

ISSN 2518-1483 (Online),  
ISSN 2224-5227 (Print)

2017 • 2

ҚАЗАҚСТАН РЕСПУБЛИКАСЫ  
ҰЛТТЫҚ ҒЫЛЫМ АКАДЕМИЯСЫНЫҢ

## БАЯНДАМАЛАРЫ

## ДОКЛАДЫ

НАЦИОНАЛЬНОЙ АКАДЕМИИ НАУК  
РЕСПУБЛИКИ КАЗАХСТАН

## REPORTS

OF THE NATIONAL ACADEMY OF SCIENCES  
OF THE REPUBLIC OF KAZAKHSTAN

ЖУРНАЛ 1944 ЖЫЛДАН ШЫҒА БАСТАҒАН  
ЖУРНАЛ ИЗДАЕТСЯ С 1944 г.  
PUBLISHED SINCE 1944



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«Қазақстан Республикасы Ұлттық ғылым академиясының баяндамалары»  
ISSN 2518-1483 (Online),  
ISSN 2224-5227 (Print)

Меншіктенуші: «Қазақстан Республикасының Ұлттық ғылым академиясы» Республикалық қоғамдық бірлестігі (Алматы қ.)  
Қазақстан республикасының Мәдениет пен ақпарат министрлігінің Ақпарат және мұрағат комитетінде 01.06.2006 ж.  
берілген №5540-Ж мерзімдік басылым тіркеуіне қойылу туралы куәлік

Мерзімділігі: жылына 6 рет.

Тиражы: 2000 дана.

Редакцияның мекенжайы: 050010, Алматы қ., Шевченко көш., 28, 219 бөл., 220, тел.: 272-13-19, 272-13-18,  
[http://nauka-nanrk.kz\\_reports-science.kz](http://nauka-nanrk.kz_reports-science.kz)

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Типографияның мекенжайы: «Аруна» ЖК, Алматы қ., Муратбаева көш., 75.

Главный редактор  
д.х.н., проф., академик НАН РК **М. Ж. Журинов**

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«Доклады Национальной академии наук Республики Казахстан»

ISSN 2518-1483 (Online),

ISSN 2224-5227 (Print)

Собственник: Республиканское общественное объединение «Национальная академия наук Республики Казахстан» (г. Алматы)

Свидетельство о постановке на учет периодического печатного издания в Комитете информации и архивов Министерства культуры и информации Республики Казахстан №5540-Ж, выданное 01.06.2006 г.

Периодичность: 6 раз в год.

Тираж: 2000 экземпляров

Адрес редакции: 050010, г.Алматы, ул.Шевченко, 28, ком.218-220, тел. 272-13-19, 272-13-18

<http://nauka-nanrk.kz> [reports-science.kz](http://reports-science.kz)

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Адрес типографии: ИП «Аруна», г.Алматы, ул.Муратбаева, 75

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Owner: RPA "National Academy of Sciences of the Republic of Kazakhstan" (Almaty)

The certificate of registration of a periodic printed publication in the Committee of Information and Archives of the Ministry of Culture and Information of the Republic of Kazakhstan N 5540-Ж, issued 01.06.2006

Periodicity: 6 times a year

Circulation: 2000 copies

Editorial address: 28, Shevchenko str., of.219-220, Almaty, 050010, tel. 272-13-19, 272-13-18,

<http://nauka-nanrk.kz> / [reports-science.kz](http://reports-science.kz)

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Address of printing house: ST "Aruna", 75, Muratbayev str, Almaty

**REPORTS OF THE NATIONAL ACADEMY OF SCIENCES  
OF THE REPUBLIC OF KAZAKHSTAN**

ISSN 2224-5227

Volume 2, Number 312 (2017), 67 – 74

UDC 796.062

**V. N. Avsiyevich**

Kazakh Academy of Sports and Tourism, Almaty, Kazakhstan.

E-mail: E-mail:qwer75tyu@mail.ru

**THE USE OF DOPING IN POWER SPORTS IN KAZAKHSTAN:  
STATUS OF THE PROBLEM AND SOLUTIONS**

**Abstract.** This article presents the analysis of the state of the problems of doping in power sports in Kazakhstan. The level of doping by athletes in weightlifting and powerlifting is determined. The main related parties, both in the application and in the spread of illicit drugs are presented. The main causes of doping in power sports in Kazakhstan and prospects of solving the problem are determined. Unconscious factors of doping are defined. A comprehensive approach involving sports functionaries, teachers, psychologists, coaches, doctors and lawyers is based on: the revision of competition regulations, the development and introduction of new training methods, psychological preparation of athletes, the introduction of the legal framework of Kazakhstan measures of legal responsibility for distributing banned sports drugs and the maximum reduction in the illegal trafficking of illicit drugs. Data presented in this article can be used to study the problem of doping in other sports.

**Keywords:** doping, illegal drugs, power sports, sports results.

**Introduction.** Doping (from the English, dope – to give drugs) is the use of substances of natural or synthetic origin, which allows achieving improved sports results. Such substances are not drugs, but they can sharply raise the activity of the nervous and endocrine systems and muscle strength for a short time. They also include drugs that stimulate the synthesis of muscle proteins after the load actions on the muscles. A huge number of medicines has the status of banned for athletes during training and/or competition [1].

Initially, doping was used by trainers and horse riders in the United States. These were stimulants injected into the horse's body before horseracing by subcutaneous injection or ingestion in the form of remedy. Information about this, as well as on the detention of red-handed riders, first came to European and Russian newspapers in 1903. In the same year, the race societies agreed to fight and strictly pursue this ugly phenomenon, which threatens to bring untold misfortunes to the blood horse breeding. The very first offender caught was Frank Starr. During the race day on June 8, 1913, the rider Frank Starr was found elixir, which was given to the horse to excite and strengthen its course during the race. Artificially improving the speed of the horse for a short time, the elixir at the same time adversely affects her health. Rider Frank Starr was deprived of the right to ride forever [1].

Doping is a phenomenon that takes a special place in the sport of higher achievements. Its application is in contradiction with the basic principles of sport, ideals and values of the philosophy of Olympism. Doping has become a sphere of serious business in which there are both absolutely legal and criminal manifestations [2].

The spread of doping is promoted by a complex of economic, social, socio-psychological reasons: the commercialization of sports and the deformation of the professional consciousness of athletes, the policy of pharmaceutical companies, the participation of organized crime in the dissemination of doping, the imperfection of the legal framework and the low effectiveness of controlling, supervising, law enforcement agencies in combating doping [3].

As the analysis of the use of the most effective drugs in the world practice shows, their use by athletes allowed to increase sports performance even before inclusion in the list of banned [4, 5, 6].

Currently, there are 35 accredited WADA anti-doping laboratories in the world, including RSBE "Anti-doping laboratory of athletes" in Almaty. Despite the fact that in March 2013, the National anti-doping center started its work in Kazakhstan, active work is being done to exclude doping from sport practice at the public and state level, the use of banned drugs in power sports in Kazakhstan remains relevant.

**Methods of research.**

1. Study, analysis and generalization of data of special domestic and foreign scientific literature.
2. Generalization of practical experience as the results of oral and questionnaire surveys of coaches and athletes.
3. Analysis of competitive standards, planning documents for the training process, developed training programs for training and competitive protocols.
4. Statistical processing of the results.

**Results and discussion.**

*The state of the problem of doping in power sports in Kazakhstan.* Table 1 presents the WADA (World Anti-Doping Agency) data for 2013 on the number of doping tests in athletes of 10 countries with the maximum number of positive results. In total, in 2013, 1953 positive doping tests were detected [7].

Table 1 – Ten countries, which athletes most often came across the use of doping, according to WADA data for 2013.

#	Country	Number of athletes
1	Russia	225
2	Turkey	188
3	France	108
4	India	95
5	Belgium	94
6	Italy	83
7	Spain	67
8	Poland	55
<b>9</b>	<b>Kazakhstan</b>	<b>47</b>
10	South Africa	46

Table 2 – The number of Kazakhstan athletes specializing in various sports with positive doping tests, according to WADA data for 2013.

#	Sport	The number of athletes with positive doping test
<b>1</b>	<b>Weightlifting</b>	<b>16</b>
<b>2</b>	<b>Powerlifting</b>	<b>10</b>
3	Judo	6
4	Track and field	3
5	Types of wrestling	2
6	Fencing	2
7	Cycling	2
8	Arm wrestling	1
9	Modern pentathlon	1
10	Ski sports	1
11	Rowing and canoeing	1
12	Kickboxing	1
13	Ice hockey	1
	<b>Total</b>	<b>47</b>

As can be seen from Table 2, the superiority of the number of identified positive doping tests in Kazakhstan athletes belongs to representatives of power sports (weightlifting and powerlifting). This table does not specify the number of athletes who have been convicted of using doping as a result of additional studies of previously taken samples at competitions 2015-2016.

To date, there are 12 major groups of doping drugs used in sports and WADA prohibited for use by athletes in various sports (figure 1).

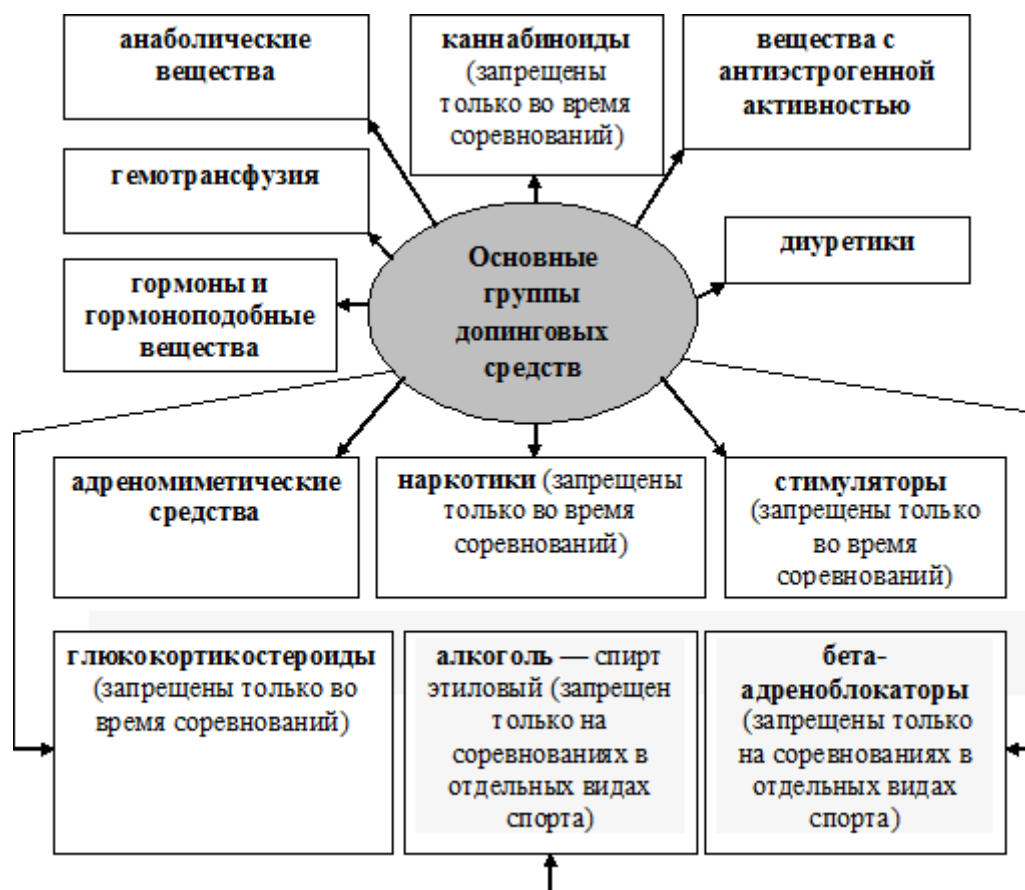


Figure 1 – Doping groups

Williams M. analyzed data, provided by sports officials and doctors, and received the following results regarding the use of anabolic drugs in the US sports in 1997:

- 1) 90% of male athletes engaged in weightlifting, powerlifting and bodybuilding, use these drugs;
- 2) 70-80% of the throwers of the hammer and disk, as well as the putters use anabolic drugs;
- 3) 40-50% of sprinters use anabolic drugs;
- 4) 10% of athletes involved in sports, where maximum endurance is required (running, cycling), also use pharmacological support based on anabolic drugs.

The author also notes that female athletes use anabolic drugs 4-5 times less often than male athletes. In this case, the use of anabolic drugs in high performance sports and in sports for children and young people acquires a catastrophic character. In general, anabolic drugs are taken by more than 1 million American athletes [8].

**The level of doping in strength sports in Kazakhstan.** In 2017 we conducted a questionnaire survey of Kazakhstan coaches (11 people) and athletes (49 people) specializing in power sports (weightlifting and powerlifting), on the use of WADA prohibited drugs. The survey was informal, with complete anonymity.

61.2% of men and 38.8% of women were sportsmen. The average age of athletes was  $24.43 \pm 7.57$  years old. The average length of employment by power sports at the time of the survey was

10.72 ± 7.57 years. The title of MSIG is in 6.1% of respondents, MS - 22.4%, CMS-24.6%, I senior degree - 22.4%, II senior degree - 14.3%, III senior degree - 10.2%.

39% of the surveyed sportsmen indicated that they use or previously used illegal drugs. As indicated in the questionnaires, 89% of respondents who used illegal drugs and their coaches, the main drugs used by athletes in weightlifting and powerlifting are anabolic or androgen-anabolic drugs, 21% of respondents noted the use of drugs with anti-estrogenic activity, 12% of coaches and athletes note the use of somatotropin (growth hormone) and gonadotropin. In this case, drugs with anti-estrogenic activity, somatotropin and gonadotropin are used mainly in combination with drugs of anabolic nature.

Voluntariness of participation in the survey of athletes and coaches on the conditions of anonymity and guarantee of confidentiality of the results obtained allowed to get reliable information about the use of prohibited drugs belonging to doping.

Among the identified banned drugs used by highly skilled athletes in power sports of Kazakhstan, according to WADA, the championship belongs to the remedies of anabolic number of stanozolol, followed by drugs of the same number of turinabol and oxandrolone.

Before determining the objective reasons for the doping use, we present the main stakeholders, both in the application and in the distribution of banned drugs. We distribute them to entities with direct interests and those with indirect interests.

Subjects with direct interest 1, 2 and 3 (Figure 2) are only interested in financial benefit by increasing sales and expanding the client base. Subjects 4 - in getting sporting fame, publicity, recognition and also in receiving material rewards for the high performances.



Figure 2 – Subjects of the process of using doping in sport

Subjects with indirect interest, i.e. all anti-doping structures, including WADA, which exist at the expense of contributions from individual states and commercial services. These structures are unconditionally financed by presence of the problem of the use of doping in sport. In the absence of the problem, the structures would simply no longer need to exist. Therefore, most of these subjects with indirect interest are not beneficial in reduction of the doping use, which is certainly a sad reality, but this fact should be recognized.



***The main reasons for the doping use in power sports in Kazakhstan and the prospects for solving the problem.*** At this time, there are several main reasons for the doping use in power sports.

1. The change in the standards towards weight gain in weightlifting and powerlifting over the past 40 years has been done repeatedly. It is clear that this was dictated by an increase in the level of power capabilities of athletes. By what means there was the rapid increase in power abilities, remains a big question. For the period from the 70s of the XX century to the present time, there is a period with active introduction of pharmacological support of athletes with the use of drugs of anabolic and androgenic series, and approximately from the 90s of the XX century, also the use of a somatotrophic hormone.

At this time, for example, to fulfill the standard of the master of sports in powerlifting in the weight category under 83 kg (in sum of three exercises - 590 kg without equipment) is practically not real without serious pharmacological support with the use of banned drugs. This reality is well understood by both coaches and athletes.

To solve this problem, a serious multifaceted approach is needed with the study of the standards that were applied in the so-called "before doping period" with their comparison with the standards currently used, and the study of the power abilities of athletes who never used prohibited drugs. To do this with the involvement of physiologists, biomechanics, biochemists, sports officials and experienced coaches. Standards are needed to be revised downwards. Otherwise, the standard grid itself will be the main motivational factor for the use of doping by athletes.

2. Many professional athletes and coaches in power sports do not see any other opportunity to achieve high sports results, except by using doping, including those in the list of WADA banned substances.

In power sports, where the main physical quality is the power, the manifestation of which occurs most intensively and in a short period of time (weightlifting, powerlifting, kettlebell lifting, bodybuilding), in most cases, power indicators are determined primarily by genetic data, and then by the training method, while the sources of energy supply for muscular activity differ fundamentally from those providing endurance.

In weight-lifters, powerlifters and bodybuilders the protein metabolism in the general scheme of metabolic reactions dominates, while the energy source of the motor action of heaving exercises is mainly creatine phosphate. Increase in strength of representatives of power sports requires a special control over the management of nutrition and the metabolism shift to the anabolic side without the use of anabolic and androgenic drugs, as well as somatotrophic and gonadotropic substances. It also requires a full recovery of the athlete's body, achieved not only by using only reconstructive techniques, but also by a properly organized training process that reduces the catabolic response of physiological systems. Therefore, it is not a secret for anyone that athletes and coaches often take the lazy way out, as they think on, when a positive anabolic metabolic shift is achieved due to the use of banned drugs, while the issue of nutrition, as well as full recovery of the body, can be put on the back burner.

To solve this problem, first of all, from the pedagogical and methodological point of view it is necessary to use such training methods that would have the maximum training effect, maximize the power capabilities, but at the same time, not harm health and not require the inclusion in the training system of pharmacological support with the banned drugs. The training technique itself should be designed so that it takes into account the physiological reserves of the athlete's organism as much as possible, the ability to recover after training sessions. Development and implementation of training methods should be carried out at the stage of the formation of sportsmanship, in the time period of finding athletes in children and youth sports.

The management of the training process of young athletes should be carried out by the coaching staff and accompanying specialists (physiologists, doctors, nutritionists, etc.) with the active participation of young athletes and provide for two important components:

- collection of data on the state of the organism of young athletes and the level of their biological development, the reaction of physiological functional systems to training loads, the degree of load in the competitions, etc .;

- analysis of the obtained data on the basis of comparison of actual sports results, development, planning and distribution of the training load providing achievement of the targeted training effect at full preservation of the health level [9].

In addition, it is necessary to establish proper control over the expenditure of funds allocated to nutrition of athletes of picked teams. All incoming funds for nutrition should be spent exclusively for the purpose, to provide full recovery and increase the power capabilities of athletes specializing in power sports.

3. The development of professional sports is closely intertwined with different traditions and practice of using certain prohibited drugs, which in many ways contributes to their informal legitimacy of use by athletes at the psychological level, by the principle: applied earlier - apply now.

This problem has long pursued all power sports, and for its solution it is necessary, first of all, to provide psychological support to athletes, especially beginners. To conduct a permanent work of psychologists aimed at getting athletes information about the possibility of achievement high sports results without the use of banned drugs. To hold up as an example athletes of the early XX century, who showed very high results in heaving exercises without the doping use and solely due to a properly organized system of training, rest and nutrition.

4. The World Anti-Doping Code (2003) stipulates that the athlete himself is responsible for someone who trusts his/her health, but in practice he/she does not always know what is being introduced into his/her body. Mistakes of doctors or negligence of coaches could cost the athletes a career and earnings [10].

But, most importantly, mistakes could cost health, and even life. Besides some officials in power sports, coaches and sports doctors are of the opinion that the use of various prohibited drugs does not contradict sporting ethics and does not lead to deterioration of health status, as well as premature functional deterioration of physiological systems of the organisms.

To solve this problem, it is necessary to introduce administrative and, in cases of death of athletes as a result of doping, criminal liability of coaches and doctors for deliberately assigning banned drugs to athletes in the category of doping.

5. The uncontrolled sale of banned drugs related to doping has acquired a very wide scope in Kazakhstan at this time.

It is known that the main part of the drugs of the doping series was originally developed not for use in sports, but for the treatment of various diseases. Accordingly, the offtake was carried out through the pharmacy network under the condition of appointment by a doctor.

At the end of the 1980s, only four drugs belonging to the category of the androgenic-anabolic series were introduced in the pharmacy network of Kazakhstan, which were most widely used in power sports: methandrostenolone (produced in Russia), retabolyl (active substance nandrolone dekochnoate, Hungary), sustanon (active substance-group of testosterone with different duration, India), omnadren (active substance-group of testosterone with different duration, Poland). There was no somatotropin (growth hormone) in the pharmacy network, gonadotropin was sold, but not in all pharmacies. Undoubtedly, there was also a "black market" of these drugs; the sale of medicines without prescriptions was usually handled by the pharmacy network workers.

Currently, the market of anabolic and androgen drugs in Kazakhstan also have a double structure: the pharmacy network and the "shadow business". If in the pharmacy network today there are only repatabol, sustanon and omnadren from the drugs of the androgenic-anabolic series and gonadotropin, then the "black market" is simply reloaded with drugs. In the "black market" there are all known for today drugs used to grow power indicators, both the androgenic-anabolic and somatotropin. Especially popular are such drugs as stanozolol, methandrostenolone, oxandrolone, turinabol, various types of testosterone, both in mono (cypionate, enanthate, propionate), and in a multicomponent form (sustanon, omnadren). On sale there are also so-called "mixes", when several active substances are mixed in one vial. Most of the drugs produced in China, is imported illegally. The main stream arrives by mail, through Internet orders. Supplies and sales in Kazakhstan are carried out by citizens of completely different professions, but they often have a direct or indirect connection with the sport. The "black market" of banned drugs in sports is absolutely uncontrolled at this time and is a serious problem.

To solve this problem, first of all, it is necessary to introduce administrative responsibility for the illegal importation and sale of banned drugs. The customs authorities and sanitary services should control imported illegal drugs by private persons and receiving goods through the postal network through Internet orders.

**Unconscious factors of doping.** In addition to the above reasons for the use of prohibited drugs, also at doping tests of athletes the presence in the body of substances, belonging to the category of doping using by the so-called unconscious factors, is revealed:

1st factor - use in sports of biologically active additives (BAA). In the world practice, cases when BAAs have in their structure forbidden substances of anabolic series and ephedrine are known, while the information presented on the packs of does not reflect the actual content of the active substances. As it is known in Kazakhstan, the process of registration of BAAs is of a simplified nature, since they do not refer to medicinal products, respectively, their content, therapeutic effect, presence of side effects and contraindications is not subjected to a full analysis.

To exclude the 1st factor, it is necessary for athletes, coaches, sports physicians to exclude the use of insufficiently researched BAAs in sports practice, which can carry a potential threat.

2nd factor - athletes in power sports in a large enough quantity use in the diet meat of large and small cattle, as well as poultry meat for the full provision of the body with high-quality, high-grade protein. As it is known, meat producers not only in Kazakhstan, but all over the world, for a long time actively use anabolic drugs to accelerate the weight gain of animals. Actually, many drugs with an anabolic effect in their time came into the sport from veterinary medicine. At this time, in Kazakhstan, no trading network, both supermarkets and small shops and markets, even in the presence of veterinary laboratories, conducts test analyzes for the content of preparations accelerating the weight gain of animals in meat products.

Unfortunately, the exclusion of this factor from the category of threats to be caught in the doping use is almost impossible at this stage of livestock development in Kazakhstan and the state of veterinary control; it remains to hope for a better situation in the future.

3rd factor - As many sportsmen in power sports often suffer from various kinds of sports injuries (including chronic ones), doctors recommend for use any medicinal products that exert on the body not only a therapeutic (therapeutic) effect, but also give a certain level of stimulation of the physiological systems of the organism. Even the treatment of an elementary cough at cold, and a number of cough preparations containing ephedrine (for example, broncholitin) in the market, can be a very big problem for athlete in the future.

In the presence of 3 factors, it is impossible to assign responsibility only to medical workers. The athlete is interested and obliged to inform the doctor about his/her sports practice, specialization in sports, and to inform that he/she will be subjected to the doping test in the future. Only with this approach it will be possible to minimize the danger of prescribing a drug containing prohibited substances.

**Conclusions.** The information presented by us points out the particular gravity of the problem of doping in power sports in Kazakhstan.

To solve this problem, an integrated approach, involving sports officials, educators, psychologists, coaches, doctors and lawyers, is needed based on:

- revision of competitive standards, both at the national and international levels;
- development and implementation of new training techniques that take into account the physiological capabilities of the athletes, especially in children and youth sports;
- psychological training of athletes aimed at excluding the practice of using information on the positive use of banned drugs by athletes in the past;
- introduction to legislative system of Kazakhstan of legal responsibility for the distribution of banned drugs in sports and attracting athletes to doping;
- the maximum reduction in the turnover of illicit drugs in the "black market" due to the strengthening of customs control, increasing legal liability for the import and sale of doping drugs;
- adoption of legislative norms for registration of BAAs in Kazakhstan that would ensure proper control over their production, import from abroad and, most importantly, compliance with the prescription for medical reasons;
- establishment of appropriate veterinary supervision ensuring control over the production, import and sale of meat products, which would guarantee the complete absence of prohibited substances in meat.

The biggest disappointment for athletes is to lose to those who used dope. High sports achievements without doping are possible, but they will cost several times more expensive than sports with the use of banned drugs. From the economic point of view, this requires additional expenses, but from the point of view of the development of sports, this is the only way that will allow not only to show high performances, but also to maintain the level of health and sports longevity of athletes.

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**В. Н. Авсиевич**

Қазақтың спорт және туризм академиясы, Алматы, Қазақстан

**ҚАЗАҚСТАННЫҢ ДОПИНГТІ ҚОЛДАНУҒА КҮШТІК СПОРТ ТҮРЛЕРІ:  
ЖАЙ-КҮЙІ, ПРОБЛЕМАЛАРЫ ЖӘНЕ ШЕШУ ЖОЛДАРЫ**

**Аннотация.** Мақалада деректер жай-күйін талдау және проблемалар допингті қолданудың күштік спорт түрлері. Деңгейі анықталды допинг қолданған спортшылардың ауыр атлетика және пауэрлифтинг. Ұсынылған негізгі мүдделі субъектілері, қолдану және таратуға тыйым салынған дәрі-дәрмектерді. Негізгі себептері допингті қолданудың күштік спорт түрлері бойынша Қазақстандағы болашағы және шешу. Орнатылған неосознанные факторлар допинг қолданған. Ұсынылды кешенді көзқарас қатысуымен спорттық функционерлер, педагогтар, психологтар, жаттықтырушылар, дәрігерлер мен заңгерлер негізделген: қайта қарау жарыс нормативтерді әзірлеу және енгізу, жаңа жаттығу әдістемелерін, психологиялық спортшыларды дайындау, енгізу заңнамалық базаны Қазақстанның шараларын заң жауапкершілігінің таратқаны үшін, спортта тыйым салынған препараттар мен барынша төмендету заңсыз айналымы тыйым салынған дәрі-дәрмектерді. Ұсынылған мақалада деректер үшін пайдаланылуы мүмкін зерттеу мәселелері допингті қолданудың басқа да спорт түрлері.

**Түйін сөздер:** допинг, тыйым салынған препараттар, күштік спорт түрлері, спорттық нәтижелері.

**В. Н. Авсиевич**

Казахская академия спорта и туризма, Алматы, Казахстан

**ПРИМЕНЕНИЕ ДОПИНГА В СИЛОВЫХ ВИДАХ СПОРТА В КАЗАХСТАНЕ:  
СОСТОЯНИЕ ПРОБЛЕМЫ И ПУТИ РЕШЕНИЯ**

**Аннотация.** В статье представлены данные анализа состояния проблемы применения допинга в силовых видах спорта в Казахстане. Определен уровень применения допинга спортсменами в тяжелой атлетике и пауэрлифтинге. Представлены основные заинтересованные субъекты, как в применении, так и в распространении запрещенных препаратов. Определены основные причины применения допинга в силовых видах спорта в Казахстане и перспективы решения проблемы. Установлены неосознанные факторы применения допинга. Предложен комплексный подход с участием спортивных функционеров, педагогов, психологов, тренеров, врачей и юристов основанный на: пересмотре соревновательных нормативов, разработке и внедрении новых тренировочных методик, психологической подготовке спортсменов, введении в законодательную базу Казахстана мер юридической ответственности за распространение запрещенных в спорте препаратов и максимальном снижении нелегального оборота запрещенных препаратов. Представленные в статье данные могут быть использованы для исследования проблемы применения допинга в других видах спорта.

**Ключевые слова:** допинг, запрещенные препараты, силовые виды спорта, спортивные результаты.

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**ISSN 2518-1483 (Online), ISSN 2224-5227 (Print)**

<http://www.reports-science.kz/index.php/ru/>

Редакторы *М. С. Ахметова, Д. С. Аленов, Т.А. Апендиев*  
Верстка на компьютере *А.М. Кульгинбаевой*

Подписано в печать 15.04.2017.

Формат 60x881/8. Бумага офсетная. Печать – ризограф.  
5,25 п.л. Тираж 2000. Заказ 2.