High-performance sports and women's health in cyclical sports

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Abstract

Objective of study was to explore the health status of women in cyclical sports (short and long-distance running, cross-country skiing, speed skating, swimming), highly qualified athletes – "master of sports" and "master of sports of international class", who regularly participate in competitions in the Republic of Bashkortostan and Russia and have no income other than wages a member of a sports club, a scholarship from the Federal Agency for Physical Culture and Sports of the Russian Federation or the Ministry of Physical Culture and Sports of the Republic of Bashkortostan.

Methods and structure of the study. An in-depth medical and clinical and functional examination of 33 women of the main and 49 women of the control groups was conducted on the basis of the Republican Medical and Physical Education Dispensary of the Republic of Bashkortostan. The health status of women aged 19-28 years, with 3-5 years of experience in the national team of the Republic of Bashkortostan, was studied.

Results and conclusions. There were no statistically significant differences in the overall prevalence of chronic noncommunicable diseases in 33 high–class athletes and 49 women in the control group, 87.8 cases per 100 examined were among cyclical sports athletes, and 55.1 cases per 100 examined in the control group.

Keywords: *professional sports, women's sports, increased training loads, gender role stereotype.*

Introduction. Since ancient times, there has been a gender stereotype about the "limited capabilities of the weaker sex". Today, there is no doubt that modern life has determined the need for women to increase their level of self-importance and free self-realization. Accordingly, modern women have a need to change their social status, which ultimately led to women's participation in various types of professional sports. The development of professional women's sports has brought women to the most typically "male" sports. Hockey, football, various types of martial arts – women have achieved great success in all of these sports. In Russian billiards, women compete very successfully in the fight with men. The beautiful half of humanity is engaged in those sports in which they have an interest and natural abilities. All this reflects the changes in modern society towards gender equality [1].

Many authors cite data on the positive effect of high sports loads on the body of women, if their health is monitored in a timely manner. According to M.G. Tkachuk, physical activity contributes to comprehensive development, improves performance and well-being. Regular training improves the psychological state, reduces the possibility of developing depressive states and anxiety levels, increases self-esteem and tolerance to stressful effects [6].

Research by M. Aberg has shown a relationship between the cardiovascular system and a high level of intelligence, good academic performance in educational institutions [7]. E.N. Kurganova and M. Klonovskaya note that systematic physical exercise

can improve not only a person's physical abilities, but also his intellectual abilities, making him more successful in his profession. Thus, physical exercise has a multifunctional effect on the body and is a trigger that mobilizes positive reactions of all organs and systems of the body [2, 4].

Sociological studies by L.I. Lubysheva allow us to assert that "sports, regardless of their focus, cultivate such personality traits in sportswomen as confidence, discipline, responsibility, persistence, which enrich their life experience without distorting the expression and feeling of their femininity, which serves as an additional argument in favor of awareness and overcoming gender stereotypes in society" [5].

There are many examples of women athletes who successfully built their sports careers, and their subsequent fate turned out well. Nevertheless, everything depends on whether a woman does sports for pleasure and maintaining an ideal shape, or whether we are talking about professional sports with its grueling training and injuries. Any, even the most feminine sport, in its professional version, cannot always be considered healthy [3].

Women's professional sports are actively developing, training loads are steadily increasing, competition among women athletes is growing. The article presents scientific research on the negative impact of high-performance sports on the female body, figure, psyche, behavior, reproductive function, family relationships and personal life.

Objective of study is to assess the health of women involved in cyclic sports.

Methods and structure of the study. An in-depth medical and clinical-functional examination of 33 women in the main group and 49 women in the control group was conducted at the Republican Medical and Physical Culture Dispensary of the Republic of Bashkortostan. The health of women aged 18-28 years, with 3-5 years of experience in the national team of the Republic of Bashkortostan, was studied. The comparison group, consisting of 49 women of the same age (18-28 years), was formed from amateur athletes who do not have high sports titles, students and graduates of the coaching and teaching faculty of the State Educational Institution of Higher Professional Education "Bashkir Institute of Physical Culture", professionally working in the field of physical culture.

Results and conclusions. Based on the results of the in-depth medical examination, 87.8 cases of chronic non-communicable diseases were identified in elite female athletes in cyclic sports per 100 examined, and 55.1 cases per 100 examined in the control group (see table).

Musculoskeletal diseases in women in cyclic sports occurred in 30.3% (10 out of 33) of those examined and were mainly represented by chronic inflammatory-degenerative processes of muscle, bone tissue and ligamentous apparatus due to overexertion, arthrosis and arthritis of the knee joint - in 9.1% (3 people) of athletes; tendovaginitis - 3.0% (1 person) of athletes; Osgood-Schlatter syndrome (osteochondropathy of the tibial tuberosity) was determined in 3.0% (1 person) of athletes.

9.1% of athletes had osteochondrosis in the form of degenerative-dystrophic lesions of the thoracic and lumbar spine. Peripheral nervous system diseases were found in 3.0% of athletes and were represented by lumbosacral radiculitis and lumbago.

The same place among all chronic diseases in female athletes was occupied by deviations from the central nervous system, represented by neurocirculatory dystonia, neuroses and neurasthenia, the share of which was 30.3% (10 people). Neurocirculatory dystonia of the hypertensive type was determined in 6 athletes (18.2 cases per 100 osm.). In the comparison group among women amateur athletes of the same age category, similar changes were found in 6 out of 49 people (12.2 cases per 100 osm.). Comparison of the obtained results of chronic morbidity of high-class athletes with the control

Prevalence of chronic non-communicable diseases in elite female athletes in cyclic sports, cases per 100 examined

Sports	Number of surveyed	Morbidity (total)	CMS and PNS	CNS	OD	MPS	OP	Others
Cyclic	33	87,8	30,3	30,3	9,1	9,1	3,0	6,0

Disease designations: musculoskeletal (MBS), peripheral nervous system (PNS), central nervous system (CNS), respiratory system (RS), genitourinary system (UGS).

group did not reveal statistically significant differences.

No pronounced clinical forms of circulatory system diseases were found during the in-depth medical examination, however, 6 athletes (18.2 cases per 100 osm.) had such changes in the electrocardiogram (ECG) as signs of autonomic instability in the form of sinus arrhythmia, incomplete right bundle branch block, intraventricular and intraatrial conduction disorders, repolarization processes, and metabolic processes in the myocardium. In the control group, such changes were found in 7 out of 49 people (14.3 cases per 100 osm.). These indicators did not show statistically significant differences when compared with the group of elite athletes. The studies did not reveal any significant difference in the health of elite athletes in cyclic sports with 3-5 years of experience in high-performance sports and women in the control group of the same age. Nevertheless, based on the results of the in-depth medical examination, four athletes of the main group were released from sports due to their health conditions and sent for further recovery and rehabilitation in order to prevent more serious pathologies of the central nervous system, peripheral nervous system and cardiovascular system.

The obtained research results indicate, first of all, the ambiguous influence of professional sports activities on the general health and body of women, which necessitates further research in this area.

Conclusions. Increased training loads in women of cyclic sports with 3-5 years of experience in high-performance sports can cause functional disorders of the nervous and cardiovascular systems. At the same time, moderate physical activity can improve not only a person's physical abilities, but also his intellectual abilities. Sports, regardless of its focus, cultivate such personality traits in athletes as confidence, discipline, responsibility, perseverance, which enrich their life experience. Women who have high physical and mental capabilities can engage in sports activities, but must undergo mandatory monitoring of the physical condition of the body.

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