

STUDENT ATTITUDES AND KNOWLEDGE OF PHYSICAL EDUCATION AND SPORTS ON USE OF DOPING IN SPORT

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Abstract

The study included 50 students from the Faculty of Physical Education and Sports in East Sarajevo, students of the third and fourth year of studying. The main objective of the research is to test the level of knowledge and identify students' attitudes about the use of illicit substances (drugs) in sports. As a way of gathering the necessary information has been used an anonymous questionnaire with 13 clearly defined questions (11 closed type questions and 2 open-ended type questions) which were related to the specific knowledge and attitudes about the use of doping substances in sports. The obtained results are relevant to the global indicator of awareness, knowledge and attitudes of students about the increasing problem of today's modern sport that is called doping.

Key words: attitudes, prevention, doping, students

Introduction

Looking through the history man has always tried to artificially enhance performance in sport, and the first cases of doping were reported in the Olympics, when Philostratus describes that the doping is not and has never been just a sports phenomenon, but the people resorted to doping or drugs wherever it was necessary to be very powerful and strong (Laure et al., 2003). Throughout the history, athletes have used a variety of special meals and drinks in order to transform their bodies into a superior and powerful tuned machine. In ancient Greek wrestlers were eating large amounts of living flesh, to increase muscle mass, and in that were greatly assisted by doctors, who were helping chefs in preparing special types of bread that contained an analgesic substances; Norwegian warriors who were known as the "Wild Bunch" ate hallucinogenic mushrooms in order to prepare for battle and gained strength and bravery. Pioneers of modern doping in sport were swimmers, they swam at the 1865 contest the Amsterdam channel and they were excelling in all disciplines.

After the incredible success of the competition in the sporting circles of the time more and more rumors were spoken about the use of some types of stimuli that helped, "the contestants to move through the water as if they had fins on their feet." The first information about the doped athletes we have in the modern Olympics from St. Louis when American winner of the marathon Hicks while on medical care received several subcutaneous injections of strychnine sulphate (Pupiš et al., 2006). During the decades that came stimulants ranked highly in the world of sports. From strychnine, caffeine, cocaine and even heroin, athletes were not hesitant and striving to achieve better results, they involved in the use of doping substances, often getting in severe drug addiction.

Although harmful, over the years that have come and medicine and sciences interfered and managed to create what we now call modern doping agents. The use of anabolic steroids in modern sport is recent. Testosterone was first synthesized in the laboratories in 1930 and was introduced in the sports arena somewhere between the 1940 and 1950 (Pupiš et al., 2004). When the Soviet weightlifters at the Olympics in 1952 completely dominated, thanks to a synthesized testosterone, winning all the medals, American physiologists have decided that their competitors should also be subjected to the same treatment (Mladenović, 1980). In 1958, the U.S. pharmaceutical industry has developed a steroid. The first users of anabolics were mainly body builders, weight lifters, football players, cyclists, and athletes, in general those sportsmen that were subjected to extreme efforts. After some time, the stimulants slowly became part of the "queen of sports." During the 70s steroids were given new clothes, because the athletes until that point, realized that stimulants provide the necessary force to achieve superhuman results (Michalák et al., 2001). The first recorded death due to the use of illicit substances was recorded in 1896 when English cyclist Linton died during the race Paris-Bordeaux, after consuming the ephedrine (Pupiš et al., 2004). In 1960, at the XVII Olympiad in Rome, died Danish cyclist Kurt Jansen Enemas, which according to experts, was taking a strong dose of amphetamine derivatives and nicotinic acid from his coach. After this event, the IOC Medical Commission has prepared a technical analysis of the material which was accepted at the Olympic Games in Tokyo 1964th and also was accepted the first definition of doping. These are the Olympics that are particularly important because of the adoption of the first list of banned substances and at the Olympic Games in Mexico City in the 1968 was

officially approved the list and started with testing of the athletes in the Summer as well as in the Winter Olympics (Mačvanin et al., 2011). The International Olympic Committee in 1975. prohibited the use of all forms of stimulants. At the same time, regardless of the stated commitment to preserve the spirit of sport, most of the sports federations continued with the development of chemical and biological agents and methods that will enable consistently move the limits of endurance and feasible. Then when it came to the discovery that some sportsmen / sportswomen used illicit funds, the entire liability would fall on them, and not in rare cases the athletes were the victims of a deadly combination of one's own desires and unhealthy tendencies and ambitions. A good example is certainly the case of the Canadian runner Ben Johnson which Olympic gold medal was seized in Seoul in 1988 and Florence Griffith Joyner's death, which are known to succumb to the (mis)use of illegal stimulants. Many methods are extremely inhumane and only directed towards the misuse of physical and psychological integrity of sportsmen / sportswomen (for example: the Chinese and Romanian gymnasts were deliberately given the means to delay puberty, it is thus maintained the required balance hormones, which allowed gymnasts to do their best; a well known case is of a Romanian gymnast which puberty was so long overdue that she had the first period after the completion of her professional career, Therefore, only by becoming unnecessary, this indicates a degree of indifference and inhumanity and lack of desire to create a better future for the next generation of athletes; except that they were often the victims of unhealthy ambition, ignorance, they were also the victims of a variety of backroom political games) (Živanović, 2000; Pavlović, 2006). Attitude to doping is changing as they are known the cases of organized doping in the DDR and its harmful consequences. Unfortunately, we have little understanding for it and more and more we hear some abbreviations EPO, THG, etc., But also the death of athletes. The latest seizure of medals from cyclist and Tour de France winner Lance Armstrong is certainly a surprising fact and warns all those who engage in doping substances to be detected and thus lose much more than medals, prestige and honor in the world of sports. Or the example of Marion Jones and Tim Montgomery who, after the discovery of THG doping are no more masters of athletics (Hnizdil, 2000). Doping takes momentum increasingly in the professional and top sporting events, in the European Championships, World Cup and Olympic Games. The last Olympics in London were also marked by doping scandals of some athletes, when before the start of the games itself 12 athletes was disqualified (martial arts, athletics, cycling, gymnastics, water sports) and two medals were seized after the games. Gold has taken from Belarusian Nadzeya Ostapchuk ball thrower who was tested on Methenolone and from Uzbeks wrestler Soslan Tigievu the bronze medal (UKAD, 2010; Press RS, 2012).

This happened although before the Olympic Games in London was announced that half of the competitors will be tested for drugs with 150 scientists, which will take samples by the end of the Paralympic Games. It was also stated that any athlete who wins a medal will undergo testing and Olympic anti-doping lab will test up to 400 samples per day for more than 240 banned substances, where in the course of the competition they will be available for testing without any notice (BBC, 2012). A shocking fact of the official of the World Anti-Doping Agency (WADA), John Fahey, who published that to 24 July 107 athletes were sanctioned for doping in the last six months to 19 June (Grohmann, 2012a). British sprinter Dwain Chambers and cyclist David Millar pistol shooter Carl Myerscough competed in London, after the British Arbitration Court overturned the lifetime ban of the British Olympic Association. Other competitors at the Summer Games that were included in previous doping cases American athletes Justin Gatlin and La Shawn Merritt and Jamaican sprinter Yohan Blake, although Blake substance is not on the list of banned by WADA (Grohmann, 2012a; Grohmann, 2012b). Doping is the substance that can currently with the amount of risk make someone you happy, and on the other hand permanently mark or get hurt the young athlete. The penalties for the use of doping substances depend on the commissions in charge of doping control and range from prohibiting the participation of several months to eight years or more, and the final disqualification and banning from the given sport (Pavlović, 2006). Knowledge and attitudes of university students about the problem of doping in sport has been the subject of research by other authors. The authors (Melia et al., 1996) conducted a survey of five Canadian regions, which included 107 schools with 16,119 students, randomly selected in order to determine the prevalence of the use of anabolic-androgenic steroids, their attitudes and knowledge about doping. The results showed that most of them used banned substances in the year prior to the survey. 29.4% of respondents said they injected some substance, and 29.2% shared the needle during injection of anabolic-androgenic steroids. A significant number of respondents said they used other substances (caffeine, 27%, extra protein, 27%, alcohol 8.6%; for pains, 9%; stimulants, 3.1%; "doping methods", 2.3% , beta-blockers, 1%) attempting to improve sport performance. These results were unexpected and alarming for teachers, health and sports workers. Swedish authors (Kindludh, 1998) conducted a survey among high school adolescents Uppsala in order to determine the degree of taking banned drugs in sports. Anonymous questionnaire included 2742 students. The results showed that 2.7% of men and 0.4% of girls used the drug at some time in their lives. As the main reason for doping they cited the improvement of physical appearance and the improvement of athletic performances. The alarming results of research obtained Polish authors (Rachon et al., 2006).

They are through known internet portal s conducted a survey during one month in order to determine the prevention of drug use among young people in sport. The sample consisted of 3687 (48.2% of men) and (women 51.8%), aged 19-20 years. Questions were related to their physical activity, exercise and behavior, level of education and the use of anabolic androgenic steroids (AAS). The results showed that the prevalence of AAS use among men 6,2% and 2,9% in women. Male AAS users, compared to non-users, were more concerned about their physical appearance, were less educated and often engaged in a sporting activity. Among female AAS users, there are no significant differences regarding lifestyle or sports participation. However, when compared to non-users, female AAS users were less educated, where it was concluded that the use of AAS in Poland is reality and it can become a serious health problem among adolescents and young adults. A group of American authors (McCabe, 2007), in extensive studies have presented the results of a national survey that showed the use of anabolic steroids, frequency of usage and trends among U.S. college students. Data were collected through earlier surveys with more than 40,000 students from 119 faculties in the periods 1993, 1997, 1999, 2001. The results showed that in the period 1993-2001 has been a surge in the use of prohibited substances. In 2007 the German authors (Wanjek et al., 2007) have published the results of research conducted in 2004 in Thuringia (Germany) based on a survey of 16 elementary, 4 high, three sports and 4 vocational schools with the aim of determining the current situation and possible intervention when it comes to the use of illegal substances. From the total number of 2287 students even 15.1% used a banned drug in the previous year. Of these, 0.7% consumed anabolic androgenic steroids (AAS), 0.4% of growth hormones, stimulants, 2.4%, 13.2% cannabis, 0.1% diuretics, 2.2% cocaine / heroin and 0.3% erythropoetin. Moreover, 490 non sportsmen confirmed that in 5% more they use doping from recreational athletes (N = 1254) and almost three times more than the athletes (N = 497). All three groups of non-athletes, recreational athletes and sportsmen had poor results on the test of knowledge about doping in general, with an average below 60% in every case. The findings indicate the need to improve specific knowledge of

doping among students and their attitude toward doping has to be changed. Similar researches were carried out in the last few years by Ukrainian authors who have even published a national study in partnership with WADA (Bondarev et al., 2008; Bondarev et al., 2009; Bondarev et al., 2010). In our country there has not been any research on this subject in the population of pupils and students. Out of these reasons, and often from the questions that come to mind regarding doping, almost daily, in the sphere of sport and the wider public, emerged the idea for this research. The basic problem, which is defined in this study are the attitudes and knowledge about possible prevention of doping substances in sport in order to assess students' knowledge and attitudes about the use of illicit substances (drugs) in sports.

Methods

The study included 50 students from the Faculty of Physical Education and Sports in Eastern Sarajevo Students that were included were third and fourth year, aged 21-22 years. Of the total sample, 10 the examinees were females. As a way of gathering the necessary information has been used an anonymous questionnaire with 13 clearly defined questions which were related to the specific knowledge and attitudes about the use of doping substances in sports (nine were closed type questions and two questions were open type). The survey was conducted with students in the academic year 2012/2013 year, and all students voluntarily participated in the survey.

Results and discussion

The results of our research are presented in tabular and graphical (prevalence of doping in sports). Based on global insight into Table 1 it can be concluded that the students were unique to only one question (question. 5) which referred to the opinion that if any of the current top athletes took doping. All students (nearly 100%) responded positively with YES, while in other issues opinions were divided. Although the study included a small sample the obtained results are great and extremely important. Based on the survey results it has been obtained a real picture of the attitudes and knowledge of the student population on the (mis)use of doping in sport.

Table 1 The questionnaire responses

	QUESTIONS?	YES	%	NO	%
1.	Have you ever come in contact with doping substances?	17	34%	33	66%
2.	Do you know the list of banned substances and drugs?	34	68%	16	32%
3.	Have you ever taken the banned substance?	7	14%	43	86%
4.	Would you ever taken the drug to achieve personal results?	9	18%	41	82%
5.	Do you think that some of the current top athletes were taking drug?	50	100%	-	-
6.	Have you met someone for whom you knew he was taking dope?	30	60%	20	40%
7.	Do you think it is right to have someone positive to doping near you?	13	26%	37	74%
8.	Do you think that doping controls can detect 100% athletes who took dope?	34	68%	16	32%
9.	Do you think there is a way to deceive the doping control tests?	32	64%	18	36%
10.	Are there some of the world anti-doping program to support the athletes in the country?	41	82%	9	18%
11.	Do you know what is WADA?	40	80%	10	20%
12.	Which sport do you think is the most marked by doping scandals?	Chart 1			
13.	Which sport do you think is the least marked by doping scandals?	Chart 2			

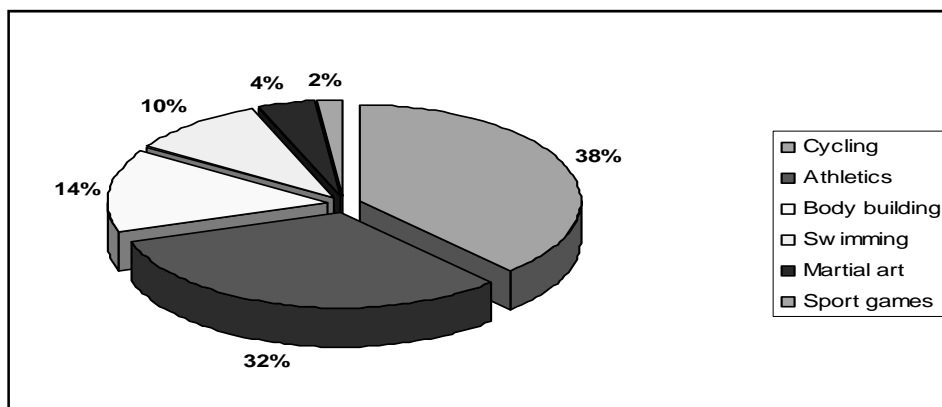


Figure 1. Sport that most marked by doping scandal

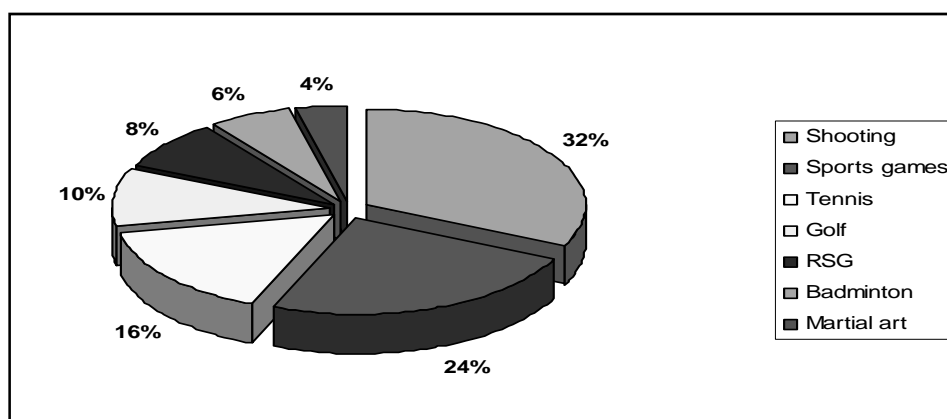


Figure 2. Sport that is least marked by doping scandal

The last half century in sports is often called "the time of doping." Besides sporting spirit, which is nowadays neglected, participants increasingly subject to the use of banned performance-enhancing drugs, fraud and deceit in order to get to end goal with having consciously knowing they risk their own lives and future. Doping in sport exists since the sport became a social phenomenon, the desire to win and for the competition is as old as humanity itself, only the drivers of these desires changed (Đukanović, 2011). The problem may be in the personality of athlete who is dissatisfied with the performance or advancement, a very strong desire to achieve the best results, which is followed by huge profits, popularity and reputation, the belief that others use the same or similar substances and lack of knowledge about the unwanted effects of the use of doping. Very often, the environment and the expectations of coaches, the audience and family and friends and even the society itself lead to considerable pressure on the athlete, which is manifested by using banned substances. Awareness of the limits of the body and the limits of endurance through which one cannot pass, lead the athlete to cross the line of allowed even at the cost of their own health (Mašić, 2006). Most studies show that 3-12% of male adolescents admitted to using AAS at some point during their lives.

Among female adolescents, studies find that it is likely that 1-2% use steroids. Current strategies for dealing with the increase of doping by adolescents is more for the purpose and primarily involves education and prevention, prohibition and anti-doping testing (Yesalis et al., 2000). The results from this study have provided some information on the attitudes and knowledge of students of physical education and sport on the problem of doping in sport, and it is important for the reason of the population included in the survey, because they are the future educators in physical culture, in sports, in physical education, to whom is the imperative to work with young populations and their education on the issue. The research conducted by Slovak authors (Pupiš et al., 2006) was aimed to determine the views and opinions of the population of students on the use of doping in sport. The questionnaire has been used and the results were similar to our study. Respondents had the same attitude on the use of doping from some of the current top athletes who had a 100% affirmative answer. In our study, of the total number of respondents, 17 (34%) had been in direct contact with a prohibited substance, and 33 (66%) had never been in contact with any of forbidden doping substances (Table 1), unlike Slovak students, of which only 6% came in contact with doping. The presented data show that a significant majority of students still have correct

opinion, and a negative attitude toward doping, thus showing that the doping is unwanted substance that should not be consumed. One should also take into account the fact that 32% of them do not know the list of banned substances and drugs, which probably represents a problem because the education about doping is insufficient, slightly represented so it should be entered into a bilateral agreements with the main anti-doping agency, which would preventively educate students about the unwanted effects of using doping agents (Laure et al., 2003). This is not surprising because we have data showing that the information of the general practitioners who perform testing of athletes is not sufficient. That's according to a survey by the French authors (Laure et al., 2003). They were on a sample of 402 French general practitioners, randomized, through telephone with a prepared script, had a conversation about the attitudes and knowledge about doping, and their contact with the doped athletes. The results showed that the response was 50.5% (153 men and 49 women, mean age 45.6 ± 5.6 years). From the respondents, 73% confirmed that they had a list of banned products, and only 34.5% said they were aware of the recent French law on the fight against doping from March 1999. Some 11% directly met the requirement for a prescription drug funds during the preceding 12 months (requested were mostly anabolic steroids, stimulants and corticosteroids), and 10% warned an athlete who was afraid of the health risks (mainly anabolic steroids). More than half (52%) doctors issued a prescription for a doping agent. According to 87.5% of respondents, doping is a public health problem, and 80% said that doping is a form of addiction. Most (89%) reported that general practitioners have a role in the prevention of doping, but 77% is considered poorly ready to participate in prevention. A very high percentage (87%) of our respondents had never used banned substances, only 7 (14%) had taken a banned substance, so we can say that this data is encouraging and the percentage is negligible. Given that these are the students of FFVS the data was expected taking into account the nature of their education and knowledge acquired during their studies especially from the medical group of subjects, some basic sports (athletics, swimming) where doping agents are mentioned as great harm for human organism. But the problem are the 14% of those who have already consumed an illegal substance, probably (not) aware of the possible consequences. If we compare the results with the earlier of this kind, we can conclude that our results are different from the earlier (Bondarev et al., 2008; Bondarev et al., 2009; Bondarev et al., 2010; Wanjek et al., 2007) where it does not mean that the survey included larger sample in order that those results would be the same in our case. Similarly, students were thinking about the possible use of banned substances to achieve personal results. More than half, 82% had a negative view on the matter and 18% supported the use of prohibited substances for personal result.

Among these 18% are probably also those 14% who consumed the substance, so that this percentage and the opinion is expected, but it is very important that the majority of respondents have a negative opinion on this matter and does not support taking any banned substances. There is a frightening fact from the American researchers who studied the negative effects of doping on athletes body. They obtained the results where 195 of 198 (98.5%) of athletes are ready to use doping and 50% would be willing to die (within 5 years) after a big victory (Pupiš & Korčok, 2004). It is interesting to note the fact and the attitude of all respondents (nearly 100%) who believe that some of the current top athletes were taking some sort of banned substances. This confirms our assumption that there is a negative perception about the top and professional sports in this young population, where the most of them is engaged in some sport. Such information greatly reduces the level of motivation of young people and have a significant impact on their future careers. The same results are obtained by some other authors (Bondarev et al., 2010; Pupiš & Polgar, 2006). As many as 30 (60%) had met someone who was taking drugs, which means that they are in some way familiar with the effects of these substances mostly through their friends or acquaintances, and 40% have never met a person for whom they knew to using banned substances. A similar view they expressed as to whether it was right to have someone positive to doping in their vicinity. Of the total number of students are 37 (74%) against such a person to be found in their vicinity and 26% approve that, which shows a certain degree of tolerance on doping in sport. One maybe interesting result has been obtained about the reliability of testing on doping and possible frauds.

In response to this question, 32% of respondents believe that doping controls cannot always detect the athlete using doping, and 68% believe that this is possible. More than half of respondents, 64% believe that there are certain ways to deceive the doping control tests. Similar results in their study also obtained some other authors (Pupiš & Polgar, 2006). This percentage suggests that there is still a dilemma among students about the reliability of anti-doping controls and their implementation. When asked if there was some of the country's anti-doping program to assist athletes, greater half of the sample (82%) are aware that in their country there is some of the world's anti-doping program to support athletes, in terms of continuing education, seminars, conferences, etc., and even 18% of them are not familiar with these agencies at the state level. In terms of sport, which is the most marked by doping scandals responses were different. (Figure1). Of the sports in the first place is marked cycling (38%), athletics (32%), then body building (14%), swimming (10%), martial arts (4%), and sports games (2%). In a survey of Slovak authors (Pupiš & Polgar, 2006) in the first place are athletics (88%), strong sports (30%) and sports games (24%).

Generally, we see that it is about individual sports, where we assume that the cycling and athletics are generally identified with the constant media attention and with the athletes in this group, who are most often part of doping control. On the other hand, there is the power of sports associations which generally perceive as sports in which doping is too often used. One need to add to this the latest seizure of medals from cyclist Armstrong and Olympic gold from Belarusian ball thrower at the Olympic Games in London (Wilson, 2012). As sports least infected by doping 32% of the responses were related to shooting, sports games 24%, 16% tennis, RSG 8%, badminton 6%, golf 10%, and martial arts 4% (Figure 2). In a survey of Slovak authors (Pupiš % Polgar, 2006) sports games, with 66% also indicated as a sport that is least infected by drugs. Archery and Sports games have been identified as the least infected by drugs, even if our issue is not specific to sports, sports groups. This result can be justified by the fact that here is included the whole team, not one individual who can bear the consequences. Related to this is the media coverage of the offenders that is not as common as in the individual sports. Also, the cost of doping control in sport club is several times larger than that for the individual athlete. We generally think that doping bypassed us in a wide circle, or just our sport, but the certain data of the agency for anti-doping control deny this.

According to the Agency for Doping Control data which in the past two years (since 2010) have done 599 tests which have not passed only 5 athletes of whom 4 were from BiH: Elmedin Kikanović (basketball-12-month ban, the use of Metilheksanemin), Samed Osmanović (kick-boxing ban three months, the use of an anabolic steroid Boldenone androgynous), Nedim Fišić (weightlifting-two-year ban, the use of steroids methandienon), Edin Muslić (karate-pending, use of Carboxy-THC) and competitor from Serbia Caba Nadj (weightlifting-pending). According to the heads of agencies in BiH, in the beginning of testing there was the resistance of certain people from the sport and from the BiH public where came to verbal and physical conflict and so that the tests were not done, and after that there were no major problems. As one good example is the Football Association of Bosnia and Herzegovina, whose leaders sought help from the agency, when regulations have been defined that were later adopted by UEFA and FIFA (www.wada-ama.org; www.doping-prevention.com). It is now clear that physicians have an important role in the recovery of athletes (Prokop, 1997) and it is very frightening rhetoric by some scientists that the biggest fight in the sport today, conduct chemists and pharmacists on their way to the victory of doping (Podstupka, 2003). It is for that reason very important to fight against doping, by all possible means and to advocate for education since the beginning of organized sports. Without question doping must come out of sports, but the question is whether this is just a utopia, or the goal is still achievable?

Conclusion

The obtained results are global indicator of global awareness, knowledge and attitudes of students of the Faculty of Physical Education and Sports of the problem of today's modern sport. According to our research, out of the total number of respondents, 66% had never been in contact with doping substances, 32% were not familiar with the list of prohibited substances and drugs, 86% had never taken a prohibited substance and 82% would not take any banned substance for a better personal result. In the opinion of the all respondents, some of today's best athletes still took doping agent, and 60% of those surveyed met someone who was using doping. Up to 74% of students consider that people positive to doping is not desirable in their vicinity.

As for the anti-doping controls, 68% of the respondents have the attitude that control can detect the athlete who used doping and 36% of the students consider that in some way it is possible to cheat drug tests. As expected, doping marked the most cycling and athletics, which contributed that these sports are in the focus of the public media. Named are also weight lifting and body building, swimming, martial arts, as least infected are sports games, archery, tennis, skiing, golf, etc. The situation in sport is alarming and the (lack of) knowledge that we have are still in process of testing. This is particularly alarming because the World Anti-Doping Agency (WADA) does not distinguish between intentional and unintentional doping. This fact is all the more serious because the recreational use of drugs in sport is not sanctioned, and athletes have no fear using them, which can lead to its spread among the other athletes. On the basis of these results, and especially those 14% who have already taken banned substance and 18% who would take the banned substance for personal scores is warning and we believe that more information and awareness is needed among youth sports, sports schools and sports clubs on the harmful effect of doping on the health of athletes.

For the purpose of assessment of the objectivity of intentional and unintentional, doping it would be appropriate if the drugs available on our market are marked, which would clearly show that the drug does or does not contain banned substances. In terms of the law, it is definitely a long process, but the pharmaceutical companies should not be a problem, because they know what their products contain. It is also necessary to communicate with the young athletes in order for them to be able to understand all the negativity and the risks associated with doping. This research can serve as a framework for the same or similar types of researching and all in order to understand and prevent the use of prohibited substances in sport among young people.

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STAVOVI STUDENATA I ZNANJE O TJELESNOM ODGOJU I SPORTU O KORIŠTENJU DOPINGA U SPORTU

Sažetak

U istraživanju je sudjelovalo 50 učenika s Fakulteta za tjelesni odgoj i sport u Istočnom Sarajevu (studenti treće i četvrte godine studija). Glavni cilj istraživanja je testiranje razine znanja i utvrđivanje stavova studenata o korištenju nedopuštenih supstanci (droga) u sportu. Kao način prikupljanja potrebnih informacija korištena je anonimna anketa sa 13 jasno definiranim pitanja (11 pitanja zatvorenog tipa i 2 pitanja otvorenog tipa) koja su vezana za specifična znanja i stavova o korištenju doping tvari u sportu. Dobiveni rezultati su relevantni za globalni pokazatelj svijesti, znanja i stavova studenata o sve većem problemu u današnjem modernom sportu koji se zove doping.

Ključne riječi: stavovi, prevencija, doping, studenti

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