

HISTORY, CULTURAL STUDIES, TOURISM, SPORTS

UDC 613.71-055.2

THE IMPACT OF FITNESS TECHNOLOGY ON BODY

OLGA LUTKOVSKA, REGINA ZIMNITSKAYA
Polotsk State University, Belarus

The article considers the importance of fitness as an effective means of physical education, providing a diverse effect on the body, thus contributing to the formation of a sustained interest to the systematic use of physical culture and sports for self-improvement.

The article gives an account of fitness exercises in several groups that are distinguished by traditional types of aerobic orientation by different authors. Fitness programs based on aerobic fitness are described. Considered types of load on the degree of intensity, in connection with these implies the fact that the greatest effect of training is achieved with the correct technique of exercise. This is necessary both from an aesthetic point of view and from a functional one. In this regard, the problem of learning the technique of performing various motor actions is very relevant and is related to the level of development of the whole complex of physical qualities.

The purpose of the work is to substantiate the effectiveness of the integrated effect of fitness technologies on the physical state of the body. To achieve this goal the following tasks were **solved**:

1. To study the analysis of scientific and methodological literature to identify signs and functions characteristic of fitness programs.
2. To identify interest in physical culture and sports.
3. To determine the features of the influence of fitness on the physical qualities and functional state of the body involved.

Research methods. The study was conducted on the basis of the educational institution "Secondary school No. 2" in Novopolotsk among students of 10th -11th grades. The experiment involved 90 students. As a result of a staging experiment with senior schoolchildren, a dependence was determined by the Pearson criterion ($n = 90$) between the development of physical qualities and the content of fitness classes. It was determined that there is a close relationship between changes in the development of physical qualities under the influence of classical aerobics classes and the level of development of such physical qualities as endurance ($r = 0.765$), flexibility ($r = 0.892$), coordination ($r = 0.786$), and the effect on CCC ($r = 0,701$) and moderate dependence with DC ($r = 0,656$).

Results and discussion. The study was conducted on the basis the educational institution "Secondary school No. 2" in Novopolotsk among students of 10th -11th grades. The experiment involved 90 students.

Currently, a large number of innovative technologies, techniques and health programs are being developed in the system of physical culture. Technology in the pedagogical process is the most effective way to achieve the final result of training, as it is based on an individualized, conscious interaction of the teacher and the student, taking into account the preparedness of the student, the process and optimal allocation of resources (material, human). Currently it is a creative process of integrating various knowledge and turning it into technological pedagogical innovations.

Fitness technologies are, first of all, the technologies providing productivity in employment by fitness. More precisely, they can be defined as a set of scientific methods, steps, techniques, formed into a specific algorithm of actions, implemented in a certain way in the interest of improving the efficiency of the healing process, ensuring guaranteed results, based on the free, motivated choice of physical exercises using innovative tools, methods, organizational forms of fitness, modern equipment and equipment.

Analysis of literary sources on the research topic allowed us to summarize fitness exercises in several groups. From the works of Anisimova M.V. [1], Bulgakova N.ZH., Vasilyeva I.A. [2], Davydova, V.Yu., Kovalenko G.O., Krasnovoy, G.O. [3], Lisitskaya TS [4], Myakinchenko EB, Shestakova MP [5], we can distinguish traditional types of aerobic orientation, such as: types of walking, jogging, swimming in various ways, cycling and scooter,

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aerobics, mini-mountaineering, outdoor games of moderate intensity. These are the main mass training tools available to most different categories of the population. These species are effective for general recovery and strengthening of the musculoskeletal system.

Experts note that the greatest effect of recreational aerobics is achieved with the correct technique for performing the exercises. This is necessary both from an aesthetic point of view and from a functional one [4]. In this regard, the problem of teaching technology to perform a variety of motor actions in recreational aerobics is very relevant and is associated with the level of development of a whole complex of physical qualities.

Basic high-intensity aerobics contains a large number of running exercises, jumps, jumps, than low-intensity aerobics.

As a result of a staging experiment with older students, the dependence was determined by the Pearson criterion ($n = 90$) between the development of physical qualities and the content of fitness classes. It was determined that there is a close relationship between changes in the development of physical qualities under the influence of classical aerobics as endurance ($r = 0,765$), flexibility ($r = 0,892$), coordination ($r = 0,786$), as well as the impact on the state of the cardiovascular system ($r = 0,701$) and moderate dependence with DS ($r = 0,656$). Therefore, classical aerobics can be recommended for the development of these qualities and properties of the body of schoolchildren in extracurricular physical education classes (Table).

Table. – Features of the influence of some fitness tools on the physical qualities and functional state of the body involved ($n = 90$)

Fitness facilities	Strength	Rapidity	Endurance	Flexibility	Respiratory system	SSS	Vestibular apparatus	CNS
Classical aerobics	0,347	0,411	0,765	0,892	0,656	0,701	0,786	0,589
Step aerobics	0,211	0,236	0,278	0,789	0,345	0,455	0,678	0,543
Stretching	0,234	0,238	0,454	0,787	0,345	0,456	0,604	0,0485
Pilates	0,697	0,321	0,432	0,704	0,767	0,656	0,878	0,657
Fitball aerobics	0,234	0,237	0,411	0,765	0,321	0,564	0,845	0,569
Slide aerobics	0,439	0,256	0,698	0,491	0,465	0,651	0,694	0,511
Fitness yoga	0,121	0,241	0,567	0,569	0,786	0,670	0,871	0,690
Shaping	0,327	0,211	0,342	0,456	0,602	0,432	0,564	0,467
Power aerobics	0,907	0,679	0,543	0,234	0,401	0,432	0,305	0,302
Dance aerobics	0,645	0,634	0,708	0,675	0,435	0,583	0,805	0,697
Kickboxing aerobics	0,807	0,603	0,476	0,658	0,342	0,456	0,764	0,567
Aqua aerobics	0,328	0,401	0,561	0,503	0,765	0,670	0,578	0,536
Tai Chi Gymnastics	0,245	0,224	0,645	0,435	0,728	0,634	0,687	0,475
Collanetic	0,621	0,234	0,463	0,721	0,412	0,564	0,492	0,581
Interval aerobics	0,345	0,567	0,398	0,457	0,456	0,601	0,889	0,643

Step aerobics - a type of recreational aerobics using a step platform with adjustable height (15.20 and 25 cm). It is based mainly on the choreography of basic aerobics, which does not exclude, however, the inclusion of various dance styles of aerobics, power aerobics and other mixed types [10]. This type of aerobics activates the work of large muscles and actively influences the cardiorespiratory system. Just like in classical aerobics, in step aerobics the load can be low, medium and high intensity.

Step aerobics is also effective in restoring the body after injuries. Each activity generates forces that stretch, compress, flex, twist, vibrate bones, muscles, joints, tendons and ligaments. The regular impact of such a force ultimately has a beneficial effect.

on the body, because mechanical stress causes changes that increase the strength of important anatomical structures.

In determining the correlation according to Pearson, a close connection was found between the exercises of step-aerobics and the level of development of such physical qualities as flexibility ($r = 0.789$), coordination ($r = 0.678$), as well as a moderate dependence of the CAS state ($r = 0.455$), DS = 0.345) and central nervous system ($r = 0.543$). Step aerobics exercises can be used to develop flexibility and coordination qualities and to strengthen the musculoskeletal system (see Table 1).

Classes on the "slide" are a high-intensity type of health training. In the process of training, endurance, coordination of movements, a sense of balance and general dexterity develop, and the tone of the leg muscles, especially the adductors and the abductor muscles of the thigh, increases. In everyday life, most types of human movements are performed in the sagittal plane in the direction of up and down, back and forth. The frontal plane is rarely used. Slide aerobics compensates for this gap, with the body experiencing minimal biomechanical stress [155].

The high correlation dependence of the impact of aerobic exercise on endurance ($r = 0.698$) and coordination qualities, especially balance, ($r = 0.694$) and moderate dependence with the development of flexibility ($r = 0.491$). CCC ($r = 0,651$), DS ($r = 0.465$) and central nervous system ($r = 0.511$) (see table 1).

Interval aerobics is a type of recreational aerobics in which parts of aerobic and anaerobic orientations alternate [3,13]. Its content includes "Rope-skipping" (aerobics with skipping rope).

The main content of aerobics with a rope is various kinds of jumps, jumps, jumps performed individually, in pairs and groups. The elementary acrobatic elements are also used. The specificity of the exercises is also determined by the use of different lengths of the rope: short, long, two long [50, 124]. Interval aerobics has the greatest impact on coordination qualities ($r = 0.511$) and moderate effects on other qualities that we define (see Table 1). Therefore, interval training is healthier rather than training in nature and can be used for outdoor activities.

Aqua aerobics is an aerobic in the aquatic environment. According to the degree of load on the cardio-respiratory system and the musculoskeletal system, it can be of low, medium and high intensity [13].

The revealed correlation dependence showed that aqua aerobics classes have a close relationship with the development of the cardiorespiratory system (DS - $r = 0.765$ and CCC - $r = 0.670$) and the strengthening of the musculoskeletal system, which is expressed in moderate dependence with the development of basic physical qualities (see . table 1).

The second direction in the development of fitness is programs based on types of power orientation - these are programs of improving training with a strongly pronounced power orientation, but taking into account the underlying laws of building aerobics lesson: to music, in-line method, etc. [3,4,13].

The following types belong to this category: athletic gymnastics, pamp aerobics, super-strontium, calanetics [13].

Athletic gymnastics is a system of physical exercises with various burdens that are performed in order to develop strength abilities and correct body shape [4, 13].

Analysis of the impact of athletic gymnastics on the studied indicators of physical fitness and functional state of the body involved showed that there is a close correlation between the workloads performed and the development of physical qualities such as strength ($r = 0.907$) and moderate speed ($r = 0.679$) and endurance ($r = 0.543$). With the correct method of training, they moderately affect the BH ($r = 0.401$) and the CAS ($r = 0.423$) (see Table 1).

The fitness programs based on a combination of recreational types of gymnastics and power orientation include: Pilates, stretching, fitball-aerobics, tera-aerobics [5, 13].

Pilates is a modernized program of the well-known expert in the field of therapeutic physical culture, Joseph Pilates. This is the safest exercise program without shock, which allows you to stretch and strengthen based muscle groups, while not forgetting about the small weak muscles [13].

In Pilates, an unconventional breathing technique is used to promote the development of the respiratory system. All exercises are necessarily combined with breathing, and all of them smoothly pass from one to another [5, 4]. A close connection has been revealed between the exercises in Pilates and the development of physical qualities such as strength ($r = 0.697$), flexibility ($r = 0.704$), the vestibular apparatus ($r = 0.657$), an increase in the state of DS ($r = 0.767$) and moderate correlation with the status of the cardiovascular system ($r = 0,656$), the central nervous system ($r = 0,657$) (see table 1).

Stretching - (from English. "stretching") is a set of exercises and poses for stretching certain muscles, ligaments and tendons of the trunk and limbs. Exercises are performed alone or with a partner, both with and without ancillary items "[11].

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The main value of stretching is the elongation of muscle fibers by stretching, an increase in the amplitude of movements in the joints, and an acceleration of recovery after intense loads "[8].

The correlation analysis made it possible to conclude that Stretching exercises cause positive changes in such physical qualities as flexibility ($r = 0.787$), coordination qualities ($r = 0.604$), and also have a moderate connection with the development of endurance ($r = 0.454$), DS ($r = 0.454$), cardiovascular system ($r = 0.454$) and central nervous system ($r = 0.454$) (see table 1).

Fitball aerobics is a type of recreational aerobics that uses a special plastic ball with a diameter of 35 to 75 cm. This brings a certain playing moment to the classes, promotes careful study of individual muscle groups, improves balance, flexibility, improves posture, improves intermuscular coordination. The advantage of this type of aerobics is a significant reduction of the shock load on the legs and spine [10, 13]. Fit aerobic exercises contribute to the development of flexibility ($r = 0.765$), coordination of movements (balance feelings ($r = 0.845$)). At the same time, there is a moderate dependence of endurance development ($r = 0.411$), CCC ($r = 0.564$), CNS ($r = 0.569$) (see table 1).

Kickboxing aerobics is a type of physical activity that develops muscle coordination, flexibility, strength, and forms the technique of shock and defense. One of the varieties of this program is Taibo - a type of aerobic training using the techniques of martial arts, boxing, kickboxing.

The focus on the development of physical qualities and their correlation interrelation allow us to conclude that kickboxing aerobics classes are strongly interrelated with the development of strength ($r = 0.807$), moderately fast ($r = 0.603$), flexibility ($r = 0.658$), coordination abilities ($r = 0.764$), Central nervous system ($r = 0.567$), cardiovascular system ($r = 0.456$), endurance ($r = 0.476$) (see table 1)

Taichi - aerobics with elements of Chinese respiratory gymnastics wushu. Consists of continuous movements that form the posture and coordination of movements. Exercises of this system have a strong connection with the development of the respiratory system ($r = 0.728$), and a moderate relationship with endurance indicators ($r = 0.645$), flexibility ($r = 0.438$), cardiovascular state ($r = 0.634$), development of the vestibular apparatus ($r = 0.687$), CNS ($r = 0.475$) (see table 1).

Fitness yoga is a type of aerobics, where asanas (specially developed static poses) alternate with elements of classical aerobics, movements of standardized gymnastics. Performing special poses (asanas) helps with various imperfections, strengthens and tones the muscles and develops flexibility. Poses involve performing a variety of movements that increase blood saturation with oxygen, which, in turn, leads to purification and a rush of nutrients to the most remote corners of the body. In terms of psychology, yoga increases concentration, calms the brain and gives a sense of balance, calm and satisfaction.

The correlation analysis revealed that yoga classes contribute to the development of the respiratory system ($r = 0.687$), the vestibular apparatus ($r = 0.687$), the central nervous system ($r = 0.687$), flexibility ($r = 0.687$), and in such indicators as endurance ($r = 0.687$) and the state of the cardiovascular system ($r = 0.687$) there is a moderate dependence (see table 1).

The analysis of literature data on the description of fitness programs and the correlation analysis of their effects on physical qualities and the state of functional systems made it possible to specify the specifics of the content and load of each of them, as well as some aspects of the extracurricular physical education "Hour of Health and Sport" methodology.

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