This paper analyzes the well-known specialized literature on the proper coverage of the problems of strength abilities development in wrestlers of different sports styles, as a leading motor quality in the creation of technical and tactical skills.

The purpose of the research was the theoretical analysis of the characteristics of the training process in wrestling concerning the creation of strength abilities at the modern stage of sports improvement.

Material and methods. This research was conducted using the method of specialized literature analysis and practical experience interpretation. The information was analyzed chronologically in the textbooks, monographs, papers, teaching aids and other publications (available up to 2020) about the sports training of the wrestlers. The extraction and presentation of the data focused on the methods and means for developing the strength abilities.

Results and discussion. The specialized literature referring to various types of martial arts has been thoroughly studied. The analysis has made a comparison between the content and significance of the bibliographic sources and has assessed their importance for the training process. These sources recommend the use of certain methods and means for developing the strength abilities of the wrestlers of different styles based on the general and special didactic principles of sports training. Considering all the factors that determine the effectiveness of wrestlers’ competitive activity, the means and methods necessary for the implementation of complex technical and tactical actions in wrestling were submitted to experimental validation.

Special attention was paid to the most important elements of techniques, variability of motion actions depending on the emerging dynamic situations, switching from one technique to another.

The development of general didactic principles in sports is focused on educational training. The general didactic principles, together with a wide range of knowledge related to sports training are only the basis for the formation of special patterns and principles.

Special principles do not strictly standardize the structure and content of athletes’ training, but they are generalizations and methodological guidelines that provide rational support and a solid scientific platform for this training.

The results of the study of specialized literature revealed the necessity for broad coverage of the ways to implement the specific principles in the training of wrestlers. The available specialized literature sources showed that the wrestlers' strength development was perceived as a secondary part of training compared to the improvement of their technical skills.

Conclusion. Carrying out the theoretical analysis of the training process features in wrestling pointed out the recommendations of the methods and means used to develop the strength skills of the wrestlers according to the general and special principles of the sports training.

Keywords: wrestling; general and special principles; strength abilities; training methods; modern stage

Introduction. Studying the history of the development of knowledge and practical activity in the training of the athletes specializing in different types of single combats and martial arts testifies to the great attention paid to the analysis of techniques and technical and tactical actions of wrestlers of various styles [1, 2, 3]. This knowledge is widely covered in the content of the majority of textbooks, monographs, teaching aids and other publications related to the sports training of the wrestlers [4–11].

At the same time, we have highlighted the fact that the most of the specialized literature sources clearly underestimate the importance of other types of
training (especially the physical one) and, also, such major qualities for the wrestling as strength.

Moreover, in our opinion, the general didactic and special principles of power improvement of wrestlers of various styles are not sufficiently disclosed. Their study and implementation reflect a very limited approach to the foundations of the rational construction of sports training and a lack of proper reliance on a wide volume of empirical knowledge in the field of both theory and methodology of sports training, related disciplines (anatomy, biomechanics, biochemistry, physiology, sports medicine etc.) and scientific approaches (systems approach, adaptation theory, motion control theory, theory of functional systems etc.) [12–21].

The rational process of sports training, including the theoretical and methodological principles of strength training, is mainly based on the experience of the following advanced sports practice and general didactic principles: accessibility, conscientiousness, activity, clarity, systematicity, consistency, strength [22, 23, 24, 25].

That is why the theoretical substantiation of the importance of strength training on the basis of general didactic and special principles in various types of wrestling is of crucial importance.

**The purpose of the research.** This paper focuses on the theoretical analysis of the characteristics of the training process in wrestling concerning the creation of power abilities in sports improvement stage.

**Tasks**

1. To study the available specialized sources regarding various types of martial arts and their recommendations on the methods and means to be used for developing the power abilities of the wrestlers of various styles.

2. To determine the most significant scientific literature sources, which describe the ways of developing strength abilities of wrestlers of various styles in an accessible form, based on the general and special didactic principles.

**Material and methods of research**

This research was conducted using the method of specialized literature analysis and practical experience interpretation. This knowledge was analyzed chronologically in the content of most of textbooks, monographs, specialized articles, teaching aids and other publications dealing with the sports training of the wrestlers [37].

The degree of coverage and the importance of strength abilities development in wrestlers of various styles were determined as leading in the manifestation and improvement of the technical-tactical and coordination capabilities.

We have studied the fundamental information materials of well-known scientists on the structure of the sports training in wrestling.

**Research results and their discussion**

The “Physical culture and sport” Publishing House of Moscow published a fundamental textbook for the institutes of physical culture: “Sports wrestling” (Sorokin, 1960) [27]. This textbook presents in detail the history of wrestling, the basics of teaching wrestling, organization, planning and accounting of educational and sports work, the features of working with children, the training process planning, the strength training [28].

The “Sports Wrestling” textbook for coaches and athletes, prepared by a large group of elite experts led by A.N. Lenz, the Honored Trainer of the USSR, deals also with the “Development of strength” [29]. The main means of strength development and methods are presented: “failure” exercises, short-term exercises, increasing weights, isometric method. The target is to make the most of the means and methods that ensure compliance with the techniques and motor actions of the wrestling [30, 31].

The textbook “Wrestling Sambo” (A. Kharlampiev, 1964) provides a list of general preparatory exercises with a barbell and partner resistance for strength training [32]. It was revealed that the main criterion determining the success of combat sambo wrestlers in the competitive activity was the level of their special training [33].

The next version of “Sports Wrestling” textbook (N.M. Galkovsky and A.Z. Katulin, 1968) gives the most general ideas about the manifestations of strength qualities in wrestling (explosive character in fast movements) and methods of strength training - resistance strength training with several forms (“to failure”, large and maximum efforts, increasing weights), isometric, inferior [4]. The main exercises are also presented: exercises with a barbell, weights, bags, stuffed balls, etc. [16, 34].

A.P. Kuptsov (1978) and his team of specialists presented the methods of strength development: the method of maximum efforts, involving the use of exercises (lifting a barbell, stretching shock absorbers etc.) with near limit and limit weights; the method of repeated efforts based on the use of weights of 40–70% of the maximum with work “to failure”; the method of dynamic efforts, involving the performance of special strength exercises with high speed and moderate weights; isometric method involving the use of static stresses in a certain position (holding the bridge, holding the grip, etc.) [35]. The authors recommend the even distribution of the power load to various muscle groups; the exercises with maximum weights should be alternated with relaxation exercises, the speed-strength exercises should be used first, all aiming at the development of maximum strength and strength endurance [36, 37, 38].
The approaches to strength training of freestyle and Greco-Roman wrestlers formed in the 30-50s of the last century do not change in subsequent years, extending also to judo. For example, S. Matveev and Ya. Voloshchuk (1974), recommended the development of strength using exercises with barbells, hammers, weights, dumbbells, expanders, using general preparatory gymnastic exercises: flexion and extension of the arms in the lying position, flexion and extension of the arms in an emphasis on the uneven bars, pulling up on the rings, going out at close range by force on the bar etc [39]. The recommendations to develop strength by performing exercises “to failure”, the onset of severe fatigue contradict the recommendations of the serious works on strength training of those years [40, 41].

The Japanese experts (Iwai et al., 1977) highlight the importance of the general developmental exercises which contribute not only to the increase of the physical strength, but also the explosive strength which helps to advance during attack [42].

The book “Greco-Roman wrestling” (A. G. Semenov and M. V. Prokhorova, 2005) examines physical fitness issues and includes recommendations similar to the ones made by A. N. Lenz in 1964 and by N. M. Galkovsky and A. Z. Katulin in 1968 [4, 43].

The current state of knowledge in the field of theory and methodology of training athletes specializing in wrestling, as well as the tendencies of their further development, can be comprehensively assessed on the basis of the “Fundamentals of sportsmanship” by A. D. Novikov and of the work dealing with Greek Roman wrestling, freestyle wrestling, judo and sambo [26, 44]. The core provisions of the theory of complex dynamic systems and the methodology of their research were also studied: basic properties and capabilities in relation to systems of movements and complex motor actions; the basics of their systemic structural analysis; cybernetic control systems for such systems [45].

The specific methodology is based on a comprehensive analysis of the structure of techniques and motor actions in wrestling, methods of teaching and improving the wrestling techniques, in the light of the theory of complex dynamic systems [46, 47, 48]. The effectiveness of a number of experimental studies was provided by the development and substantiation of instrumental methods of research and control of athletes’ skills [49]. We can mention the method that simulates actions in competitive conditions; the method that simulates the opponent’s defensive actions; methods that simulate tactical decisions and assess the effectiveness of the choice of technical and tactical actions.

Special attention is paid to the most important elements of techniques, variability of motion actions depending on the emerging dynamic situations, switching from one technique to another. The stability of the performance of techniques to the knocking effect of the opponent’s defensive actions, the emotional state of the wrestler, the development of fatigue etc. were studied [44]. Other specialists studied the dynamics of the competitive performance indicators in the highly skilled wrestlers; the introduction of science and technology achievements in the training process; the improvement of the training methodology; the impact of a special dosing of the loads in Greco-Roman wrestling on the increase of students’ sports results [50–55].

Taking into account all the factors that determine the effectiveness of wrestlers’ competitive activity, a set of means and methods for providing and implementing complex technical and tactical actions in sports wrestling was subjected to experimental substantiation [56, 57, 58].

There are studies that investigate the key factors of highly skilled wrestlers’ fitness structure and determine the level of their functional and physical capacity at the stage of maximum achievement of their individual capacities [59].

Three groups of exercises are recommended to develop the strength of the wrestlers:

1) Exercises with large weights (80-90% of the maximum available) are obligatory for the development of absolute strength;
2) Exercises with low weights (up to 30% of the maximum available), performed at maximum speed are aimed at development of the high-speed component of explosive strength;
3) Exercises with competitive weights, performed at maximum speed are necessary for the development of explosive strength simultaneously with the improvement of technique.

Recommendations on the duration of exercises, the amount of weights, the duration of pauses between approaches as well as the results of a pedagogical experiment are presented. This experiment highlights the effectiveness of the predominant development of the strength of the muscles carrying the main load while performing a specific technique. It is well known that the necessary basis for the technique’s fulfillment and the implementation of successful motor actions is given by strength qualities which are also used in conditions of severe opposition in the competitive activity [60–64].

The development of general didactic principles in sports is focused on educational training. At the same time, in sports, the process of learning and training mainly occurs at the motor level and on the basis of the corresponding physiological, biomechanical, psycho-regulatory processes [65]. An additional difficulty is that the sport focuses on the maximum available levels of various aspects of readiness, motor qualities,
manifestations of the psyche [66, 67]; and others), as well as the use of huge loads associated with such concepts as stress, fatigue, overstrain of functional systems, overtraining, recovery, urgent and delayed adaptive effect etc. [68, 69].

Thus, it becomes clear that the general didactic principles, together with a wide amount of knowledge related to sports training are only the basis for the formation of special patterns and principles [66, 67].

The special principles as basic attitudes, provisions, rules that determine the content of sports training reflect stable connections between its various components, between the factors influencing the athlete's body and his adaptive reactions, between different physical qualities etc. Special principles do not strictly standardize the structure and content of athletes' training, but they are generalizations and not strictly standardize the structure and content of athlete's body and his adaptive reactions, between various components, between the factors influencing the training process with injury prevention. Thus, in the fundamental works of prominent scientists, we are faced with the position according to which the development of physical qualities, first of all, strength, is perceived as a secondary part of training in comparison with the improvement of technical skills. But A. D. Novikov (2012) points out that such an important principle for wrestling as the interconnection of the training process with injury prevention.

Moreover, the didactic principles (general and special ones) for the creation of strength abilities in athletes of various wrestling styles have not been sufficiently studied. At the same time, the use of the principles for each level (general or special for the type of combat) or different principles related to one of the levels cannot be distinguished by strict selectivity and independent reflection in the training process. The separate content components of the sports training system often entail the implementation of the provisions of different principles, ensuring the complexity of the impact on the body of the athletes involved [66].

Conclusion
1. The theoretical analysis of the training process characteristics in wrestling highlighted the methods and means to be used for developing the wrestlers' strength skills consistent with the general and special principles of the sports training at the modern stage of sports improvement.
2. The available specialized literature sources showed that the wrestlers’ strength development was perceived as a secondary part of training compared to the improvement of their technical skills.
3. The results of the studied specialized literature showed that there was an obvious need for broad coverage of the ways of implementing specific principles in the training of wrestlers.
4. A vertical should be created including general didactic principles as the basis of special principles that reveal the capabilities of athletes and allow to place the most significant accents for a specific type of martial arts.

Prospects for further research. The prospects of the next researches will be directed towards the organization and development of studies and experiments within the national teams of judo, freestyle wrestling and Greco-Roman wrestling of the Republic of Moldova. The experimental methodology of specific physical training will be also implemented in the wrestlers of Ukraine and Romania with a supplementary element, namely the analysis of the functional, biochemical and hormonal indicators which have not been studied so far.

References
1. Ivanyuzhenkov BV, Nelyubin VV. Individualnoye taktiko-tekhchnicheskoye masterstvo vysokokvalifitsirovannykh bortsov [Individual tactical and technical skill of highly qualified wrestlers]. Vestnik Baltiyskoy pedagogicheskoj akademii. 2005; 62; 96-106. [Russian]
2. Kaello VV, Bobrov IV, Apoyko RN, Tarakanov BI. Dynamics of Sports Technical Indices of Competitive Activity of Elite Greco-Roman Wrestlers. Theory and Practice of Physical Culture. 2014; 2: 7. Available from: http://www.teoriya.ru/ru/node/2066.-20
3. Manolachi VG. Sportivnaja bor'ba – teoriya i metodika [Wrestling - theory and methodology] Kishinev: Central'naja tipografija; 2003. 400 p. [Russian]
4. Galkovskij NM, Katulin AZ. Sportivnaja bor'ba (klassicheskaja, vol'naja, sambo) [Sports wrestling (Greco-Roman, free-style, sambo)]. M: FIS; 1968. [Russian]
5. Ivanov II, Kuznecov AS, Samurgashev RV, Shulika JuA. Bor'ba greko-rimskaja [GrecoRoman wrestling]. RnD: Feniks; 2004. 800 p. [Russian]
6. Ivanov-Katanskij AB. Vyshhaja tehnika karatje [Karate highest technique]. M: Sport; 1997. 528 p. [Russian]
7. Karamov SK. Korejskij rukopashnyj boj [Korean hand-to-hand combat]. M: Sovremennaja shkola; 2009. 336 p. [Russian]
8. Karelin AA. Sistema integral'noy podgotovki vsysokokvalifitsirovannykh bortsov [Integral training system for highly qualified wrestlers]. Abstr. PhDr. (Physical Ed&Sport.). SPb; 2002. 47 s. [Russian]
9. Shakhmuradov YuA. Volnaya borba: nauchno-metodicheskie osnovy mnogoletney podgotovki bortsov [Free-style wrestling: scientific and methodological foundations of long-term training of wrestlers]. Makhachkala: ID «Epokha»; 2011. 368 s.
10. Tarakanov BI, Apoyko RN. Sisteme-istoricheskii analiz i tendentsii razvitiya vol'ny bor'by v programmakh Olimpiyskihikh Igr [System-historical analysis and development trends of freestyle wrestling in the programs of the Olympic Games]. Uchenye zapiski universiteta im PF Lesgafta. 2013; 4(98): 160-5. [Russian]
11. Vasil'kov PS, Sidorov VM. Vlijanie silovyh sposobnostej borcov na sportivnyj rezul'tat [Influence of wrestler strength abilities on sports result]. V sb: Sovershrenstvovanie sistemy podgotovki vsysokokvalifitsirovannyh sportmenov i rezerva v edinorostvah. Mezhdunarodnaja nauchno-prakticheskaja konferencija. 2009, Apr. 28-29, Minsk. BGUFK. 2009; 4: 15-17. [Russian]
12. Chemozub A, Korobeynikov G, Mytskan B, Korobeynikova L, Cynarski WJ. Modelling Mixed Martial Arts Power Training Needs Depending on the Predominance of the Strike or Wrestling Fighting Style. Ido Movement for Culture. Journal of Martial Arts Anthropology, 2018; 18(3): 28-36. doi: 10.14589/ido.18.3.5
13. DeCastro N. Examination of Lower Limb Ambidextrous Execution of the Snap Down Technique in Folk Style Wrestling. In: BSU Honors Program Theses and Projects. 2015; Item 93. Available from: http://vc.bridgew.edu/honors_proj/93
14. Kiprych S, Donets O, Komosenko O, Khomenko P, Zhamardiy V, et al. Evaluation of Interconnection of Special Working Capacity and Response of Single Combat Sportsmen's Cardiorespiratory System at the Stage of Direct Training for Competition. International Journal of Applied Exercise Physiology; Mazzandaran. 2020; 9(7): 115-123.
15. Korobeinikov GV, Korobeinikova LG, Vorontsov AV, Korobeinikova IG, Kirichenko VM. Peculiarities of Heart Rate Variability in Professional Wrestlers with Different Dominance of the Cerebral Hemispheres. Ukrainian Journal of Medicine, Biology and Sport. 2020; 5(2): 229-234. doi: 10.26693/jmbst05.02.229
16. Latsyhev M, Latsyhev S, Korobeynikov G, Kvasnytsya O, Shandrygos V, Dutchak Y. The analysis of the results of the Olympic free-style wrestling champions. Journal of Human Sport and Exercise. 2020; 15(2): 400-410. doi: 10.14198/jhse.2020.152.14
17. Papassotiriou I, Nifli A-P. Assessing performance in pre-season wrestling athletes using biomarkers. Biochimica Medica. 2018; 28(2): 318-328. doi: 10.11613/BM.2018.020706
18. Pettersson S, Pipping Ekström M, Berg CM. Practices of Weight Regulation Among Elite Athletes in Combat Sports: A Matter of Mental Advantage? Journal of Athletic Training. 2013; 48(1): 99-108. doi: 10.4085/1062-6050-48.1.04
19. Rahmat AJ, Arsalan D, Bahman M, Hadi N. Anthropometrical profile and bio-motor abilities of young elite wrestlers. Physical education of students. 2016; 20(6): 63-9. doi: 10.15561/20755279.2016.0608
20. Saad AH. Physiological Profile of the Young Egyptian Wrestlers. World Journal of Sport Sciences. 2012; 6(1): 45-50. doi: 10.5829/idosi.wjss.2012.6.1.1110
21. Stordopoulos D, Giannakou E, P. Manaveli, I, Barbas, V,ourgoulis, N, Aggeloussis. Reliability of Lower Limb Kinematics during the Arm-Throw Wrestling Technique, International Journal of Wrestling Science. 2016; 6(2): 67-73. doi: 10.1080/21615667.2017.1324541
22. Basar S, Duzguna I, Atalay Guzel N, Cicioglu I, Celik B. Differences in strength, flexibility and stability in freestyle and Greco-Roman wrestlers. Journal of Back and Musculoskeletal Rehabilitation. 2014; 27: 321-330.
23. Demirkan E, Kutlu M, Koz M, Ozal M, Favre M. Physical Fitness Differences between Freestyle and Greco-Roman Junior Wrestlers. Journal of Human Kinetics. 2014; 41: 245-51. doi: 10.3233/JHK-130451
24. Podlivaev BA. The concept of top level wrestlers training. Proceedings of the Conference, Modern problems of high quality Training in wrestling, FILA. M; 2010 Sep 08. Available from: http://inwr-wrestling.com/wp-content/uploads/2011/03/Conference-Proceedings-2010.pdf#page=63
25. Rezasoltani A, Ahmadi A, Nezhate-Khoshroh M, Forohideh F, Ylinen J. Cervical muscle strength measurement in two groups of elite Greco-Roman and free style wrestlers and a group of nonathletic subjects. Br J Sports Medicine 2005; 39: 440-443. doi: 10.1113/bjsm.2004.013961
26. Manolachi V. Direction of knowledge formation in the field of power training of athletes specialized in sports wrestling. Journal of Physical Education and Sport. 2019; 19 (Suppl 6): 2218-2222. doi: 10.7752/jpes.2019.s6333
27. Sorokin NK. Sportivnaya borba [Wrestling]. M: Fizkultura i sport; 1960. 484 p. [Russian]
28. Chernogorov DN, Matveyev YuA, Bezzubov AA. The Equilibrium Function as an Indicator of Symmetry of Functional Status of Arm Wrestlers. Prace Naukowe Akademii im. Jana Długosza w Częstochowie Kultura Fizyczna. 2017; 16(1): 117-127. doi: 10.16926/kf.2017.16.07

29. Lenz AN. Wrestling: the manual for couches, publishing house. M: Physical culture and Sport; 1964. 494 p. [Russian]

30. Kamalov RZ. The theoretical framework of the situational approach in the practice and theory of combat sports. Naucai sport: covremenietendentii. 2017; 15(2): 17-26.

31. Shipilov AA. Attacking wrestler’s agility as a factor influencing response time. Theory and Practice of Physical Culture. 2013. 5 p.

32. Kharlampiev AA. Borba sambo [Wrestling Sambo]. M: Physical education and sport; 1964. 388 p. [Russian]

33. Osipov A, Kudryavtsev M, Gatilov K, Zhavner T, Klimuk Y, Ponomareva E, et al. The use of functional training – crossfit methods to improve the level of special training of athletes who specialize in combat sambo. Journal of Physical Education and Sport. 2017; 17(3): 2013-2018. doi: 10.7752/jpes.2017.03201

34. Manolachi VG, Chebanu A. Postroenie i realizacija godichnogo cikla podgotovki borcov-junoshej na osnove optimal'nogo vybora trenirovochnych vozdejstvij [Construction and implementation of the annual training cycle for young wrestlers based on the optimal choice of training influences]. Metodicheskoie posobie.rishinev: Shtiinca; 2000. 43 p. [Russian]

35. Kupcov AP. Osnovy metodiki trenirovki borca. Sportivnaja bor'ba [Bases of the methods of wrestler training. Sports wrestling]. M: Fizkul'tura i sport; 1978. p. 323-327. [Russian]

36. Maljarenko AT, Tkachenko AN. Prognozirovanie uspeshnosti sportivnoj podgotovki junyh dzjudoistov (9-11) let na osnove rezul'tatov testirovanija dvigatel'nyh sposobnostej [Prediction of the success of sports training of young judokas (9-11) years old based on the results of testing motor abilities]. V: Materialy nauchnoj konferencii Har'kovskoj Akademii fizicheskoj kul'tury. Har'kov: HAFK, 2007. p. 95-99. [Russian]

37. Manolachi VG. Obosnovanie programmy testov dija kontrolja za podgotovkoj kvalificirovannyh dzjudoistov [Justification of the test program to control the training of qualified female judokas] V: Sbornik nauchnyh trudov «Me-diko-pedagogicheskie aspekty podgotovki junyh sportmenov». Smolensk: SGi; 1989. p. 109-111. [Russian]

38. Manolachi VG. Pedagogicheskij kontrol' za fizicheskoj i tehniko-takticheskoj podgotovlennost'ju dzjudoistok [Pedagogical control over the physical and technical-tactical fitness of female judokas] Metodicheskoie posobie. Kishinev: Shtiinca; 1991. 36 p. [Russian]

39. Matveev SF, Voloshhuk Jal. Bor'ba dzjudo [Judo wrestling]. K: Zdorov'e; 1974. 254 p. [Russian]

40. Juravel AV, Zakorko IP, Skirta RI. Study of structure of technical operations in judo at the present stage his developments. Fizicheskoe vospitanie studentov tvorcheshchih special'nostej: Sb nauchn tr pod red Ermakova SS. Har'kov: HGADI (HHPI), 2003; 2: 47-53. [Russian] Aviable from: https://www.sportedu.org.ua/html/physical-edu/Pdf2003/FV-2003-02.pdf#page=48

41. Matveev LP. Obschchaia teoriia sporta i ee prikladnye aspekty [The general theory of sports and its applications]. M: News; 2001. 333 p. [Russian]

42. Iwai K, Okada T, Nakazato K, Fujimoto H, Yamamoto Y, Nakajima H. Sport-specific characteristics of trunk muscles in collegiate wrestlers and judokas. The Journal of Strength & Conditioning Research. 2008; 22(2): 350-358.

43. Semenov AG, Prokhorova MV. Greco-Roman wrestling. Textbook. M: Olimpia Press: Terra-Sport; 2005. 256 p.

44. Novikov AD. Osnovy sportivnogo masterstva [Fundamentals of sportsmanship]. Monografija. 2-e izd, pererab i dop. M: Sovetskij sport, 2012. 256 p. [Russian]

45. Latyshev SV, Minenko OV, Tvelina AO, Chaban IO, Petrenko OV. Development of Individualization Conception of Wrestlers’ Training. Ukrainian Journal of Medicine, Biology and Sport. 2017; 2(1): 226-230. doi: 10.26693/jmbs02.01.226

46. Cankaya C. Examination of young wrestlers’ leg reaction times and their relationships with explosive power. World Appl Sci J. 2000; 16: 189-197.

47. Erawan B, Paramitha ST, Mulyana D, Ramadhan MG. The Digitalization of Wrestling Basic Techniques for Learning. 4th International Conference on Sport Science, Health, and Physical Education (ICSSHPE 2019). Advances in Health Sciences Research. 2019; 21: 178-182.

48. Grigoryan AR, Lavrichinko KS, Gomboev BB. The Winning Move Technique and it’s Formation in Greco–Roman Wrestling. Journal of Siberian Federal University. Humanities & Social Sciences. 2011; 9(4): 1260-1268.

49. Kuznecow AS, Zakirov DR. The method of training the wrestlers of the Greco–Roman style on the basis of taking into account the individual and peculiar properties of the psyche. Uchenye zapiski universiteta imeni PF Lesgafa. 2013; 1(95): 72-78. [Russian]

50. Abulkhanov AN, Borisov IP. Effektivnost’ tehniko-takticheskih deystviy vysokoqvalifitsirovannyh bortsov greko-romskogo stilya v slozhyhnyh situatsiyakh protivoborstva po pravilam soevnovaniy 2018 goda. Uchenye zapiski universiteta imeni PF Lesgafa. 2018; 7: 9-13. [Russian]
51. Nagovitsyn RS, Osipov AYu, Kapustin AG, Anfilatova OV, Senator SYu. Determination of the dependence of competitive results on the procedure of sports selection among Greco-Roman wrestling athletes. *Pedagogics, psychology, medicalbiological problems of physical training and sports*. 2019; 23(4): 182-188. doi: 10.15561/18189172.2019.0404

52. Nagovitsyn RS, Volkov PB, Miroshnichenko AA, Tutolmin AA, Senator SYu. The influence of special graduated weight load in Greco-Roman wrestling on the growth of students’ sports results. *Physical education of students*. 2017; 21(6): 294-301. doi: 10.15561/20755279.2017.0606

53. Titenenko V, Tropin Y. Dynamics of indicators of competitive activity of highly qualified wrestlers. *Slobozhansky herald of science and sport*. 2020; 8(1): 75-78.

54. Tropin Y, Latyshev M, Boychenko N, Kozhanova O, Mozoliuk O. Performances Analysis of Athletes of Greco-Roman Wrestling Ukrainian Team. *Ukrainian Journal of Medicine, Biology and Sport*. 2020; 5(3): 492–497. doi: 10.26693/jmbs05.03.492

55. Tropin Y, Korobeynikov G, Korobeynikova L, Shachik V. The impact of rule changes on the competitive activity indices in Greco-Roman wrestling. *Science in Olympic Sport*. 2018; 4: 58-64.

56. Boyko VF, Malinsky II, Andritsev VA, Yaremenco VV. Competitive activity of highly skilled freestyle wrestlers at the present stage. *Physical education of students*. 2014; 4: 13-9. doi: 10.6084/m9.figshare.923391

57. Kamalov RZ. Tactics – The organizing, beginning in system of combat sport. *Uchenye zapiski universiteta imeni PF Lesgaffta*. 2013; 98(4): 49-53. doi: 10.5930/issn.1994-4683.2013.04.98.p49-53

58. Korobeynikov G, Latyshev SV, Latyshev N, Gorschenko A, Korobeynikova L. General laws of competition duel and universal requirements to technical-tactic fitness of elite wrestlers. *Physical education of students*. 2016; 20(1): 37-2. doi: 10.15561/20755279.2016.0105

59. Pryimakov O, lermakov S, Eider J, Prysiazhniuk S, Mazurok N. Physiological criteria of functional fitness and determinants of physical work capacity of highly skilled wrestlers. *Physical Education of Students*. 2020; 24(4): 205-212. doi: 10.15561/20755279.2020.0403

60. Britskin Y, Piltyн M, Zadorozhnaya O. Structure and content of fencers’ theoretical training. *Physical education of students*. 2013; 17(4): 10-4. doi: 10.6084/m9.figshare.669664

61. Igumenov VM. Analysis of factors of training of skilled combat athletes. *Theory and Practice of Physical Culture*. 2015; 12: 20.

62. Korobeinikova L, Korobeynikov G, Cynarski WJ, Borysova O, Kovalchuk V, Matveev S, Vorontsov A, Novak V. Tactical Styles of Fighting and Functional Asymmetry of the Brain Among Elite Wrestlers. *Ido Movement for Culture. Journal of Martial Arts Anthropology*. 2020; 20(4): 24-30. doi: 10.14589/ido.20.4.4

63. Kozina Z, Repko O, Ionova O, Boychuk Y, Korobeinikov V. Mathematical basis for the integral development of strength, speed and endurance in sports with complex manifestation of physical qualities. *Journal of Physical Education and Sport*. 2016; 16(1): 70-76. doi: 10.7752/jpes.2016.01012

64. Schroder W, Harre D, Baurersfeld M. Fundamentals and methods of strength training. *Principles of Sports training*. Berlin: Sportverlag; 1982.

65. Platonov VN. *Sistema podgotovki sportmenov v olimpiyskom sporte. Obshchaya teoriya i yeyo prakticheskii prilozheniya: uchebnik dlya trenerov* [The system of training athletes in Olympic sports. General theory and its practical applications: a textbook for trainers]. V 2 kn. K: Olimpiyskaya literatura; 2015. 680 p. [Russian]

66. Gaverdovsky JK. *Sports Training Exercises. Biomechanics. Methodology. Didactics*. M: FiS; 2007. p. 820-844. [Russian]

67. Platonov VN. *Sistema podgotovki sportmenov v olimpiyskom sporte. Obshchaya teoriya i yeyo prakticheskii prilozheniya* [The system of training athletes in Olympic sports. General theory and its practical applications]. K: Olimpiyskaya literatura; 2004. 808 s. [Russian]

68. Shirkovets EA, Shustin BN. General principles of training speed-strength qualities in cyclic sports. *Journal of Sports Science*. M: Soviet sport. 2003; 1.

69. Shirkovets EA, Shustin BN. Standardization and classification of athletes’ working capacity rates versus skill levels. *Theory and Practice of Physical Culture*. 2017; 1: 24.

УДК 796.81/.85.015.52=111
ОСОБЛІВОСТІ РОЗВИТКУ СИЛОВИХ ЗДІБНОСТЕЙ В СУЧАСНИЙ БОРОТЬБІ
Манолакі Віктор

Резюме. У статті аналізуються доступна спеціалізована література, присвяченя питанням правильного висвітлення проблем розвитку силових здібностей у борців різних спортивних стилів як провідного рухового якості у формуванні техніко-тактичних навичок.

Метою дослідження був теоретичний аналіз особливостей тренувального процесу в спортивній боротьбі з формування силових здібностей на сучасному етапі спортивного вдосконалення.
Дослідження проводилося з використанням методів аналізу спеціальної літератури та інтерпретації практичного досвіду. Інформація була проаналізована в хронологічному порядку в підручниках, монографіях, статтях, навчальних посібниках та інших публікаціях (доступних до 2020 р) про спортивну підготовку борців. Під час випускання та поданні даних основна увага приділялася методам і засобам розвитку силових здібностей.

У ході аналізу літератури було проведено порівняння змісту і значущості бібліографічних джерел і дана оцінка їх важливості для навчального процесу. У цих джерелах рекомендується використовувати певні методи і засоби для розвитку силових здібностей борців різних стилів на основі загальних і спеціальних дидактичних принципів спортивної підготовки.

З урахуванням всіх факторів, що визначають результативність змагальної діяльності борців, засоби і методи, необхідні для виконання складних техніко-тактичних дій в боротьбі, були представлені на експериментальну апробацію.

Особливу увагу було приділено найважливішим елементам прийомів, варіативності рухових дій в залежності від виникнення динамічних ситуацій, переходу від однієї техніки до іншої.

Розвиток загальних дидактичних принципів в спортиві орієнтоване на педагогічну підготовку. Загальні дидактичні принципи разом з широким спектром знань, пов’язаних зі спортивним тренуванням, є лише основою для формування особливих патернів і принципів.

Спеціальні принципи не строго стандартизують структуру і зміст тренувань спортсменів, але вони є узагальненнями і методичними рекомендаціями, які забезпечують раціональну підтримку і міцну наукову платформу для цього тренування.

Ключові слова: боротьба, загальні і спеціальні принципи, силові здібності, методи навчання, сучасний етап.

УДК 796.81/.85.015.52=111
ОСОБЕННОСТИ РАЗВИТИЯ СИЛОВЫХ СПОСОБНОСТЕЙ В СОВРЕМЕННОЙ БОРЬБЕ
Манолаки Виктор

Резюме. В статье анализируется доступная специализированная литература, посвященная вопросам освещения проблем развития силовых способностей у борцов разных спортивных стилей как ведущего двигательного качества в формировании технико-тактических навыков.

Целью исследования явился теоретический анализ особенностей тренировочного процесса в спортивной борьбе по формированию силовых способностей на современном этапе спортивного совершенствования.

Исследование проводилось с использованием методов анализа специальной литературы и интерпретации практического опыта. Информация была проанализирована в хронологическом порядке в учебниках, монографиях, статьях, учебных пособиях и других публикациях (доступных до 2020 г.) о спортивной подготовке борцов. При извлечении и представлении данных основное внимание уделялось методам и средствам развития силовых способностей.

Входе анализа литературы было проведено сравнение содержания и значимости библиографических источников, и дана оценка их важности для учебного процесса. В этих источниках рекомендуется использовать определенные методы и средства для развития силовых способностей борцов разных стилей на основе общих и специальных дидактических принципов спортивной подготовки.

С учетом всех факторов, определяющих результативность соревновательной деятельности борцов, средства и методы, необходимые для выполнения сложных технико-тактических действий в борьбе, были представлены на экспериментальную апробацию.

Особое внимание было уделено важнейшим элементам приемов, варіативности двигательных действий в зависимости от возникающих динамических ситуаций, переходу от одной техники к другой.

Развитие общенидактических принципов в спорте ориентировано на педагогическую подготовку. Общие дидактические принципы вместе с широким спектром знаний, связанных со спортивной тренировкой, являются лишь основой для формирования особых характеристик и принципов.

Специальные принципы не строго стандартизируют структуру и содержание тренировок спортсменов, но они являются обобщениями и методическими рекомендациями, которые обеспечивают рациональную поддержку и прочную научную платформу для этой тренировки.

Ключевые слова: борьба, общие и специальные принципы, силовые способности, методы обучения, современный этап.

The authors of this study confirm that the research and publication of the results were not associated with any conflicts regarding commercial or financial relations, relations with organizations and/or individuals who may have been related to the study, and interrelations of coauthors of the article.

Стаття надійшла 06.10.2020 р.

Рекомендована до друку на засіданні редакційної колегії після рецензування