

Medical And Biological Aspects Of Women's Sports

Khosilova Rohila Dilshod Qizi

Andijon state university, doctoral student

Annotation. The article is dedicated to study of problems of women's sport. In this work we have considered an affect of physical exercises on a woman organism in traditional and "nontraditional" kinds of sport. There are stated biological differences in nature of men and women which should be taken into account at making choice of specialization and differentiated structure of training loadings according to regime of trainings.

Keywords: football, boxing, judo, wrestling, cup, women, training, analysis, homeostasis, performance, endurance.

Introduction

Taking care of women's health is one of the most important tasks of our state. The role of women in all areas of society is constantly increasing. The late twentieth and early twenty-first centuries are characterized by rapid feminization in many countries of the world, where women account for almost half of the population. In all spheres of production, agriculture, science and culture, women work on an equal basis with men. Feminization has affected not only manufacturing industries, but also sports. The number of women's sports is gradually increasing. So, if in the program of the first Olympiad of our time, in which women participated for the first time, only 2 types of sports competitions were allocated for them, now there are about 80 of them. The representatives of the "weaker sex" successfully master such sports as football, boxing, judo, freestyle wrestling, running ultra-long distances, which were previously considered to be inherently male.

So the famous club women's handball team Spartak (Kiev) has won the European Champions Cup 13 times, which remains an unattainable goal for others to this day [2]. In sports swimming, the world records of women participating in the Olympic Games are at the level of the standard of the master of sports for men. According to some authors [11], modern fencing belongs to the number of "democratic" sports, in which, along with purely male varieties, women's ones (rapier and sword) are independently cultivated. In major international forums, including the Olympic Games and championships, female fencers compete in the same conditions as men, making a significant contribution to the struggle for the possession of honorary sports trophies. Our domestic gymnasts, volleyball players, tennis players have repeatedly adequately represented the women's sport of Uzbekistan at the world and Asian championships.

Today, there is no doubt that systematic physical education and sports, a rationally constructed training process contributes to the harmonious physical development and formation of women's health. Sufficiently high physical activity has a favorable effect, first of all, on the organs of blood circulation, respiration, metabolism, promotes the utilization of fats and carbohydrates in the body, increases the protective properties of the body, inhibits the development of age-related changes, postpones the onset of old age, which is of no small importance for women [7,10]. Physically trained women have a high resistance of the body to diseases and an increased level of adaptive capabilities, as well as a safe course of pregnancy, childbirth, and the birth of healthy children. If the opinion about the importance of physical

culture for women's health is unambiguous, then this is not always and far from the case with respect to high-performance sports.

An analysis of the sporting achievements of the best female athletes in the world indicates that the conquest of record peaks by women, in addition to motor giftedness and high spiritual potential, requires them to have an increased level of efficiency, perseverance and dedication to achieve their goals.

Currently, the patterns of formation of adaptive reactions of the female body to changes in the external and internal environment have been studied extremely insufficiently. An analysis of the available literature showed that the most intensive research was conducted on the problems of women's sports in the 60-80 years.

The conducted studies were devoted to the study of differences between men and women in a number of physical qualities, psychological indicators, the level of reactivity to various types of exposure, resistance to stress, physical performance, endurance, as well as functional indicators. However, the works are mostly devoted to solving the problems of sexual dimorphism, and this problem has not been studied comprehensively, but some aspect of it has been considered. The most targeted research on the medical problems of women's sports has been conducted in various sports [1,4,6]. Currently, the most fundamental and scientifically based work devoted to the medical and biological foundations of women's sports activities is the monograph by L. Ya. Shakhlina [9]. In modern women's sports of the highest achievements, while maintaining high performance under conditions of nervous and physical stress, as well as frequent changes in climatic and temporary conditions, there is a danger of disruption of compensatory processes in the body. The inevitable excessive stresses of function, sudden shifts in homeostasis, and a decrease in

Reserves of the sympathetic-adrenal system, lead to a decrease, a decline in performance and injuries.

It is an indisputable fact that the integral biological assessment of the female body is the ability to reproduce healthy offspring, that is, during the formation of the female body, all the most important morphofunctional systems work to ensure reproductive function. On this issue, the authors' opinions are united in the fact that excessive physical exertion can negatively affect the body of women: negatively affect their healthy, ability to perform the most important function of the female body – childbirth. This is confirmed by the data on the close relationship between the immune and reproductive systems in women. Thus, sexual dimorphism is known in relation to the activity of the immune system: women have higher immune responses than men [6,7].

Practicing "non-traditional" sports has an ambiguous effect on the body of women. The range of research on the impact of "new types" of sports is limited. According to a number of researchers, the negative effects of judo for women have been revealed. A high frequency of severe injuries has been established. In young judoka, more frequent changes in the spine were found, increased levels of the hormone testosterone and a decrease in estrogens were noted. The same content of hormones in the blood was found in athletes specializing in ultra-long distance running, in whom the testosterone content reaches the boundaries of clinical pathology [1]. Such indicators raise concerns about the adverse effects of these sports on healthy women. In particular, disorders of the hormonal balance of the body can lead to a violation of the generative function of the ovaries. However, the opinions of researchers are contradictory about the activities of women running ultra-long distances. In this sport, increased demands are placed on the development of

endurance. According to the authors [3], achieving a certain level of endurance in female athletes requires higher training loads and a level of adaptation than men.

The natural biological and psychological characteristics of women create favorable conditions for practicing certain sports, but limit the possibilities of achieving success in others. For example, it has been proven that of the "non-traditional" sports, football did not reveal negative effects on women's health, and the frequency and severity of injuries are significantly lower than in men [5,8].

It should be pointed out that the most beneficial effects on the female body are sports such as rhythmic gymnastics, volleyball, tennis, swimming, which contribute to the formation of not only a beautiful and harmoniously built figure, but also develop the flexibility of aerobic metabolic systems in organs and tissues. Aerobic support systems include the blood system, cardiovascular and respiratory systems, the level of functional indicators of which is the reserve capacity of the body.

The last decade has been marked by the development and testing of techniques for technical and tactical improvement and assessment of the level of technical sports skills. In sports practice, groups for high-performance sports include athletes whose body type is close to the male standards developed for this specialization. At the same time, the strong and weak natural qualities of women are not taken into account. To study the patterns of formation of adaptive reactions of the female body under the influence of training regimes of different orientation and intensity, it is necessary to know the biological capabilities of the male and female body, that is, one should be guided in matters of sexual dimorphism.

Sexual dimorphism is the difference between the sexes on the genetic, anatomical, physiological and psychological levels.

1. At the genetic level, it is the chromosomal combinatorics of the result of the fusion of germ cells that determines the sex and further development of the body according to the male or female type.

2. At the anatomical level, these are somatic differences in body size and weight, organ shape, body proportions, and differences in physique. Compared with men, women have a more fragile skeleton, less muscle and more fat (table).

Table

The contingent	Body weight components (in % of total weight)					
	Костная ткань		Muscle tissue		Adipose tissue	
	Wom en	M en	Wom en	M en	Wom en	M en
Middle-aged people	16	18	36	42	18-25	12
Trained athletes	14	20-21	42-45	45-50	10-15	10-11

The male is characterized by more massive bones, a large shoulder width, and a smaller pelvis width. Musculature in men is better developed than in women, in trained athletes it reaches up to 50% of body weight, therefore, physical performance in women is no more than 60-80% of that in men. However, women often outperform men in terms of endurance and flexibility. This can be considered as a long-term evolutionary adaptation of the female body to perform a reproductive function. The secondary sexual characteristics serve as clear characteristics of the somatic sex.

3. At the physiological level, physical activity in high-performance sports is considered as extreme conditions requiring maximum mobilization of the functional reserves of the athletes' body. Comprehensive examinations of highly qualified athletes indicate the need to take into account the functional capabilities of the body in different phases of the menstrual cycle when planning training loads. Thus, the greatest general and special performance is established in the post-menstrual and post-ovulatory phases. Therefore, these phases are the most optimal for the development of the following physical qualities in athletes: strength, speed and endurance. The premenstrual and menstrual phases are characterized by minimal performance [7,9]. The different performance of female athletes during the menstrual cycle is associated with changes in respiration, blood circulation, and blood gas transport function, which is due to the changing intensity of oxygen consumption. The data obtained made it possible to develop training schemes taking into account the phases of the menstrual cycle, according to which not only the volume and intensity, but also the nature of the loads change in different phases of the cycle.

A specific feature of the reactivity of the female body is the development of greater endurance. This is due to the fact that women have higher blood levels of non-esterified fatty acids than men. Increased fat deposition in women is of biological importance due to the peculiarities of their aerobic energy supply of vital processes.

Adaptation to physical exertion in women of all the most important morpho-functional systems proceeds according to the principle of cost-effectiveness of functions. However, women pay dearly for these savings. The most vulnerable "Achilles heel" is disruptions in the nervous system. Sport, with its characteristic systematic stressful effects, is one of the factors causing severe psychoemotional stress, ultimately leading to exhaustion of the nervous system. Coaches and sports doctors face an important task-to find ways to prevent the undesirable effects of sports on the body of women. It is possible to select such sports that would have a lesser effect on the specific features of the female body. In addition, it is necessary to take into account individual biological capabilities with an assessment of not only phenotypic, but also genotypic indicators, since 70% of the signs of the constitution are hereditarily determined, and 30% are formed under the influence of the external environment.

At any stage of sports selection, the athlete's genotype should be taken into account. To do this, it is necessary to take into account which indicators of athletic performance are significantly influenced by the genotype. Such indicators can be recommended for the purposes of sports selection. Of the morphological qualities, dermatoglyphics indicators can serve as a criterion for predicting the level of motor qualities. Our studies have revealed the connection of finger dermatoglyphics with the development of speed quality in female athletes. And the increase in the comb count and the complication of finger patterns in girls contributed to the increase in the qualities of speed and strength. Correlative associations had significant differences compared to boys. Assessing the indicators of dermatoglyphics as markers of growth and maturation of the body, it is also necessary to take into account population characteristics. If, for representatives of Caucasian populations, a slowdown in the growth and maturation of the body is associated with a simplification of finger patterns and a low total comb count. Thus, indicators of dermatoglyphics as genetic markers can be used in sports selection as criteria for predicting the level of development of motor qualities in women.

In the revisions of one article, it is impossible to cover all the issues related to women's problematic in sports training. The training of women in high-performance

sports requires careful consideration of both the specific features of the female body, the development of a differentiated methodology for building the training process in a particular sport, and modern identification and prediction of weak and strong natural inclinations, as well as the prevention of negative consequences in the future.

Reference:

1. Граевская Н.Д. Спорт и здоровье // Современный олимпийский спорт для всех. Материалы VII международного научного конгресса. М.:2003. С.42-45.
2. Игнатъева В.Я. Женский гандбол между прошлым и будущим. // Теория и практика физической культуры, 2003, №3, С.28-30.
3. Ковешников В.Г., Никитюк Б.А. Медицинская антропология. Киев, Здоровья, 1992, С.146-157.
4. Никитюк Б.А. Состояние специфических функций женского организма при занятиях спортом. // Теория и практика физической культуры. 1984, №3, С. 19-21.
5. Пашинцев В.Г., Е.Ю. Сухоруков. Исследование эффективности скоростно-силовых средств и методов увеличения силы удара по мячу у футболисток 17-18 лет. // Теория и практика физической культуры, 2003, №3, С. 31-33.
6. Суркина И.Д., Готовцева Е.П. иммунный статус организма спортсменов в зависимости от состояния овариально-менструальной функции и условий спортивной деятельности. // Теория и практика физической культуры, 19987, №3, С. 45-47.
7. Футорный С.М. Иммунологическая реактивность организма спортсменов как одно из направлений спортивной медицины. // Теория и практика физической культуры, 2004, №2, С. 16-19.
8. Чуев В.А. Зависимость квалификации футболисток от уровня развития сократительных и релаксационных характеристик мышц. // Теория и практика физической культуры, 2003, №3, С. 30.
9. Шахлина Л.Я. Медико-биологические основы спортивной тренировки женщин. Киев, Наукова думка, 2021.-328 с.
10. Щедрина А.Г. Онтогенез и теория здоровья. Новосибирск, Наука, 1989.-218с.
11. Эйдер Е., Бойченко С.Д. Особенности специальной подготовки женщин в спортивном фехтовании с учетом фаз биологической цикличности. // Теория и практика физической культуры, 2004, №5, С. 7-10.