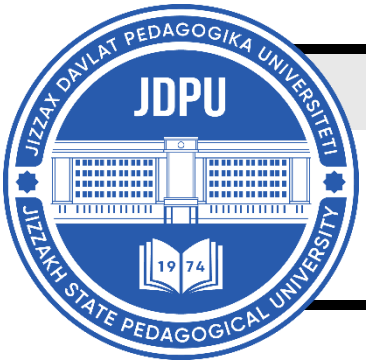
DOI: https://doi.org/10.37547/mesmj-V4-I2-28 Pages: 192-204

MENTAL ENLIGHTENMENT SCIENTIFIC – METHODOLOGICAL JOURNAL



MENTAL ENLIGHTENMENT SCIENTIFIC – METHODOLOGICAL JOURNAL

http://mentaljournal-jspu.uz/index.php/mesmj/index

INFLUENCE OF HEALTH AEROBICS ON THE DEVELOPMENT OF ENDURANCE IN WOMEN AGED 25-30

Mirjamalova Nilufar Zukhritdinovna
Uzbek State University of Physical Culture and Sports
E-mail address: mirjamolova@mail.ru

ABOUT ARTICLE

Key words: aerobics, health training, physical performance, body, muscle mass, endurance.

Received: 01.05.23
Accepted: 10.05.23
Published: 15.05.23

Abstract: The article deals with the problems of health promotion and development of physical qualities of women. The age of 25-30 years is characterized by active labor activity. In this age interval, there are slow, but steady, declines in a number of indicators of the level of a person's physical potential: from a slowdown in metabolism to a decrease in physical activity.

INTRODUCTION

Relevance of the topic. In the last two decades, one of the areas of modern fitness, aerobics, has become very popular all over the world. The emergence and rapid development of aerobics is due, first of all, to the lack of such forms of physical activity for women that would fully meet the needs of the female body and psyche. Secondly, a great healing effect. Thirdly, dissatisfaction with the old conservative forms of traditional gymnastics [1,2].

Other reasons include novelty, a variety of motor actions, the emotionality of classes, the use of modern music. Wellness aerobics classes are available for women of any age and physical fitness. They develop all physical qualities, including endurance. And endurance is necessary to maintain performance in this age period.

The analysis of literary sources makes it possible to judge the beneficial effect of exercises of various types of health-improving aerobics on the body of those involved

and the possibility of their use in the process of health-improving training to improve health and develop physical qualities, including endurance.

MATERIALS AND METHODS

Research problem. The problem lies in the definition of new means and methods used in recreational aerobics classes aimed at developing endurance in women 25-30 years old.

Object of study: the educational and training process of women aged 25-30, engaged in recreational aerobics.

Subject of study: a methodology for developing endurance in women aged 25-30 through recreational aerobics.

The purpose of the study: to increase the level of development of endurance in women aged 25-30 through recreational aerobics.

Research objectives:

1. Analyze the scientific and methodological literature on the research topic.
2. Determine the means and methods of practicing health-improving aerobics aimed at developing the endurance of women aged 25-30.
3. To substantiate the effectiveness of the means used for the development of endurance in women aged 25-30 in recreational aerobics classes.
4. The social life of women of 25-30 years of age determines the need to devote a lot of time to family and work. Therefore, they have a small supply of free time. In this regard, it is relevant to search for forms of physical culture lessons that, on the one hand, would be interesting and effective, and, on the other hand, would be optimal in terms of time consumption.

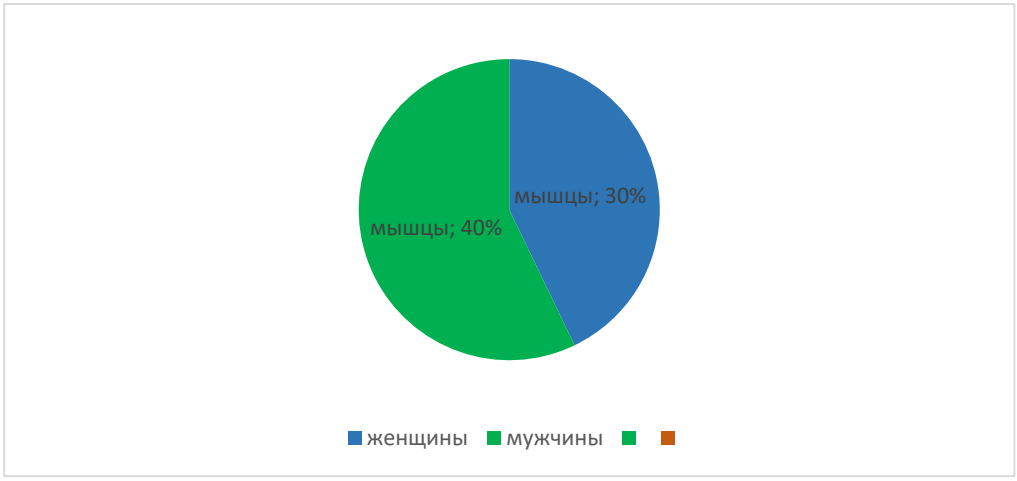
As you know, one of the popular means of healing and physical development of people is aerobics. In the past few years, strength fitness has become widespread in recreational aerobics, which, according to a number of authors, has a positive effect not only on the strength abilities of those involved, but also has an accentuated effect on the cardiovascular system of the body, the musculoskeletal system, ensures the growth of the general and strength endurance of a person, and, consequently, contributes to an increase in the functional reserves of the body involved

When organizing physical culture and sports with women, it is necessary to take into account the specifics and characteristics of their body, namely anatomical, physiological, psychological features that are essential both for health promotion and the development of physical qualities, the choice of a certain type of physical activity.

It is known that many women have narrower shoulders, wider pelvic bones, shorter arms, and smaller bones than men. The center of mass of the body in women is lower than in men, due to the peculiarities of the physique - women have a longer torso and shorter legs. This means that on the female skeleton there is less room for muscles and shorter levers (the longer the lever, the less strength is expended to lift any object) [3].

About 30% of a woman's body mass is muscle, while in men this figure is 40%. These data are consistent with the data of other authors, who claim that women have less muscle mass than men - 30-35% of the total body weight (for men - 40-45%), but a large amount of adipose tissue - 28 - 30% (in men 18-20%), which is mainly located in the chest, buttocks, on the inner surface of the thighs and in the pelvic area. This distribution of adipose tissue is not accidental and serves to protect the reproductive organs and protect the fetus during pregnancy. The subcutaneous fat layer of a woman helps protect the bones from damage. In addition, the female genital organs are almost immune to injury. However, women with more than 30% body fat are considered obese [4].

SCHEME



In addition, women have a smaller heart size, higher heart rate, lower blood pressure, lower stroke and minute blood volumes, lung capacity, and therefore their aerobic and anaerobic performance is lower [26].

Women are weaker than men due to the physiological characteristics of their body. Traditions play an important role in this. In the past, women practically did not do pull-ups and push-ups, and did not perform other exercises to strengthen the muscles of the upper shoulder girdle. M.D. By regularly exercising with weights, women can strengthen their body to the same extent as men. He came to the conclusion that women have the same, and sometimes more strength of the abdominal muscles, thighs, legs, than men of approximately the same physique.

Yielding to men in strength, women by their nature have greater flexibility, plasticity, coordination abilities, musicality, which gives them an advantage in ballet, gymnastics, figure skating and other sports and physical activity [5].

In addition, women are more enduring, have a large reserve of energy, in hot and cold weather, thermoregulation processes are more efficiently carried out in the female body. Women do not tolerate monotonous physical activity because of their increased emotionality, and aerobics is plastic and changeable. It does not disappear contrary to the opinion prevailing at the beginning of its appearance, but only changes its style: it becomes more "gymnastic", then it is fond of stretching exercises, it adapts to a male audience, then to a teenage one. Various areas of aerobics can satisfy the needs of a wide variety of age groups and segments of the population.

Research data reveals the motives that encourage women of all ages to engage in aerobics. These motives can be divided into 4 groups:

1) cosmetic (weight loss, improvement of posture, gait, general appearance);

2) medical aspects and hygiene skills (decrease in morbidity, alcohol consumption, smoking, proper diet);

3) physical performance;

4) neuropsychic stability and well-being.

An analysis of the physical activity of women shows that good motor qualities - the state of the cardiovascular system, muscle strength, muscle endurance

and flexibility are among the five main components of physical fitness. The author believes that aerobics and its varieties are aimed at the development of these components: shaping, callanetics, stretching.

According to E.N. Zakharov and co-authors, in order to effectively solve health problems, girls need to pay increased attention to the development of aerobic endurance, flexibility and coordination of movements.

For a woman involved in aerobics, toned abdominal and back muscles make it easier to endure pregnancy, give birth faster, and then return the figure to its former harmony. In addition, the general level of health creates the prerequisites for a favorable intrauterine development of the child and reduces the risk of cardiovascular diseases for the mother, and also makes it possible to avoid the unpleasant consequences of pregnancy and childbirth [6].

Endurance. In sports, it is the ability of the body to resist fatigue during prolonged exercise.

The level of endurance development is determined, first of all, by the functional capabilities of the cardiovascular and nervous systems, the level of metabolic processes, as well as the coordination of the activities of various organs and systems. In this case, the so-called economization of body functions plays an important role. Along with this, endurance is influenced by the coordination of movements and the strength of mental, especially volitional processes of an athlete.

Endurance is the ability to withstand physical fatigue during muscular activity.

Endurance is a person's capabilities that provide him with a long-term performance of any motor activity without reducing its effectiveness, that is, the ability to resist physical fatigue in the process of muscle activity [6].

Endurance is the ability to maintain the specified load power necessary to ensure professional activity and resist fatigue that occurs in the process of doing work.

Endurance is determined by many factors, but above all by the activity of the cerebral cortex, which determines and regulates the state of the central nervous system and the performance of all other organs of the systems, including such an important energy system. Here it is appropriate to note the special role of the volitional qualities of a

person, because they, being the result of his conscious activity, are associated with the functions of the central nervous system.

The measure of endurance is the time during which muscular activity of a certain nature and intensity is carried out. For example, in cyclic types of physical exercises (walking, running, swimming, etc.), the minimum time to overcome a given distance is measured. In gaming activities and martial arts, the time is measured during which the level of a given efficiency of motor activity is carried out. In complexly coordinating activities associated with the performance of movement accuracy (artistic gymnastics, figure skating, etc.), an indicator of endurance is the stability of a technically correct performance of an action.

Endurance develops from preschool age to 30 years, and if the load is of moderate intensity, then over 30 years. The most intensive period of growth is observed from 14 to 20 years.

RESULTS AND DISCUSSIONS

There are general and special types of endurance. General endurance is the ability to perform work of moderate intensity for a long time with the global functioning of the muscular system. In another way, it is also called aerobic endurance. A person who can sustain a long run at a moderate pace for a long time is able to perform other work at the same pace (swimming, cycling, etc.). The main components of general endurance are the possibilities of the aerobic energy supply system, functional and biomechanical economization. One of the most important features of general endurance is the ability for wide transfer, i.e., general endurance, developed by means of running training and manifested in running, is highly correlated with the results in cross-country skiing and walking. General endurance for 85-100% sports result. One of the most important features of general endurance is the ability for a wide transfer, i.e. general endurance, developed by means of running training and manifested in running, is highly correlated with results in aerobics.

It is believed that general endurance is the basis for the development of all other varieties of endurance.

The manifestation of general endurance depends on sports technique (primarily on the efficiency of working movements) and on the ability of an athlete to resist the onset of fatigue by concentrating volitional efforts.

Special endurance is endurance in relation to a certain motor activity. Special endurance is not only the ability to deal with fatigue, but also the ability to perform the task most effectively under conditions of a strictly limited distance (running, skiing, swimming and other cyclic sports) or for a certain time (football, tennis, water polo, boxing) [5].

Special endurance is classified:

• according to the signs of a motor action, with the help of which a motor task is solved (for example, jumping endurance);

• according to the signs of motional activity, in the conditions of which the motional task is solved (for example, game endurance);

• according to signs of interaction with other physical qualities (abilities) necessary for the successful solution of a motor task (for example, strength endurance, speed endurance, coordination endurance, etc.).

Different types of endurance are independent or little dependent on each other. For example, you can have high strength endurance, but insufficient speed or low coordination endurance. [34].

The manifestation of endurance in various types of motor activity depends on many factors: bioenergetic, functional and biochemical economization, functional stability, personal-psychic, genotype (heredity), environment, etc.

1. Bioenergetic factors determined by the volume of energy resources of the body and the functionality of its systems (respiration, cardiovascular, excretion, etc.), which ensure the exchange, production and restoration of energy in the process of work [22].

The formation of energy necessary for endurance work occurs as a result of chemical transformations. The main sources of energy production in this case are aerobic, anaerobic glycolytic and anaerobic alactic reactions, which are characterized by the rate of energy release, the amount of fats, carbohydrates, glycogen, ATP acceptable for use, as well as the allowable amount of metabolic changes in the body

[34]. The physiological basis of endurance is the aerobic capabilities of the body, which provide a certain amount of energy in the process of work and contribute to the rapid recovery of the body's performance after work of any duration and power, ensuring the fastest removal of metabolic products. Anaerobic alactic energy sources play a decisive role in maintaining performance in exercises of maximum intensity lasting up to 15–20 s. Anaerobic glycolytic sources are the main ones in the process of energy supply of work lasting from 20 s to 5-6 min. Bioenergy factors are decisive in the manifestations of endurance, therefore, the dynamics of its age-related changes is best judged precisely by metabolic indicators.

Indicators of physical performance of a person undergo regular changes with age. During the period of physiological maturation of the human body and the formation of its mental sphere, the aerobic and anaerobic capabilities of a person increase. In those sports that require high energy performance, the highest sports results are achieved at the time of full physiological maturity of a person. This age is from 18 to 25 years. Then the indicators of physical performance gradually decrease, and by the age of 60 they are already about half the maximum. The age dynamics of maximum oxygen consumption (MOC) - an integral indicator of aerobic power - is similar in men and women. However, women reach their maximum aerobic capacity at an earlier age - by the age of 20, and after 25 years this ability gradually decreases. In men, the highest rates of BMD are observed at about the age of 25, then they tend to decrease evenly, and by the age of 60 they usually make up no more than 60% of the maximum capacity at a young age. For indicators of aerobic capacity and efficiency, slower rates of age-related changes are characteristic. The maximum values are reached at the age of 25-30 years, and then they slowly decrease. Women's ability to work at the level of aerobic capacity after the age of 30 tends to decrease more sharply than men.

2. Factors of functional and biochemical economization determine the ratio of the result of the exercise and the cost of achieving it. Usually, efficiency is associated with the energy supply of the body during work, and since energy resources in the body are almost always limited either due to their small volume or due to factors that make it difficult to consume them, the human body seeks to perform work at the expense of

a minimum of energy consumption. At the same time, the higher the qualification of an athlete, especially in sports that require the manifestation of endurance, the higher the efficiency of the work performed by him. Economization has two sides: mechanical (or biomechanical), depending on the level of technique or rational tactics of competitive activity; physiological and biochemical (or functional), which is determined by what proportion of the work is performed due to the energy of the oxidative system without the accumulation of lactic acid, and if we consider this process even deeper, then due to what proportion of the use of fats as a substrate for adverse changes in its internal environment caused by oxidation[2].

3. Factors of functional stability make it possible to maintain the activity of the functional systems of the body during work (increase in oxygen debt, increase in the concentration of lactic acid in the blood, etc.) The ability of a person to maintain the specified technical and tactical parameters of activity, despite increasing fatigue, depends on functional stability.

4. Personal and mental factors have a great influence on the manifestation of endurance, especially in difficult conditions. These include motivation to achieve high results, the stability of the attitude towards the process and the results of long-term activity, as well as such strong-willed qualities as determination, perseverance, endurance and the ability to endure adverse changes in the internal environment of the body, to perform work through "I can't".

5. Genotype (heredity) and environmental factors. General (aerobic) endurance is moderately strongly determined by the influence of hereditary factors (heredity coefficient from 0.4 to 0.8). The genetic factor significantly affects the development of the anaerobic capabilities of the body. High heredity coefficients (0.62-0.75) were found in static endurance; for dynamic strength endurance, the effects of heredity and environment are approximately the same [34]. Hereditary factors have a greater effect on the female body when working at submaximal power, and on the male body when working at moderate power [34].

The development of endurance occurs from preschool age to 30 years (and to loads of moderate intensity and above). The most intensive increase is observed from 14 to 20 years.

Consider some types of special endurance. Speed endurance is called endurance, manifested in motor activity, when a person is required to maintain maximum or submaximal intensity of work (speed or pace of movements, or such a ratio of speeds, for example, in the first and second half of the distance, at which the distance is overcome at full strength). Speed endurance in the maximum zone is due to the functionality of the anaerobic creatine phosphate energy source. The maximum duration of work does not exceed 15-20 seconds. The physiological basis of speed endurance is the anaerobic capabilities of the body with both of their phases - alactic and glycolytic. The main external indicator of speed endurance is the time during which it is possible to maintain a given speed or pace of movements, or the ratio of speeds achieved in parts of the distance [33]. Coordination endurance is understood as the ability to resist fatigue in motor activity, which places increased demands on a person's coordination abilities. Such endurance is manifested mainly in motor activity, characterized by a variety of complex technical and tactical actions. (artistic gymnastics, sports games, figure skating, etc.).

Methodological aspects of increasing coordination endurance are quite diverse. For example, they practice lengthening combinations, shortening rest intervals, repeating combinations without rest between them.

Strength endurance is the ability to resist fatigue in muscular work with pronounced moments of power stress [32].

To develop endurance for strength work, a variety of exercises with weights are used, performed by the method of repeated efforts with repeated overcoming of unlimited resistance until significant fatigue or "to failure", as well as by the method of circuit training. In cases where they want to develop endurance for strength work in a static mode of muscle work, they use the method of static efforts. Exercises are selected taking into account the optimal angle in a particular joint, at which a maximum of effort develops in a specialized exercise. One of the criteria by which one can judge

the development of strength endurance is the number of repetitions of the control exercise performed “to failure” with weights – 30–75% of the maximum [28].

Static strength endurance is the ability to maintain muscle tension for a long time without changing the posture. Usually only certain muscle groups work in this mode. Here there is an inverse relationship between the magnitude of the static effort and its duration - the greater the effort, the shorter the duration.

Dynamic strength endurance is usually determined by the number of repetitions of an exercise and significant muscle tension at a relatively low speed of movement. With age, strength endurance to static and dynamic strength efforts increases.

Exercises of a power dynamic nature can be performed with different weights (intensity) and the number of possible repetitions (volume). For the development of power dynamic endurance, mainly repeated, interval and circular methods are used [4].

CONCLUSION

In the modern world, each person has great opportunities to strengthen and maintain their health, to maintain their ability to work, physical activity, and also to develop physical qualities. The most reliable way for women in the age group of 25-30 years old is health-improving aerobics. Classes allow you to maintain the function of muscles and joints in an optimal state, and more importantly, with the help of muscle work, maintain and increase the energy capabilities of the body. Wellness aerobics training has a powerful positive effect on the body of a woman 25-30 years old. It can improve: the health and mental state of women (reduce the risk of many diseases, regulate the functioning of the body, increase "vitality", activity, performance, improve mood, everyday well-being, etc.); physical condition (increase muscle strength and endurance, improve flexibility and coordination of movements); figure (reduce the amount of fat in the body, increase or decrease muscle volume, improve posture, gait).

Through health-improving aerobics, the physical qualities of those involved are developed, including endurance. The means and methods used in health-improving

aerobics classes have a beneficial effect on the development of almost all types of endurance.

Analysis of the literature data and the results of the pedagogical experiment allows us to draw the following conclusions:

1. Analysis of scientific and methodological literature data showed that the age of women 25-30 years old is characterized by active labor activity and the main childbearing period. In this age interval, a decrease in a number of indicators of the level of physical potential is noted. A woman engaged in recreational aerobics has developed physical qualities, including endurance. Developed endurance allows a woman to endure pregnancy and childbirth more easily, increases efficiency in work and household activities.

2. An experimental complex of physical exercises has been developed, which is included in the applied training program. The complex is aimed at developing endurance in women aged 25-30, who go in for recreational aerobics.

3. The effectiveness of the proposed complex of physical exercises was proved, which was revealed in a significant increase in the level of development of endurance in women 25-30 years old, involved in recreational aerobics.

REFERENCES:

[1]. Averbukh, M. M. Move more, live longer: Unique fitness programs for youth extension / M. M. Averbukh. - Moscow: Grand Fair, 2004. - 269 p.

[2]. Antipenkova, I.V. The results of long-term training in women's health-improving groups / I.V. Antipenkov. Problems of increasing the efficiency of the system of training athletes and the development of mass physical culture: interuniversity. Sat. scientific tr. / Smolensk state. Institute of Physics culture. Smolensk, 2003.

[3]. Arefiev, V. G. Modern fitness technologies for increasing the level of physical condition of women of the first mature age / V. G. Arefiev (KhKhPI). Kharkov, 2005. No. 1. S. 73-78.

[4]. Aronov, G. Z. The system of enterprise management in the field of physical culture and health services // Uchenye zapiski universiteta imeni P. F. Lesgaft / G. Z. Aronov. - Moscow, 2007. - No. 12 (34). - S. 10-13.

[5]. Babakin, S. V. Organizational management of fitness clubs / S. V. Babakin, S. S. Krivosheev, E. V. Kuzmicheva // 12th international scientific congress "Modern Olympic and Paralympic sport and sport for all", 26 - May 28 - Moscow, 2008: materials / Ros. state un - t nat. culture, sports and tourism 2008.

[6]. Baranov, A. Yu. Deep freezing fitness / A. Yu. Baranov. – Moscow: Medicine and sport. 2006. No. 34. S. 67-68.