Coll. Antropol. **48** (2024) 3: 153–160
Original scientific article
doi:10.5671/ca.48.3.3

Doping Tendency in Volleyball: Analysis of Specific Correlates Among Professional Players

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ABSTRACT

Doping is one of the most important problems in contemporary sports, but studies have rarely examined the correlates of doping tendencies (DT) in professional volleyball. The aim of this study was to evaluate DT, and to define sociodemographic factors, factors of knowledge on doping and nutrition, and sport-factors associated with DT in professional volleyball athletes. The participants were 209 volleyball players (106 females; 23.4±2.02 years of age) who were tested for DT, specific sociodemographic variables (age, education level, marital status, parental status, religiousness), sport factors (experience in volleyball, competitive achievement at junior and senior age), knowledge of doping and knowledge of sport nutrition (KSN), and previously validated questionnaires. Positive DT was low (<9% of players declared positive DT), with no significant association between DR and gender (Chi-square = 0.01, p-level = 0.94). Logistic regression results calculated for the binarized DT as outcome (negative DT vs. positive DT) showed lower religiousness (OR = 0.68; 95%CI: 0.41-0.81), and lower KSN (OR = 0.81, 95%CI: 0.67-0.98) as significant correlates of positive DT. The effects of proper nutrition on sport performance are likely the reason for the protective effect of better KSN against doping. There is a certain possibility, that religious beliefs and practices can offer certain protection against doping by providing a sense of meaning and purpose, but it should be specifically explored in more details in future studies.

Key words: *performance enhancement, correlates, sociology, kinesiology, sport science*

Introduction

Currently, doping is one of the most important problems in sports because of two important reasons. First, doping undermines the principle of fair play and the integrity of sports, and ensuring that all athletes compete under the same conditions is fundamental to the spirit of sport[1]. Also, doping substances and techniques carry significant health risks, including heart problems, hormonal imbalances, psychological effects, and, in some cases, life-threatening conditions[2]. As a result, many sports organizations have strict anti-doping regulations that athletes must adhere to. Violating these rules can result in severe penalties, including bans, fines, and loss of titles[3].

From the sociological perspective, there is no doubt that the credibility of sports is essential for maintaining public interest and support[4]. Therefore, sociological problems related to doping in sports extend beyond individual health risks and fairness issues, impacting broader social structures and cultural norms. One of the most important issues is the decrease in integrity. By all means, doping undermines the integrity of sports, which are often seen as a reflection of societal values such as hard work, dedication, and fair competition[5]. Furthermore, doping can be considered a problem of moral degradation. In brief, the normalization of doping can lead to a decline in moral and ethical standards, both within sports communities and in society at large. Also, it is important to note that athletes are influential figures, especially young people[6]. When prominent athletes are caught doping, it sends a message that success can be achieved through dishonest means.

The global fight against doping relies on several strategies. The first is the development of strict anti-doping regulations, which include (i) the development and enforcement of robust anti-doping policies that clearly outline banned substances and methods, as well as the consequences of violations, and (ii) the establishment of global standards through organizations such as the World

Received for publication April 4, 2024

Anti-Doping Agency (WADA) to ensure consistency across different sports and countries. This is logically followed by the development of effective testing and monitoring strategies[7]. However, these strategies are generally punitive in nature, which means that all are applied when "doping has already happened". Therefore, there is an increase in interest in the development of various preventive strategies. Most likely, the most important factor is related to anti-doping education[8]. It is based on logical consideration that athletes, coaches, and support staff who are properly educated about the risks and consequences of doping will be less oriented toward doping behavior itself.

In developing educational programs against doping in sports, it is of utmost importance to define the factors associated with doping behavior (doping tendency – DT). Specifically, the idea is to find the correlates of DT and consequently to (i) target those athletes who are at particular risk for doping usage in the future and (ii) identify specific groups of athletes who are eventually "protected" against doping[9–10]. This approach will allow the development of more accurate and targeted programs aimed at doping prevention in sports. To date, numerous studies have evaluated sociocultural, psychological, and sport-related correlates of DT among athletes[11–12].

A range of psychological and social factors have been identified as correlates of doping in sports. These include perfectionism, extrinsic motivation, and contact with doping users, as well as attitudes, social norms, and self-efficacy[13–14]. Motivational variables, moral orientations, and social cognitions have been found to influence doping intentions[15]. The influence of social forces, including nationalism and ideology, has been emphasized[16]. Attitudes toward doping have been linked to demographic and socioeconomic factors and religiousness[17–18]. Sports factors, such as sport experience and success, are variably associated with doping behavior in athletes[19–20]. Finally, the doping behavior of athletes is often correlated with their practice of dietary supplementation and generally with their knowledge about doping issues but also with their knowledge of nutrition[11,20]. These studies collectively underscore the complex interplay of sport-related, individual, social, and cultural factors in the prevalence and attitudes toward doping in sports.

From the previous theoretical background and brief literature overview, it is clear that the problem of doping is highly prioritized in sports, with establishing factors associated with DT as one of the most important fields of interest[18–20]. On the other hand, studies regularly confirmed differences in DT among different sports[20–21]. In particular, athletes involved in some sports are more vulnerable to doping than are their peers involved in other sports[12,20]. Therefore, investigations of the factors associated with DT should be sport-specific. However, we have found no study in which correlates of DT were evidenced specifically for volleyball, one of the most popular sports in the world. Therefore, the aim of this study was to evaluate DT, and to define sociocultural factors (sociodemographic factors), factors of knowledge on doping and nutrition, and sport-factors associated with DT in professional volleyball athletes. Initially, we hypothesized that the studied factors would be significantly correlated with DT in volleyball players.

Methods

Participants

The study included 209 professional volleyball players from Croatia and Bosnia and Herzegovina (106 females; 23.4±2.02 years of age; 18–31 years of age). All participants were actively competing on the highest national level teams at the time of the study. Volleyball teams were asked to join the study only after approval was obtained from the Ethics Committee of the Faculty of Kinesiology, University of Split (protocol code 2181-205-02-05-14-004; 17 June 2014). Participants were assured that their involvement would be anonymous and that there was no intention to link their responses to a specific individual. They were also given the option to skip questions or leave the entire questionnaire unanswered.

Variables and testing

The data were gathered through previously validated questionnaires, which included sociodemographic factors, religiousness, sport-related factors, knowledge about nutrition, knowledge about doping, and doping-related factors[12,18,22].

The sociodemographic factors included age (in years), gender (male or female), marital status (single vs. married/partnership), paternity status (yes vs. no) and educational background (elementary school, high school, university/college student, university/college degree), and religiousness. The Santa Clara Strength of Religious Faith Questionnaire (SCSRF) was used to test the religiousness of the participants. The SCSRF is a concise assessment tool available in both a 10-item and a five-item short-form version. It evaluates the intensity of religious faith and involvement. This measure is suitable for application across various religious beliefs and can also be used by individuals unaffiliated with any religious organization or tradition. In this study, we used a 10-item version, where the theoretical scale ranged from 0 to 40. The SCSRF has already been used in athletes and was found to be a reliable, applicable, and valid measurement tool[18].

Sport-related factors included queries about the duration of experience in volleyball (in years), the highest competitive achievements at the junior level (local competitions, national competitions, national-level achievement-medal, national team members), and at the senior level (local competitions, national competitions, national-level achievement-medal, national team members).

The survey on doping-related factors included inquiries about one's personal views on the primary issue of doping in sports (pertaining to health hazards, fair-play concerns, both health hazards and fair-play issues, or the belief that doping is not a problem) and opinions on personal doping tendencies (ranging from the firm decision to never use doping, uncertainty, willingness to use doping if there are no health hazards, to the willingness to use doping). For the subsequent logistic regression calculations (refer to the Statistics section for more details), doping tendencies were classified into "negative doping tendency (DT)" (first response) and "positive DT" (all other responses). Specifically, while "neutral" DT also puts athletes in risk of doping behavior in future, in this study participants were grouped as previously explained.

Knowledge of doping was checked by a questionnaire on doping knowledge (KD) (20). The KD survey comprised 10 inquiries. Participants were asked about the adverse effects of doping and doping legislation. Each query (statement) was presented in a "true or false" format; if the response was accurate, the athletes earned one point. The final scores varied from 0 to 10. The questions were as follows: (1) Diuretics are considered doping because of their influence on body weight reduction; (2) Doping control officers should notify athletes of their testing intentions a few hours prior to any testing; (3) If an athlete has an out-of-competition doping test, four weeks should elapse before their next doping test; (4) If a doping control officer does not provide valid proof of identity, an athlete can refuse to participate in the testing; (5) A masking agent is someone who helps an athlete hide their use of doping and is therefore equally responsible for doping offences; (6) The use of amphetamines in cycling has been related to several cases of death due to cardiovascular failure; (7) The use of amphetamines by women is related to male-like changes in body appearance; (8) Synthetic testosterone (i.e., steroids) increases the quantity of erythrocytes and is therefore common in endurance sports; (9) Use of synthetic testosterone (i.e., steroids) inhibits the production of natural (endogenous) testosterone; and (10) When an athlete reports undergoing official medical treatment, he/she cannot be tested for doping.

Knowledge of nutrition was checked by a specific questionnaire on sport nutrition (KSN) [22]. The KSN consisted of test questions using the same evaluation system as previously described for KD. Items 1, 3 and 10 examined knowledge of hydration/dehydration; questions 2, 4 and 6 targeted knowledge of nutrition strategies aimed at recovery; and questions 5, 7, 8 and 9 were general questions about knowledge of nutrition. The questions were as follows: (1) "The negative side effects of excessive sweating are best cured by drinking pure water"; (2) "After a competition day is over, it is better to not eat for 4 hours after a competition"; (3) "Dark yellow urine is a sign of proper hydration of the body"; (4) "For the first meal after a match, chicken breast (white meat) and eggs are a better choice than pasta"; (5) "Dried fruit is an excellent source of carbohydrates"; (6) "Protein supplementation requires an increased intake of water"; (7) "Fresh fruit and vegetables are the best source of high-quality proteins"; (8) "Egg yolk and poultry are a valuable source of vitamins B and C"; (9) "Carbohydrate-laden meals should be avoided before matches because they encourage urination and therefore dehydration"; and (10) "A decrease in body weight as a result of a single training day indicates dehydration".

Doping related factors included variables on personal opinion about doping presence in volleyball (I don't think doping occurs in volleyball, occurs rarely, occurs frequently), and personal opinion about the main problem of doping (Doping is a fair-play issue, doping is health hazard, doping is equally health hazard and fair play issue, I don't think doping is problem at all)[20].

All players were tested using an online platform. An invitation to complete the questionnaire was sent to each player, who then accessed the online platform directly to respond to the questionnaire. The players received the questionnaire link at a similar time of day and were notified that they had 24 hours to complete it. The platform used was designed to allow only one connection from an IP address to prevent multiple responses from the same participant.

Statistics

After the calculation of Kolmogorov-Smirnov test to assess the normality of distributions, descriptive statistics involved calculating frequencies and percentages (for nonparametric variables), and means and standard deviations (for parametric variables).

Differences between groups based on DT were assessed using the independent samples t test for parametric variables, the Mann-Whitney test for ordinal variables, and the Chi-square test for nominal variables. The calculation of differences between groups of interest (positive DT vs. negative DT) allowed us to roughly investigate the association between study variables and DT.

Logistic regressions were performed to determine the predictive value of study variables with DT (criterion). The "negative DT" was coded as 1, "neutral and positive DT" was coded as 2, and odds ratios (ORs) and 95% confidence intervals (CIs) were reported. Statistica ver 13.5 (Tibco Inc. Palo Alto, CA) was used for all calculations, and the p value was set at 0.05.

Results

Table 1 presents the results of the descriptive statistics for normally distributed variables and differences between groups according to DT. Evidently, no significant differences between groups were found in age (t test = 0.52, p-level = 0.61), experience in volleyball (t test = 1.85, p-level = 0.07), or KD (t test = 1.75, p-level = 0.09). Players who did not report negative DT had lower SCSRF scores (t test = 2.69, p-level = 0.001) and lower scores on KSN (t test = 2.11, p-level = 0.02).

Positive DT was generally low (<9% of players declared positive DT). No significant difference between groups based on DT was established for sociodemographic variables (Table 2).

When groups based on DT were compared in sport factors and doping factors, no significant differences were established (Table 3).

The results of the logistic regression calculations for DT as a binarized criterion are presented in Figure 1. With regard to significant correlations, it should be noted that lower religiousness obtained by the SCSRF was found in players who reported positive DT (OR = 0.68, 95%CI: 0.41–0.81). Additionally, players who expressed positive DT achieved lower scores on KSN (OR = 0.81, 95%CI: 0.67–0.98).

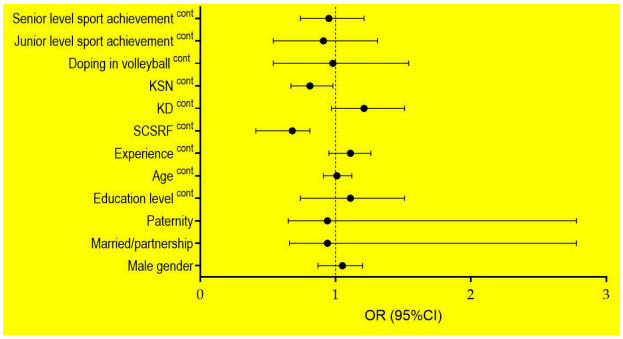

Fig. 1. Results of logistic regression for binarized criterion of doping tendency (KSN – knowledge on sports nutrition; KD – knowledge on doping; SCSRF – Santa Clara Strength of Religious Faith, cont denotes variables observed as continuous for the purpose of logistic regression calculation).

TABLE 1

DESCRIPTIVE STATISTICS FOR PARAMETRIC VARIABLES AND T-TEST DIFFERENCES BETWEEN GROUPS BASED ON DOPING TENDENCY (DT)

	Negative DT		Neutral/Positive DT		Independent samples t-test		
	Mean	SD	Mean	SD	t-value	df	p
Age (years)	23.16	2.73	23.50	2.28	–0.52	207	0.61
Experience in sports (years)	7.96	2.71	9.17	1.82	–1.85	207	0.07
SCSRF (score)	23.72	10.62	16.67	11.00	2.69	207	0.01
KD (score)	3.05	1.13	3.55	2.30	–1.75	207	0.09
KSN (score)	5.21	1.15	4.67	1.53	2.11	207	0.02

Legend: SCSRF – Santa Clara Strength of Religious Faith, KD – knowledge on doping, KSN – knowledge on sport nutrition

TABLE 2

DESCRIPTIVE STATISTICS FOR SOCIODEMOGRAPHIC VARIABLES AND DIFFERENCES BETWEEN GROUPS BASED ON DOPING TENDENCY (DT)

	TOTAL		Negative DT		Neutral/Positive DT		MW/Chi square (p)
	F	%	F	%	F	%	
Gender Chi square							
Females	106	50.7	97	50.8	9	50.0	
Males	103	49.3	94	49.2	9	50.0	
Missing	0	0.0	0	0.0	0	0.0	0.01 (0.94)
Marriage Chi square							
Single	182	87.1	164	85.9	18	100.0	
Married/partnership	27	12.9	27	14.1			
Missing	0	0.0	0	0.0	0	0.0	-
Paternity Chi square							
No	193	92.3	175	91.6	18	100.0	
Yes	16	7.4	16	8.4	0	0.0	
Missing	0	0.0	0	0.0	0	0.0	-
Education level MW							
High school	113	54.1	101	52.9	12	66.7	
College/university student	75	35.8	69	35.8	6	33.3	
College/university degree	17	8.1	17	8.9	0	0.0	
Missing	4	1.9	4	2.1	0	0.0	1.10 (0.27)

Legend: MW – differences between groups calculated by Mann Whitney test; Chi square – differences between groups calculated by Chi square; - denotes variables where differences were not calculated due to null frequencies

TABLE 3

DESCRIPTIVE STATISTICS FOR SPORT-FACTORS AND DOPING-FACTORS AND DIFFERENCES BETWEEN GROUPS BASED ON DOPING TENDENCY (DT)

	TOTAL		Negative DT		Neutral/Positive DT		MW/Chi square (p)
	F	%	F	%	F	%	
Sport achievement at junior level [MW]							
National level competition	156	74.6	138	72.3	11	64.7	
National level achievement	53	25.4	53	27.7	7	35.3	
Missing	0	0.0	0	0.0	0	0.0	1 (0.41)
Sport achievement at senior level [MW]							
Local level achievement	19	9.1	19	9.9	0	0	
National level competition	117	56.0	99	51.8	9	50.0	
National level achievement	73	34.9	73	38.2	9	50.0	
Missing	0	0.0	0	0.0	0	0.0	0.21 (0.71)
Doping in volleyball [MW]							
I don't think doping occurs	155	74.2	143	74.9	12	66.7	
Occurs. but rarely	40	19.1	34	17.8	6	33.3	
Occurs frequently	14	6.7	14	7.4	0	0.0	
Missing	0	0.0	0	0.0	0	0.0	0.52 (0.59)
Main problem of doping [Chi square]							
Fair play issue	66	31.6	54	28.3	12	66.7	
Health issue	90	43.1	90	47.1	0	0.0	
Both	28	13.4	28	14.7	0	0.0	
No problem at all	25	11.9	19	10.0	6	33.3	
Missing	0	0.0	0	0.0	0	0.0	-

Legend: MW – differences between groups calculated by Mann Whitney test; Chi square – differences between groups calculated by Chi square;

Discussion

Doping in sports presents a multifaceted sociological problem that affects individual athletes, sports organizations, and society as a whole. It undermines the values of fairness and integrity, negatively influences youth and cultural norms, exacerbates social and economic inequalities, and poses significant challenges for regulation and enforcement. Addressing the sociological aspects of doping requires a comprehensive approach that involves education, policy changes, and cultural shifts toward valuing clean competition and ethical behavior in sports. Results of our study highlighted two important findings First, lower knowledge on nutrition was found to be related to positive DT. Second, lower religiosity was associated with positive DT. Therefore, our initial study hypothesis should be accepted.

Religiosity as a protective factor against doping in volleyball

Our results revealed a relatively strong negative correlation between the level of religiosity obtained by the SCSRF and DT in male and female volleyball players. Previous studies have shown that religiousness is potentially related to substance misuse and doping behavior in athletes, but knowledge of the associations between religiousness and (general) substance misuse in general population can also be used to explain these associations[12,18]. Indeed, religiosity is often considered protective against substance misuse for several reasons, including (i) moral guidelines, (ii) a sense of meaning, and (iii) coping mechanisms related to religiosity. In the following text, each of the specified reasons is briefly discussed.

Practically, all religions provide clear moral and ethical guidelines that discourage any kind of substance misuse and promote healthy lifestyles. Although we did not specifically ask participants about their religion, we are aware that most of them were traditionally Roman Catholics (Christians). Christianity generally involves substance misuse through the lens of moral, ethical, and spiritual guidance. For example, the Bible teaches that the body is a temple of the Holy. This actually implies that Christians should avoid substances that harm the body. Logically, any kind of substance misuse is often viewed as a sin because it leads to behaviors that are contrary to Christian values, such as lack of self-control and harmful actions toward oneself and others[23]. There is no doubt that these guidelines can help individuals avoid behaviors that are harmful to their health, which logically translate even

to doping, especially given the negative health effects of doping[12,18].

The second mechanism of the protective effect of religiosity against doping could be found in the expressed sense of meaning in more religious athletes. Specifically, religious communities offer strong social support networks[24,25]. Truly religious individuals can have a strong sense of purpose and direction in life, guided by their faith. This sense of purpose can deter them from engaging in behaviors that compromise their goals and values, such as substance misuse and doping. Additionally, religion, in most cases, teaches individuals who they have a greater calling or mission in life. This belief can motivate people to maintain a lifestyle that aligns with their spiritual goals and avoid activities that would detract from their ability to fulfill their purpose. Therefore, being part of such a supportive community can provide emotional support, reduce feelings of isolation, and encourage positive behaviors, including doping.

Third, religiosity can offer coping mechanisms for dealing with stress, anxiety, and other psychological issues[24]. Professional sports are highly stressful, and such coping mechanisms are undoubtedly important. Practices such as prayer, meditation, and participation in religious services can help individuals manage their emotions and reduce the likelihood of turning to doping as a coping mechanism. Indeed, even experimental studies have confirmed the positive effects of meditation and prayers, which offer clear psychological benefits such as focusing one's thoughts, providing a sense of order and stability, and cognitive reframing (i.e., seeing stressful situations from the perspective of faith or trust in greater power, which can reduce feelings of helplessness and despair)[24]. Although doping usage is often "a consequence" of a sense of weakness, it is not difficult to transfer this mechanism to DT as well.

Supportively, studies already examined the association between religiosity and doping behavior in athletes, and results are generally consistent with regard to certain protective effect of religiosity against doping. Rodek et al. (2013) summarized studies on relationships between religiousness and doping behavior in three types of sport, namely highly energetic demanding sports (weightlifters and power lifters; N=27), athletes in highly technical demanding sports (table tennis, tennis and badminton players; N=188), and athletes in highly tactical demanding sports (sailing; N=78). In general, results confirmed moderate to strong protective effects of religiousness on doping tendency, with strongest association in highly energetic sports.[21]

Knowledge of nutrition as a protective factor against doping in volleyball

Previous studies have investigated the link between (sport) nutrition and doping in sports. However, most of the research highlighted an increased likelihood of doping in athletes who consumed nutritional (dietary) supplements, indicating that dietary supplementation (DS) is a gateway to doping[26–27]. In general, the authors of this study believe that the association between DS and doping is far more complex and should be considered in a specific context. In brief, DS is a natural choice for most advanced-level athletes, and when DS cannot fulfill athletes' needs, they may even consider doping. In other words, it is not likely that athletes will consider doping if they did not use DS first, but dietary supplementation cannot be stigmatized because of this "confounding effect". For that reason, we aimed to specifically observe the correlation between objectively measured knowledge of nutrition (including knowledge of dietary supplementation; please see Variables for more details) and DT in volleyball. The possible reasons for the established association (i.e., a lower likelihood of positive DT in players with better KSN) are discussed in the following text.

The first possible reason for the correlation between greater knowledge of nutrition and negative DT is that proper nutrition can increase performance. Indeed, studies clearly indicate that adequate nutrition can naturally enhance athletic performance by ensuring that athletes have the necessary energy, strength, and endurance[28–29]. For example, proper nutritional strategies have been shown to improve endurance performance[28]. Also, an improved power performance is exhibited as a result of proper nutrition[29]. Most importantly, proper nutrition can play a role in reducing the risk of injury and improving recovery time[30]. In general, proper nutritional knowledge helps to avoid deficiencies that might otherwise tempt athletes to seek quick fixes through doping. For instance, knowing how to maintain appropriate levels of vitamins, minerals, and macronutrients can prevent fatigue and injuries, which are common reasons why athletes might turn to doping[31]. Therefore, it is understandable that knowing how to optimize one's diet can reduce the perceived need for doping.

However, other potential factors related to nutrition and knowledge about nutrition in relation to DT also deserve attention. For example, advanced knowledge of nutrition could be associated with psychological benefits that can prevent athletes from using doping. Specifically, nutrition education can foster a healthier relationship with food and body image, reducing the psychological pressure to use doping for performance enhancement. In other words, athletes who are confident in their nutritional strategies may feel less inclined to resort to doping. Since doping behavior is generally correlated with perfectionism and self-efficacy, the potential influence of the previously described psychological benefit of better knowledge on nutrition is also understandable[13–14].

Additionally, it must be highlighted that (proper) nutrition should be considered a key aspect of overall health[22]. Athletes who prioritize their health through nutrition are likely to adopt a more holistic approach to their training and competition, reducing the allure of doping, which can have adverse long-term health effects. Finally, athletes who are knowledgeable about nutrition are more likely to seek guidance from qualified dietitians and nutritionists. These professionals can offer evidence-based advice and

support, further reducing the likelihood of doping. For a moment, we cannot speculate which of the previously presented factors directly resulted in an established association, but there is a strong possibility that, throughout some of the mentioned reasons, the protective effect of greater knowledge on nutrition against DT should be described.

Limitations and strengths

The most important limitation of this study is that doping behavior was not exactly identified by the doping test results but rather was observed through personal opinions on the tendency toward doping. Therefore, participants may be inclined toward socially desirable answers. However, this is probably the only possible approach in studying the correlates of DT. On the other hand, we believe that the strict anonymity of the testing and our experience from previous studies decreased this possibility. Additionally, the study was cross-sectional, and therefore, causality cannot be undoubtedly interpreted.

This is one of the first studies in which factors correlated with DT were specifically investigated for volleyball sport. This allowed precise interpretation of the established correlations. Additionally, the professional level of the players involved in the investigation is important strength of the investigation.

Conclusion

Our results highlighted the protective effect of knowledge on nutrition against DT in volleyball professionals. Although we cannot draw indefinite conclusions about the background of these associations, it is plausible that nutrition provides athletes with tools to optimize their performance naturally. Therefore, greater knowledge of nutrition could allow athletes to make informed decisions, prevent deficiencies, and maintain overall health. It also equips them with knowledge about safe supplementation and the ethical implications of doping, thus acting as a deterrent against the use of doping.

By providing a strong sense of meaning and purpose, religious beliefs and practices can offer certain protection against doping, helping athletes to lead healthier and more fulfilling lives. Additionally, religious teachings often promote behaviors that are incompatible with any kind of substance misuse, which logically includes doping substances. This can create a cultural and social environment that discourages the use of dopin. However, for a more in-depth analysis, further prospective analyses are needed.

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SKLONOST DOPINGU U ODBOJCI: ANALIZA SPECIFIČNIH KORELATA MEĐU PROFESIONALNIM IGRAČIMA

S A Ž E T A K

Doping je jedan od najvažnijih problema u suvremenom sportu, no studije su rijetko ispitivale korelate sklonosti dopingu (DT) u profesionalnoj odbojci. Cilj ovog istraživanja bio je procijeniti DT te definirati sociodemografske čimbenike, čimbenike znanja o dopingu i prehrani te sportske čimbenike povezane s DT kod profesionalnih odbojkaša. Sudjelovalo je 209 odbojkašica i odbojkaša (106 žena; 23,4±2,02 godine) kojima su ispitanii DT, specifične sociodemografske varijable (dob, stupanj obrazovanja, bračni status, roditeljski status, religioznost), sportski čimbenici (odbojkaško iskustvo, natjecateljski uspjeh u juniorskoj i seniorskoj dobi), poznavanje dopinga i poznavanje sportske prehrane (KSN) te prethodno validirani upitnici. Pozitivan DT bio je nizak (<9% igrača ima je pozitivan DT), bez značajne povezanosti između DT i spola (Chi-kvadrat = 0,01, p-razina = 0,94). Rezultati logističke regresije izračunati za binarizirani DT kao ishod (negativni DT naspram pozitivnog DT) pokazali su nižu religioznost (OR = 0,68; 95%CI: 0,41-0,81) i lošije poznavanje sportske prehrane (OR = 0,81, 95%CI: 0,67-0,98) kao značajne korelate pozitivnog DT. Utjecaj pravilne prehrane na sportske rezultate vjerojatno je razlog zaštitnog učinka znanja o sportskoj prehrani protiv dopinga. Postoji izvjesna mogućnost da vjerska uvjerenja i prakse mogu ponuditi određenu zaštitu od dopinga pružajući osjećaj smisla i svrhe, ali bi to trebalo detaljnije istražiti u budućim studijama.