components which account for 28.09% of the variance were extracted, where risky behavior (F_1), victimization (F_2), and psychological violence (F_3) were interpreted as latent dimensions. The findings of the multiple regression analysis indicate that the statistically significant partial influence in predicting the results on the dimension risky behavior is determined by three predictors: a) Psychoticism, b) Neuroticism, and c) L scale. The results have shown that the significant partial correlation between the independent variables Neuroticism, L scale, and Parenting attitudes of a mother is a significant generator of the 33% of the variability of the dimension Victimization, while Psychological violence, with 29% of the variability, is significantly explained by the basic personality trait Psychoticism ($\beta = .40, p \leq .01$). This study also deals with the probable implications of the obtained findings, as well as with the guidelines for improving the methodology of future research. The results of this transversal research contribute to rare and inconsistent findings on the relations between the dimensions of personality, parenting attitudes, and peer violence in adolescent volleyball players.

Keywords: volleyball players, cadets, Eysenck, UVS, PRONA

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PRESCHOOL RECREATIONAL EXERCISE

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Abstract: Preschool recreational exercise is a systematic and continuous process that monitors and encourages children's growth and development, and at the same time represents the prevention of postural and other changes brought about by the modern way of life in an urban environment. The prevalence of overweight and obesity among children today is increasing in many countries of the world, including ours. Regular implementation of recreational activities from an early age contributes to the prevention of mass non-communicable diseases, which are the leading cause of death and illness in developed countries and countries in transition.

The subject of work is the recreational influence on children's physical ability and health. Recreation in preschool is the first step towards physical education that leads to the overall development of the child's personality. The goal of this work is the implementation of ideas and standards that will show the importance of recreation for children of preschool age. The methods used in this work are the methods of showing, demonstrations. Another method that was used is the method of explanation, living words. The third method is the method of children's expression (imitation). The parents were questioned on Fruška Gora in the children's recreational resort "Testera". Data on children's recreational activities before recreational classes were collected at departure, with the help of questionnaires filled out by parents. The conclusion is reached that the importance of recreational activities in preschool age is extremely important. Based on observation, examination, observations and the return of the questionnaire that the parents filled out a couple of weeks after the ten-day recreational classes, the work showed that recreation really has a role in the child's growth.

Keyword: *recreational activities, preschool children*

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THE EFFECTS OF A WELLNESS PROGRAM IN NATURE ON THE REDUCTION OF PSYCHOSOMATIC STATE (STRESS) IN WOMEN AGED 40-50

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Abstract: This paper aims to determine the effects of an experimental wellness program package in natural conditions (applied for 14 days) on the transformation of biochemical, functional and morphological indicators, and in connection with the psychosomatic state of inactive women aged 40-50. The research problem is the effect of the wellness program package (yoga, hiking, exercises in water, cascade baths, programmed diet) on the transformation of the psychosomatic state of inactive women. The subject of the research is changes in the psychosomatic status of inactive women under the influence of the wellness program package in natural conditions. The sample of this research consisted of N=30 women, aged between 40 and 50 (distributed into control-K and experimental group-E, 2X15 respondents). We tested variables that primarily show the psychosomatic state of the subjects (biochemical indicators – cortisol, sugar; essential minerals – magnesium, zinc; functional indicators – blood pressure, pulse; morphological indicators – body mass, body height, abdominal circumference). The applied experimental treatment had a positive effect on the psychosomatic status of women. The tested differences of arithmetic means (t-test) between the initial and final measurement of the examined variables of the wellness treatment show a significant statistical difference in favour of the experimental group (E) at the level of significance $p < 0.05$ for all examined variables. By comparing the obtained indicators of psychosomatic status with the reference values, we see that after the treatment the examined indicators move within the limits of the prescribed values. Indicators of psychosomatic status in the subject of the experimental group show positive changes, and the applied wellness program package is an effective tool for reducing stress in inactive women.

Keywords: *wellness program packages, stress reduction, cortisol, psychosomatic state*

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THE ROLE OF PHYSICAL ACTIVITY IN REDUCING STRESS AND MAINTAINING THE HOMEOSTASIS OF THE ORGANISM

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Abstract: The importance of physical movement and engaging in physical activity in everyday life is an unavoidable topic in the study of healthy lifestyles, psychological well-being and improving the health status of the individual and society as a whole. The acceleration of the pace of life from year to year becomes an increasingly dominant excuse for postponing the start of recreation or sports, so that the chronic human problem of lack of time additionally increases the action of stressogenic drugs, obesity and general inactivity, adversely affecting the psychophysical health and homeostasis of the organism. Psychological instability disrupts the physiological, as a result of which a psychosomatic illness may arise. In order to prevent or reduce the effects of stressful stimuli on the body, it is necessary to strengthen the personal potential and motivation of a person to improve the quality of his life and improve the health status of the body. Physical activity is one of the ways to achieve health and emotional well-being, scientifically confirmed in relevant medical and psychological studies. The aim of the work is the review and analysis of scientific results on the impact of stress on the body and the synthesis of results that confirm the importance of physical activity in the reduction of stressful conditions, especially in post-stressful circumstances, that is, adaptation to stress. The effects of physical exercise, as a preventive measure, affect the optimal health status of the individual, which indirectly improves the general functioning and efficiency of the individual who exercises. The progress of neuroscience has set the experts the task of using the previous knowledge and discoveries about the positive impact of exercise in order to better understand all aspects of adaptation to stress and re-establishing the body's homeostasis.

Keywords: *physical activity, health, stress, homeostasis, prevention.*

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ASSERTIVE COMMUNICATION IN HEALTH CARE

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Abstract: In the middle of the last century, it was noticed that developed communication skills applied in the health practice holds great importance for establishing and maintaining healthy interpersonal relations, turning successful communication into a professional skill. Authors often point out that successful communication is considered one of the most important aspects of health professionals' practice and a vital part of providing health care, as the foundation of human relations. According to the World Health Organization, quality communication is defined as one of the five skills necessary for a healthy and happy life, and therefore communication skills must be constantly refined and improved. Communication in health care is a complex, continuous and interactive process, which forms the basis for building positive relations between medical professionals and patients. As they communicate with a large number of people who are different in terms of education, culture, religion and social status, it is necessary for health professionals to master the skill of effective professional communication. Assertiveness is a communication style that represents a person's ability to freely protect their own rights and confidently express their opinion, at the same time respecting and appreciating another person's opinion and showing empathy for their feelings. After determining the concept of assertiveness, the authors will also consider other communication styles, where assertiveness represents the middle point between passive and aggressive style. Obstacles or difficulties in the application of assertive behavior include: anxiety, excessive modesty, acceptance of other people's obligations, at the same time neglecting one's own needs, and being burdened by the "gender role", especially among women. Since the success of health professionals largely depends on their communication skills, and numerous studies have established that, for example, only a small number of nurses use assertiveness in communication, it is necessary to practice assertiveness, because people are not born assertive. Various studies further indicate that people who have completed a course in communication skills overcome obstacles and potential conflict situations at work more successfully. In other people's eyes, assertive people have a strong character that is not subject to pressure, which makes them worthy of respect and trust.

Keywords: *assertiveness, assertive communication, communication styles, communication skills, health care*

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SIGNIFICANCE OF KEEPING IN UCHI KOMI EXECUTION THE *Push-Pull* JUDO PRINCIPLE AS STATED BY JIGORO KANO

Importanța respectării în execuția Uchi Komi a principiului Judo *trage-împinge* în concepția lui Jigoro Kano

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Abstract: In the worldwide framework of current Judo competition training of *tachi waza* it could observe an emphasis lack in applying the two most valuable moments of *kuzushi* (braking the balance) and *tsukuri* (fit-in). It should be highlighted that Judo was created by Jigoro Kano not at all randomly, but as a result of the long series of observations and research during many years. In his research, Jigoro Kano found out that *kuzushi* is a very important moment, but *tsukuri* is most important, too. Concerning the indissoluble bond of these, Kano wrote down this great conclusion: if the opponent pushes – you should pull him, and if the opponent pulls – you should push him, or shortly, the *push-pull* principle. At Kodokan University, Kano organised *uchi komi* according to this conclusion. For understanding the deep significance of keeping *uchi komi* for *tachi waza* execution as stated by Jigoro Kano, we emphasize the increased efficiency of these techniques as a direct consequence of the right execution by applying the *push-pull* principle. In the present paper, we used the scientific method of comparative analysis by practical demonstration on tatami with and without exact execution of the starting *push-pull* principle. Our detailed analysis emphasized the guaranteed success of *tachi waza* techniques in the presence of a well executed first two moments, meaning the combination of the *kuzushi* followed as soon as possible by *tsukuri*. Considering a series of meaningful techniques, we studied *ashi guruma*, *tai otoshi*, *o soto gari*, *harai goshi*, *tsuri komi goshi*, *ippon seoi nage* and *ohten gatame*. We demonstrated that *tachi waza* techniques in the absence of this combination in *uchi komi* is quite difficult to be successful. Therefore, we considered that in *uchi komi* for *tachi waza* and *ne waza* execution the *push-pull* principle is basic.

Keywords: *tsukuri*, *seiryoku zenyo*, *uchi komi*

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ROBOTS IN FUNCTION OF IMPROVING TEAMWORK OF MEDICAL TEAMS IN DIGITAL AGE

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Abstract: In the digital age, medical professionals increasingly collaborate with various robots and automated machines, which are rightly seen as equal members of innovative medical teams that contribute to greater automation of routine medical procedures, increased productivity and work efficiency, and the provision of high-quality medical services. The aim of this paper is to point out the importance of applying modern medical technology and robotics in medical teams because it has the effect of creating high-performance teams that are primarily focused on providing high-quality medical services. Collaboration between humans and robots dates back to the last century, and over time it has only become a more sophisticated and integrative part of work and business operations in almost all economic sectors, as well as scientific research and development. The role of medical robotic systems, automated and collaborative robots (co-robots) is invaluable and they are used in surgery (robots that assist during operations, e.g. in neurosurgery, or in vivo spinal kinematic instruments), laboratories (preparation and testing of blood samples), physical medicine and (neuro)rehabilitation (application of tactile sensors and Lokomat intended for exercise, learning and correction of gait impaired due to neurological, muscular and bone disorders) (Mann, et al., 2015; Preising, Hsia & Mittelstadt, 1991). Focus on the application of highly sophisticated technology in clinical diagnostics (magnetic resonance imaging, PET-SCAN) is increasing. Also, the application of humanoid robots in health care teams implies that they help deliver medicines and measure blood pressure to patients in hospitals, provide physical assistance in daily activities to disabled or elderly people. Using robotics and digital technology, these teams improve the outcomes of diagnostic and therapeutic treatment, and the healthcare process for the patient. However, the paper also pointed out certain limitations of the application of medical robots as members of medical teams. Above all, the implication of the lack of social and ethical aspects of the application of robotics, as well as the impossibility of achieving quality, humane interaction and affective interconnection between people as team members and patients with robotic systems (Olaronke, Oluwaseun, & Rhod, 2017).

Keywords: *medical robots, robotic systems, medical team, teamwork*

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THE ROLE OF SPORT IN PROMOTION OF EDUCATION ON THE CATHOLIC NOTRE DAME UNIVERSITY

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Abstract: This paper investigates how valuable the football program of Notre Dame University is for its educational marketing and finances. A strong interdependence between economy, politics, mass media, and sport caused an exceptional popularity of football in the USA. The University of Notre Dame, Indiana was one of the first to adjust to this trend by revitalizing its football program which was established as a part of its developmental strategy as early as 1887. A hypothesis that the popularity of football was successfully used not just for the promotion of education, but also for the further development of Notre Dame University has been analyzed through the case study methodology. This analysis concludes that Notre Dame University increased its prestige by using its football program as a promotional tool to become one of the highest-ranking research institutions on the national level. On the other hand, this case study confirms that there is no conflict between the religious dogma and the evidence-based science if they walk together toward the progress, i.e. if their common goal is to set a man free.

Keywords: *education, sport, Catholic church, Notre Dame University, football*

References:

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POLYPRAGMASIA IN MEDICAL PROCEDURES IN A SPORTS CLUB – IS IT REALLY NECESSARY?

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Abstract: Polypragmasia (polytherapy, polypharmacy) is often defined as the simultaneous use of 5 or more drugs or medical therapy modalities. This study aimed to evaluate the number of therapeutic procedures executed per injured athlete per day and see if an appropriate amount of therapeutical modalities were applied. Medical procedures in a sports club are somewhat different than usual because there is an imperative to getting the injured athlete back in training in the shortest period possible. This urgency is sometimes producing the need of using more therapy modalities than what would be good medical practice. The medical team in a sports club is trying to rationalize medical procedures and minimize polypragmasia, but, due to non-medical, external pressure, often unsuccessfully. We have listed the number of injuries, injured athletes, and therapeutic modalities executed in a team of 26 professional football players during the period of six months. We have registered 45 injuries of various grades and a total of 277 daily therapy sets. We have found that an average treatment lasted for 6.11 ± 4.55 days per injury, and an average of 3.52 ± 1.65 physical treatments were applied per day of therapy. Polypragmasia was present in 19.49% of the total number of therapy sets. When the use of drugs is added, we have found polypragmasia in 33.57% of all injury therapies, in some cases using a total of 11 physical procedures and drugs in a single day. We conclude that polypragmasia is significantly present in daily medical activities in a sports club, regardless of efforts to exclude it.

Keywords: *polypragmasia; sports injuries; physical therapy*

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SUSTAINABLE DEVELOPMENT ON THE EXAMPLE OF SPORTS IN THE ARMY OF SERBIA

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Abstract: The main goal of the research was to show that applying the principles and factors of sustainable development on the example of sports in the Serbian Army through modern methods and management models contributes to the sustainable development of the Republic of Serbia and increasing the efficiency of civil-military cooperation. After numerous military sports events organized in the previous twenty years of active membership in the International Council for Military Sports (CISM), the Republic of Serbia hosted and participated in the organization of numerous sports events. The CISM motto - "FRIENDSHIP THROUGH SPORT" was primarily promoted at the competitions, but these large sports events were a test where the organizers and other organizations that took an active part showed that the joint implementation of sports events in circumstances of limited resources has meaning through the function of civil-military cooperation and the principle of sustainability. The basic factors of sustainable development were an integral part of the management of this event. Through the presented results, we conclude that by applying the basic principles of sustainable development and civil-military cooperation, we can significantly contribute to the sustainable development of the Republic of Serbia through improving health, reducing the consequences of poverty, reducing social exclusion, preventing social isolation and conflicts within groups, developing human capital (especially among youth), developing collective identity, which facilitates collective action, fostering social networks and voluntary associations.

Keywords: *Sustainable development, sport management, Serbian Army, civil-military cooperation, sports events*

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DEPRIVATION OF RURAL CHILDREN AND SPORTS

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Abstract: The article was created as an aspiration towards a more active and responsible engagement of all relevant factors that can ensure adequate treatment of sports and physical activities in villages. The goal was to obtain principal data on the situation and problems faced by children of preschool age. The survey was conducted among teachers in preschool institutions, using a quantitative method through an online questionnaire. The case study included 20 villages in the region of Banat: Veliko Središte, Malo Središte, Mali Žam, Uljma, Gudurica, Pavliš, Izbište, Zagajica, Parta, Orešac, Vlajkovac, Ritiševo, Vatin, Markovac, Vojvodinci, Straža, Sočica, Potporanj, Šušara, and Ritiševo. A decrease in social and cultural participation is a result of various factors, due to either long distance to sports and recreational clubs or a lack of them in rural areas, a low level of awareness of parents about the importance of sports and recreation, a lack of financial means of parents, or a lack of information among parents about the existence of such activities. Limited freedom of choice at an early age can affect the beginning of the process of social exclusion of rural children, which in later stages of life can narrow their social space and reduce their cultural capital. The development of sports in rural areas should be based on the social responsibility of all individuals and organizations engaged in agriculture who must become active factors in determining the needs of their children in the field of sports and physical culture, namely: physical activity and exercise, socialization with other children, building team spirit, learning the fair play code, and spending quality free time. The aim of the research was to determine whether there is deprivation of children in the countryside when it comes to sports. We started from the hypothesis that children have worse conditions. The idea is to publish the results of the research to encourage local governments and sports associations to improve the quality and quantity of sports in the villages of Banat.

Keywords: *sport, preschoolers, rural environment, deprivation*

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INFLUENCE OF PREVIOUS MOTOR EXPERIENCE ON ATTITUDES ABOUT SERVICE LEARNING AMONG STUDENTS

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Abstract: Service-Learning (SL) as a growing innovative pedagogical model, recently become more popular in higher education area dedicated to physical activity. Since physical education (PE) students are oriented to society, it is extremely important for them to develop a sense of connection and responsibility toward society during their studies. This study was carried out on a sample of 58 students of PE study program, aged between 20 and 22. The first step of the research was to determine six different groups of students using the poly-structured interview about their previous motor experience while considering the type of activity, the length of time engaged in a certain activity and the level of motor skills. The six investigated groups were formed according to their dominant previous motor activity: artistic and aesthetic activities, recreational activities aimed at society, self-directed recreational activities, team sports, individual sports, and martial arts. In order to determine students' perception of SL Benefits, the SELEB questionnaire was used. The original 27 items generated for the SELEB scale that measure the benefit categories were divided into six categories: civic responsibility, interpersonal skills, leadership ability, ability to apply knowledge, general life skills and critical thinking. One-way Analysis of variance was used to analyse the differences in investigated groups defined by previous motor experience on SL attitudes among students. The results showed significant differences between groups in SL experience ($F_{5,52} = 3,19$; $p=0,014$). The highest value of the SELEB scale was recorded in the group with dominant artistic and aesthetic activities, and the lowest value of the SELEB scale was recorded in a group with dominant previous experience in individual sports. Significant differences were determined with Tukey Post Hoc Test between groups with minimal previous experience in individual sports and groups with dominant previous experience in recreational activities aimed at society, team sports, and artistic/aesthetic activities.

Keywords: *SELEB scale, Sustainable Development Goals, physical activities*

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ASSESSMENT OF PHYSICAL ACTIVITY OF FEMALE STUDENTS FROM NIKŠIĆ USING THE IPAQ QUESTIONNAIRE

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Abstract: Physical activity is one of the most important aspects of a healthy lifestyle at any age (WHO, 2023). The main goal of this research was to determine total physical activity of female students from Niksic using the short version of the IPAQ questionnaire. The short version of the IPAQ questionnaire consisted of 4 questions assessing physical activity in household and garden work, leisure and recreation, walking, and time spent sitting in the last week (Craig et al., 2017). The sample of respondents consisted of 128 undergraduate and master's degree students from Niksic with an average age of 20.9 years, classified according to age criteria. Descriptive statistics (MET values) were used for data processing. Analysis of variance (ANOVA) was used to determine statistically significant differences in the level of physical activities between subsamples. The results showed that the physical activity of female students is at a moderate level. There were no statistically significant differences in the level of physical activity with regard to age. The results show that the physical activity of female students is not at a very satisfactory level, however, the reasons for such results can be found in the fact that numerous obligations and lack of time represent the main problem for engaging in physical activity (Stojmenovic, & Milosavljevic, 2017).

Keywords: *physical activity, female students, IPAQ questionnaire*

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NUTRITION IN THE FEMALE ATHLETE TRIADE

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Abstract: Female Athlete Triade refers to three interrelated conditions: disordered eating, amenorrhea and osteoporosis. A significant number of active females' diet and use harmful weight-loss practices to meet their goals. These patterns may lead to under-nutrition, menstrual dysfunction, and subsequent bone loss. The American Psychiatric Association recommends nutritional rehabilitation as first step in the treatment of both Anorexia nervosa and Bulimia nervosa, as well as in the Female Athlete Triade. In the nutritional rehabilitation it is insisted on respecting: the rhythm of meals and portions. The goal changes over time from the original approach, limited to grams and calories, to a well-balanced nutritional program. Specific nutritional rehabilitation includes extensive education of the patient regarding food and nutrition in general, taking "forbidden" foods, the effects of starvation on the body, but also on the occurrence of binges, misconceptions about diets and maintaining body weight with the help of compensatory mechanisms.

The aim was to determine whether diet therapy is useful in the treatment of Female Athlete Triade. 14 girls suffering from Female Athlete Triade, treated at the Clinical Centre Institute of Psychiatry in Belgrade, were monitored. All subjects completed a battery of anonymous tests, including a test on satisfaction with the performance of diet therapy.

Most of the respondents i.e., 62.8% declared that the diet therapy was beneficial, as well as their desire to continue with it.

The conclusion is that educating the young sports and non sporting population is a necessary step towards adopting proper eating habits.

Keywords: *Female Athlete Triade, nutrition, nutritional rehabilitation, diet therapy, eating disorders*

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MOTIVATION OF TEENAGE ATHLETES IN SERBIA

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Abstract: Motivation can be defined as conscious or unconscious experience that serves as a factor that determines a person's behavior or her social action in a given situation (Ilić & Višnjić, 2012). Motivation is very wide field of investigation in psychology in general, but, somehow, it's importance is a bit overemphasized in field of sports. There are plenty of definitions of motivation and there are even couple of original theories in field of sports' psychology, which were developed especially for explanation and prediction of behavior of athletes in sports field. So far, various studies had identified over 100 different factors that explain why people engage in sports. However, the reasons for sports participation may be different depending on different factors. In this research, author tried to investigate some of these factors which might contribute differences in motivation of athletes. The sample consisted of 764 athletes, with 489 males and 275 females, 13 to 19 years old. They participated in 32 different sports' branches. Independent variables were sex, age, length of sports' experience, and type of sports (group or individual). Dependent variables were ten reasons for sports' participation (Bačanac et al., 2007; Ilić & Višnjić, 2012). Data were obtained by χ^2 and percents. The results showed that the most important reason for sports' participation of teenagers in Serbia was love for their sports' branch and the least important was popularity. Also, age was the least important factor for distinction of reasons for sports' participation, and type of sport was the most important. Obtained results were in concordance of the results of some previous results (Bačanac et al., 2007; Ilić & Višnjić, 2012; Longhurst & Spink, 1987), about differences in motivation of young athletes according to the sex and sports' type.

Keywords: *motivation in individual sports, motivation in team sports, sex differences, sports' experience.*

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ETIOLOGICAL THEORIES OF SPINAL DISC DEGENERATION

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Abstract: Low back pain is a very common problem, affecting 30 to 80% of the adult population worldwide. Studies also report that a majority of the population older than 80 years of age have degenerated disks. Published literature, as well as experts, have divided opinions regarding the etiology of spinal disc degeneration.

This is a short review study, which outlines the topic of etiological theories of spinal disc degeneration.

Studies show a difference in scientific views on the possible etiology of degenerative changes in the spinal discs. The most frequently presented theories in literature are: Involution theory, Hormonal theory, Blood circulation theory, Infection theory, Mechanical theory, Functional theory and Hereditary theory.

In conclusion, it can be said that regardless of possible strong insistence, none of the etiological theories provide a complete explanation. This indicates that the etiology of disc degeneration might be multifactorial, as well as the possibility that certain aspects of different etiological theories lead to disc degeneration.

Keywords: *disk degeneration, etiology, low back pain*

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HOME CARE - CONCEPTS, MODERN TRENDS AND MODELS

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Abstract: Home care is a vital part of the health care system. It is an essential part of daily life, and important part of everyday life. In this paper, we will discuss the current state of home care in world, focusing on nursing home care. The aim of this paper is to provide a brief overview of the current status of the home care system in Europe and beyond, and to provide some suggestions for future research in this field.

We researched databases Serbian Citation Index (SCIndex), based on various combinations of keywords: nursing home care, care services, models home care, trends home care work, we found one paper in Serbian. A search of the Medline index database, in English, selected 355 papers. The keywords used to search the Medline database were similar to Serbian, adapted to the English-speaking words. We found 7 papers based on the given criteria for inclusion and exclusion from the study. In the largest number of works included in this research, the researchers focused on quality of care and cost reduction. The basic concept in home care usually refers to a professional service provided to patients or clients who need extra care and attention but want to stay in their own home. Today, one of the main trends is the provision of personalized care and use of technological innovations.. Modern models in home care involve the nurse playing major roles, such as establishing contact with the patient and his family, conducting health care, and health education. The Buurtzorg model is a model of innovative organization of home care provision. Understanding the concept of home care is important for understanding current trends and models. Home care services offer a wide range of benefits: increasing independence, promoting safety and comfort, improving quality of life. The use of technology is the present and the future in home care. Investing in this sector is an excellent opportunity for business growth and improving people's lives.

Keywords: *Buurtzorg model, home care, nursing*

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QUALITY OF LIFE AND PHYSICAL ACTIVITY IN PEOPLE WITH RHEUMATOID ARTHRITIS

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Abstract: Rheumatoid arthritis (RA) is the most common form of inflammatory rheumatism. The onset of synovitis in middle aged population, the irreversibility of damage and the progression of the disease reduce the possibilities and capacities of a person with RA to fulfill their needs and thus achieve the overall quality of life. Quality of life (Qol) is a multidimensional concept defined by the World Health Organization as a state of complete physical, mental, and social well-being. Early diagnosis, the therapeutic approach “*treat to target*” and the application of biological therapy are current recommendations that contribute to the Qol of people with RA. Regular physical activity (PA), or any physical movement that leads to energy expenditure, is a key component of a healthy life. Since existing research has shown a significant impact of PA on chronic diseases of the modern era, the question of the benefits of PA in RA arises. The objective of this paper is to review and analyze the available recent research in order to examine the effects and importance of the implementation of PA on the Qol of people with RA. This study is a review of the literature using PubMed/MEDLINE and Science Direct, not older than ten years. People with RA, in addition to designed programs of therapeutic exercises as part of physiotherapy, also practice different forms of PA in their free time or through organized activities. The results indicate that the implementation of regular PA, dosed according to time and intensity as well as according to the current picture of arthritis reduces the symptoms of arthritis, which improves the overall Qol of these people. Implementation of PA is beneficial for people with RA. In order to improve the Qol, it is necessary to design adapted programs of PA, respecting the specifics of each individual.

Keywords: *rheumatoid arthritis, quality of life, physical activity*

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DIFFERENCES IN PHYSICAL ACTIVITY OF ADOLESCENTS OF DIFFERENT SEXES BETWEEN 12 AND 15 YEARS OLD ON DIFFERENT DAYS OF THE WEEK

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Abstract: Achieving the recommended daily level of physical activity (PA) in adolescent boys and girls helps improve their cardiovascular health, maintain a healthy body weight, and promote mental health. The purpose of our study was to determine whether there were statistically significant differences between boys and girls aged 12 to 15 years with respect to age and amount of PA on different days of the week.

The sample included 605 7th, 8th, and 9th grade students from four Slovenian elementary schools who participated in the study by completing a questionnaire. We used a quantitative research approach and the method was causal-non-experimental.

Boys were statistically significantly more active than girls on all days of the week except Wednesday. Significant differences in PA levels between seventh-, eighth-, and ninth- graders occurred only on Sundays, with PA levels decreased with increasing student age.

The study conducted shows worrying results, because among adolescents the desire for active leisure time decreases significantly almost every day of the week, especially among girls. As they get older, this desire and motivation decreases among boys as well, especially on weekends when adolescents plan their own day. Various interventions that would enable them to participate in various sports and physical activities free of charge would definitely be needed. In this way, they could actively interact with their friends and peers while finding a sport or activity that best suits their desires and the development of their motor skills, so that they reach the daily recommended level of PA.

Keywords: *physical activity, sport, boys, girls*

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RESEARCHING PERSONALITY CHARACTERISTICS – HOW DO ESPORT PLAYERS COMPARE TO ATHLETES?

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Abstract: The primary aim of the paper is to conduct research on the personality traits in Esport players and athletes, in addition to confirming differences in personality between the two examined groups. The research has been conducted on 67 (N=67) examinees, 30 of whom are semi-professional or professional gamers who participate in state-level and regional-level competitions. The remaining 37 examinees are the highest-ranked athletes in Bosnia and Herzegovina. The t-test, a type of inferential statistic, has been used to determine statistical differences in disposition between the arithmetic means of the two groups, using the BFI-44 ($\alpha=0.78$) measuring instrument. It has been anticipated that the Esports players are ranked lower on Extraversion (E), Agreeableness (A), and Conscientiousness (C), but higher on Neuroticism (N) and Openness (O) dimensions compared to athletes. The research indicates that four of the five hypotheses have been confirmed – on the scale of Extraversion (E) with significance levels of $p=0.000$ ($p<0.0001$); Agreeableness (A) showing $p=0.002$ ($p<0.01$); Neuroticism (N) showing $p=0.042$ ($p<0.05$); and Conscientiousness (C) showing significance levels of $p=.004$ ($p<0.01$). The fifth hypothesis was not confirmed on this sample. Results gathered on this sample could serve as an important part of understanding the differences between Esports players and athletes.

Keywords: personality psychology, Esport, sports, athletes, big five model

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SUSTAINABILITY OF THE OWNERSHIP TRANSFORMATION MODEL OF PROFESSIONAL FOOTBALL CLUBS IN SERBIA

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Abstract: The main problem facing Serbian football is the ineffective organizational structure of football clubs and the lack of competitiveness in international competitions. The current "post-communist" situation is characterized by a lack of appropriate legislation, undefined ownership relationships, non-transparency, unclear management accountability, poor governance and a lack of environment to stimulate private investment. The goal of the research was to better understand the multidimensionality of club goals, the relationship of interested parties, the principles of sports management, comparative economics and different models of ownership transformation in the European sports ecosystem, the results of privatization in countries in transition and data collection based on a Likert-type structured survey questionnaire, with a particular focus on stakeholder views on this topic. Valuable information is also drawn from the UEFA Intelligence Center (conversion experiences of European legal clubs, analysis of the impact of these changes - before and after comparisons, key considerations and potential risks after privatisation) and other economics and management literature. Based on the collected information and the results of the aforementioned analysis, a sustainable model of ownership transformation through guidelines with appropriate modalities was proposed, which would include an algorithm of activities on ownership transformation, as well as a proposal and recommendation of the necessary legislative activities, which would regulate this issue in order to better manage Serbian football clubs. This means that Serbian football clubs could be more competitive and efficient in the future.

Keywords: *privatization, professional football, management efficiency, competitiveness in football, Serbian football clubs*

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FRACTURES OF THE LOWER JAW: ETIOLOGY, DIAGNOSIS, TREATMENT, POSTOPERATIVE CARE

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Abstract: The most common causes of fractures of the lower jaw occur in sports, at home, traffic accidents, fights and assaults. Each fracture is more or less specific. Signs of the fractures can be divided into: sure signs (abnormal mobility of fragments and crepitation) and uncertain signs (pain, feator ex ore, trismus, functio laesa, swelling, hyperwasalivation, occlusion disorder, deformation of the lower third of the face). The presence of all sure signs indicates the existence of the fracture. The absence of a sign does not necessarily mean that the fracture does not exist. Theses fractures can be classified depending on the anatomy of the lower jaw, the characteristics of the fracture, the number of fracture lines and the location of the fracture. The most common fractures are fractures of the condyle of the mandible, followed by the angulus and the corpus of the mandible. Fracture diagnosis is based on history, clinical and radiographic examination. Clinical examination includes inspection, percussion and palpation. Retroalveolar scan, OPG, CT and MRI are most often used for radiographic diagnosis. The goal of treating these fracture is to establish a good anatomical position of the fragments and normal occlusion. The choice of treatment method depends on the type and location of the fracture, the number and condition of the teeth, and the general health of the patient. Treatment can be divided into conservative and surgical. Treatment is mostly surgical and mostly reduced to intraoperative repositioning of fragments and fixation using mini-plates or screws. The appearance of complications is possible. In cases where complications occur, the operative field is reopened, the wound is cleaned and fragments are repositioned and fixed. When fractures do not require surgical treatment, treatment is carried out with exercises or physical therapy. Postoperative care includes good oral hygiene according to the instructions of the physician.

Keywords: *anatomy of the lower jaw, diagnosis of the fracture, treatment of the fracture, postoperative care*

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VITAMIN D AND HEALTH

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Abstract: In recent years, vitamin D has become a current topic in research, which has led to new knowledge about its physiological roles as a vitamin, hormone and immunomodulator. The classic role of vitamin D in the musculoskeletal system is well known, as well as the consequent strong negative impact on bone health in cases of vitamin D deficiency (rickets, osteomalacia, osteopenia, osteoporosis, sarcopenia and musculoskeletal pain). However, in the last two decades new actions of vitamin D have been discovered. Numerous studies indicate that vitamin D has many extraskeletal effects. These include the regulation of cell proliferation, differentiation, reproduction, immune and muscle functions, as well as cardiovascular and metabolic properties. The aim of this work was a theoretical consideration of the current knowledge about the physiology of vitamin D, the classical and new roles were summarized. Data on the causes of the vitamin D deficiency pandemic were reviewed and analyzed, and practical recommendations for the prevention and treatment of vitamin D deficiency were presented. Vitamin D plays an important role in health. Vitamin D deficiency has become a global public health problem. Vitamin D deficiency is closely related to functional disorders and various chronic non-communicable diseases. Therefore, maintaining an adequate level of vitamin D is important for improving health.

Keywords: cholecalciferol, homeostasis of calcium and phosphorus, new roles, deficiency, supplementation.

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MOTIVATION AND SATISFACTION LEVEL OF WOMEN PARTICIPATING IN RECREATIONAL SPORTS ACTIVITIES

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Abstract: Recreational Sports is the term that describes all sports activities in which people participate in their own free time with the aim of improving their health and quality of life. Many studies have been able to prove that regular recreational sports activities postpones and delays the decline of functional abilities (M. Misigoj-Durakovic et al. 2018, 111). Furthermore, regular recreational activities improves both physical and psychological health.

The aim of this article is to determine the participants' level of motivation and satisfaction and the profile of the recreational sports middle-aged and elderly female participants.

The sample was consisted of 32 middle-aged and elderly female participants who were regular recreational sports class attendees. For the purpose of this research they were asked to participate in 6 question survey. The questions referred to the participants' social structure, motivation level for attending the recreational activities and the level of their personal self-approval. The percentage calculation was used for the purpose of the survey analysis.

There are many different reasons that motivate people to participate in the recreational sports activities, primarily they want to achieve their goals in terms of their physical wellbeing and reach self-fulfillment. This research results have shown that the participants' age is closely related both to the intensity of recreational activities and the desire for maintaining good health. The largest number of participants were between the ages of 56 and 65. A multiple choice question regarding participants' motivation was included in the survey. The participants also referred to other relevant facts which were crucial to determine the motivational aspects as well as the importance of recreational activities. To question 'Do you consider the recreational activity as an enjoyable activity?' 29 out of 32 or 90.91% participants answered positively, while 3 or 9.09% chose the negative answer. All participants have expressed the wish to keep participating in the recreational sports program as often as possible, which represents an important information for this research. If it is our goal to motivate people to exercise and maintain the level of physical activity, it is important to determine the reasons why a person chooses a specific physical activity, with respect to their goals, values and opinions (Simunic and Baric, 2011, 45). These results will motivate professionals in the field of recreational sports to commit themselves to continue with the programming and organizing recreational sports activities specialized for women, with the aim of their health preservation and improvement.

Keywords: *survey, recreational sports, motivation²*

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IMPACT OF ARM SWINGS ON VOLLEYBALL PLAYER MAXIMUM JUMP HEIGHT PERFORMANCE

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Abstract: Agreed that jump movements increase the player's vertical jump height by about 10% compared with the jump without an arm swing. While their exact mechanisms for enhancing player jump performance have not yet been fully described. In order to examine how arm swings affect jump height (JH). A series of maximal vertical jumps were asked from 72 elite male volleyball players using the Sargent Jump, Spike, and Bloc arm modalities. Controlled by box jumping with and without arm swings. All participants were the members of the champion team in the premier league of the Algerians (N=72, mean $\pm$ SD: age = 23.9 ± 2.7 years, body height = 1.78 ± 1.02 m, body mass = 78.22 ± 1.26 kg, BMI = 21.02 ± 2.26 kg/m²). Our results suggest both arms sowing as the optimal setting to record a maximum reach height in volleyball field tests. Agreed in this study due to arms swing upwards, creating a counter movement that allows a more explosive jump in defensive and offensive volleyball skills. Confirmed by LSD in the benefits of jump with both arm swings. Advocated by block volleyball jump test in comparisons with Spike and Sargent Jump with an arm swing. At last the test jump without an arm swing.

Keywords: *volleyball, arm swings, jump*

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PHYSICAL ACTIVITY IN THE PREVENTION OF FALLS OF ELDERLY PEOPLE

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Abstract: Introduction: Physical activity must be such that the individual approaches it voluntarily, that such activity has a positive effect on his physical health, that it includes him or facilitates his inclusion in the social community, and that it gives him a sense of self-confidence and satisfaction. The total volume and type of physical activity required for the elderly is not very well defined. However, it can be concluded that the combination of physical activity (strength training, endurance training, exercises for the development of balance and mobility, ...) and adequate nutrition (sufficient intake of essential amino acids/sources of protein) is of crucial importance for preserving physical condition, motor skills and the health status of people of the third age, and therefore in the prevention of falls. The aim of the work is to collect evidence about the effectiveness of physical activity in the prevention of falls in the elderly by reviewing the available literature. Work method: The search included a review of relevant databases: Google Scholar, Pub Med, EBSCO, Academia Edu. Results: Three randomized controlled studies, one systematic literature review and two therapeutic studies were included in the literature review. Conclusion: Based on the review of available research, it can be concluded that the application of physical exercises in an individual can achieve social interaction, and in this way helps himself. Additional education is needed for the elderly population, as well as raising awareness in certain institutions.

Keywords: *fall prevention, social interaction, physical activity, health, old people, falls*

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