choice as physical exercises of such motor actions as would be appropriate biomechanical structure to the greatest extent corresponded to what is offered by the educational program for assimilation; correction of individual parameters of health and training loads [1].

The organizational aspect of management should be based on the concept of health training aimed at the development of physical qualities and its implementation, first of all, during physical education classes, as well as the formation of students' motivation for independent physical education and sports. Content bases should be based on general principles of health training. Learning motor actions should be carried out as much as possible by subordination to the main, health-training task of the lesson. For this, it is necessary to select sets of exercises from the number of motor actions that are studied or were studied in the last lesson. Planning physical education classes based on the concept of the health and training process will contribute to a significant increase in the physical potential of students, and thus, improve their physical condition, strengthen their health, and increase their mental capacity.

Conclusions. Undoubtedly, the key to a successful and healthy nation is the correct upbringing of children, teenagers and students. Modern rapidly changing living conditions dictate the need to find new, more effective and interesting ways to involve the younger generation in the sphere of physical culture and sports, to introduce them to a healthy lifestyle. Physical education can become just such a means of harmonization and restoration of strength. Protection from stress and peace of mind, increased efficiency and improvement of acquired knowledge and academic performance.

Reference

1.Zenina I.V., Polukhin Yu.V., Syrotynska O.K. 2011. Self-education by means of physical culture in the professional system training of a future specialist of a higher educational institution. Scientific journal. Kyiv, branch of the NPU named after Drahomanova - 320-323 p.

2.Prysiazhnyuk S. I. 2015. Course of lectures on physical education: Education. manual for student's technician University / S. I. Prysiazhniuk, D. G. Olenev. - K.: Publishing center of National university of life and environmental sciences of Ukraine - 420 p.

3.Polukhin Yu.V., Nazaruk V.M. 2011. The need for physical self-improvement and the main methods of its formation in students' Modern problems of physical education and sports of schoolchildren and students of Ukraine. Mater XI All-Ukrainian. of science practice conferences - 132-135 p.

4.Sergienko L.P. 2001. Testing of motor abilities of schoolchildren / L.P. Sergienko. - K.: Olympic literature - 438 p.

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THE EFFECT OF SWIMMING ON PSYCHOLOGICAL STATE DURING RECOVERY FROM PROLONGED STRESS

Swimming is one of the healthiest sports. Most people know that swimming improves cardiovascular and muscular health, but few know about its psychological benefits. Research shows that swimming has a positive effect on a person's mental state. For example, regular swimming has been shown to cause changes in the brain, such as decreased stress levels, increased endorphins, and decreased risk of depression. Swimming also has a huge impact on self-confidence, helps solve problems, and increases productivity during the workday.

Swimming is a unique type of physical activity that can have a positive effect on a person's psychological state. Firstly, swimming promotes relaxation. The water that surrounds the body during swimming helps reduce stress and anxiety. In addition, swimming increases the production of endorphins, hormones that are responsible for our good mood and reducing pain. Secondly, swimming improves self-esteem and self-discipline. Training in the pool helps to increase self-confidence and give a sense of achieving goals. Also, regular swimming requires discipline and self-control, which in the long run can be transferred to other areas of life. Thirdly, swimming improves the quality of sleep. As mentioned earlier, swimming promotes relaxation, which in turn helps reduce anxiety and prepare the body for sleep. In addition, swimming also reduces the number of awakenings at night and improves the quality of sleep in general.

So, swimming has the following positive effects on the psychological state: relaxation and reduction of stress levels; increased production of endorphins; increased self-confidence and self-discipline; improved sleep quality.

Swimming practice can become one of the elements of caring for your physical and mental health.

Thus, if a student wants to improve his psychological state, he needs to pay attention to swimming lessons. Include it in your regular physical activity and enjoy all its benefits.

Key words: *swimming, student, stress, relaxation, nervous system.*

Черевичко Олександр, Смірнов Костянтин. Вплив плавання на психологічний стан під час відновлення після тривалого стресу. *Плавання – один із найздоровіших видів спорту. Більшість людей знають, що плавання покращує здоров'я серцево-судинної системи та м'язів, але мало хто знає про його психологічні переваги. Дослідження*

показують, що плавання позитивно впливає на психічний стан людини. Наприклад, було показано, що регулярне плавання викликає зміни в мозку, такі як зниження рівня стресу, підвищення рівня ендорфінів і зниження ризику депресії. Плавання також має величезний вплив на впевненість у собі, допомагає вирішувати проблеми та підвищує продуктивність протягом робочого дня.

Плавання – унікальний вид фізичної активності, здатний позитивно впливати на психологічний стан людини. По-перше, плавання сприяє розслабленню. Вода, яка оточує тіло під час плавання, допомагає зменшити стрес і занепокоєння. Крім того, плавання збільшує вироблення ендорфінів, гормонів, які відповідають за наш гарний настрій і зменшення болю. По-друге, плавання підвищує самооцінку і самодисципліну. Заняття в басейні сприяють підвищенню впевненості в собі і дають відчуття досягнення мети. Крім того, регулярне плавання вимагає дисципліни і самоконтролю, які в довгостроковій перспективі можуть бути перенесені на інші сфери життя. По-третє, плавання покращує якість сну. Як згадувалося раніше, плавання сприяє розслабленню, що, у свою чергу, допомагає зменшити тривожність і підготувати тіло до сну. Крім того, плавання також зменшує кількість пробуджень вночі та покращує якість сну в цілому.

Отже, плавання має такі позитивні ефекти на психологічний стан: розслаблення та зниження рівня стресу; підвищене вироблення ендорфінів; підвищення впевненості в собі і самодисципліни; поліпшення якості сну.

Заняття плаванням можуть стати одним із елементів турботи про фізичне та психічне здоров'я.

Таким чином, якщо учень хоче покращити свій психологічний стан, йому необхідно приділити увагу заняттям з плавання. Включіть його у свою звичайну фізичну активність і насолоджуйтесь усіма його перевагами.

Ключові слова: *плавання, студент, стрес, релаксація, нервова система.*

Formulation of the problem. Stress is a negative factor for the psychological and physical health of a person. Therefore, it is important to take care of its reduction. One of the ways to combat stress is swimming. Swimming promotes the production of the hormone endorphin, which improves mood and helps fight stress. In addition, during swimming, the level of the hormone cortisol decreases, which is a signal to the body about a stressful state. Regular swimming also helps improve sleep, which is also important for maintaining psychological health.

In addition, swimming has a positive effect on the brain. Scientists have found that swimming can promote the production of the protein BDNGF, which improves the functioning of nerve cells and promotes their growth and development. In general, swimming is an effective way to reduce stress levels and maintain psychological health.

Endorphins are a group of neuropeptides produced by the body in response to exercise, emotional arousal, and certain foods. They are natural analgesics and mood stimulants.

Analysis of literary sources. During the study, a lot of material was discovered and processed regarding the positive impact of swimming on a person's psychological state by the following authors: Dakal, N., Kachalov, O. [1], Zubko, V., Cherevichko, O., Smirnov, K. [2], Khimich I., Parakhonko V., Kachalov, O. [3], Cherevichko, O., Zubko, V., Garnusova, V., Smirnov, K. [4].

Swimming, according to numerous studies, is one of the most effective ways to increase endorphin levels. During swimming, muscle work stimulates about 90% of our muscles, which helps increase the release of endorphins. In addition, swimming increases the level of oxytocin, also known as the “love hormone,” which helps improve mood and self-esteem.

The healing effect of swimming is not limited to endorphins. Research shows that regular swimming can also improve sleep and reduce stress and anxiety. Some studies also indicate that swimming can reduce symptoms of depression and improve cognitive function.

As you know, water has high thermal conductivity, and staying in it will be good for training the mechanisms that regulate heat transfer from the body. Those who exercise generally have better body hardening. They will be less susceptible to colds and will not be dependent on sudden changes in weather or drafts. Direct exercises in water will improve the functioning of the nervous system of students. Regular swimming is considered a powerful factor influencing a student’s higher nervous activity. The effect of water temperature will balance the processes of excitation and direct inhibition in the central nervous system, increasing blood supply to the brain. Water gently flows around the body, massaging the nerve endings in the skin and muscles, has a beneficial effect on the central nervous system, will soothe and relieve fatigue [3].

Swimming is a beneficial exercise that can help improve your psychological well-being. It stimulates the release of endorphins and oxytocin, which improves your mood and self-esteem. In addition, regular swimming can improve sleep, reduce stress and anxiety, and reduce symptoms of depression and improve cognitive function.

Reducing the risk of depression. Depression is a common psychological disorder that affects the quality of life of millions of people around the world. Reducing the risk of depression can be achieved in a variety of ways, including a healthy lifestyle, improved sleep quality, social support, and physical activity. One physical activity that can help reduce the risk of depression is swimming. Recent studies have shown that swimming can lead to changes in the brain that are associated with a reduction in symptoms of depression.

Swimming may be particularly beneficial for people who experience chronic stress and anxiety, as exercise can help reduce stress levels and cardiorespiratory fitness index.

Swimming can also help increase levels of endorphins, which are natural painkillers and antidepressants in our bodies. This can improve your mood and promote a more positive psychological outlook on life.

Additionally, swimming can be a way to keep yourself busy and engaged in something that can reduce the amount of time you spend thinking about problems and other stressors that can lead to depression. Overall, swimming is a useful way to reduce the risk of depression and improve your quality of life.

Swimming has a positive effect on a person's psychological state. Sports, including swimming, promote the production of endorphins and serotonin - hormones responsible for mood and happiness.

In addition, swimming improves self-esteem, develops self-confidence and helps cope with stress. In the water, we will feel lightness and freedom of movement, which makes it possible to relieve muscle tension and relax.

Swimming also helps to strengthen the nervous system and improves blood circulation in the body. Thanks to this, the likelihood of developing depression and other psychological disorders decreases.

In addition, swimming can help a student develop discipline, learn to set goals and achieve them. After all, training in the pool will require effort and perseverance, and achieving success in this matter can increase self-esteem and self-confidence. So, we can conclude that swimming has a positive effect on a person's psychological state and is an excellent way to maintain health and balance in life [2].

Increase self-esteem. Swimming is one of the most beneficial sports that not only strengthens muscles but also has a positive effect on a person's psychological state.

Swimming helps to increase self-esteem, as it is a discipline that requires self-discipline and endurance from the athlete. Every time a person achieves a new goal in swimming, he feels satisfaction from his achievements, which has a positive effect on his self-confidence.

In addition, swimming helps to relieve stress and reduce anxiety, which also helps to increase self-esteem. Water is a natural sedative that can help eliminate feelings of anxiety and tension.

Another factor that affects self-confidence in swimming is the social aspect of this sport. People involved in swimming usually have common interests and goals, which allows them to build new relationships and strengthen existing ones. In the process of joint training and competitions, athletes learn to work in a team, as well as find support from their teammates.

Overall, swimming is one of the best ways to increase self-esteem and self-confidence due to the physical, psychological and social benefits that this sport provides.

Self-confidence is an important quality, especially in today's world, where competition is extremely high, and only strong-willed people can succeed. Developing a sense of self-confidence is possible through various methods, and one of them is swimming.

Swimming is a great way to strengthen physical health, as well as psycho-emotional stability. Learning to swim requires patience, persistence and diligence, which improves character traits and cultivates mental strength. Swimming instills a sense of inner confidence in a person, forcing him to rely on his own strength and achieve his goals [1].

Moreover, swimming is a great way to relax and relieve stress. During swimming, various breathing and muscle relaxation exercises are performed, which improves the psychological state, increases concentration and leads to increased self-confidence.

It is important to understand that developing self-confidence is an ongoing process that requires effort and persistence.

Sport is one of the best forms of self-development. And swimming is the most conducive to mental health of all sports. Swimming exercises realize the connection between the body and the psyche, they help to develop the body, strengthen health and the nervous system. These qualities contribute to increased self-confidence and help a person cope more effectively with stress and negative emotions [4]. If you want to develop and strengthen a sense of self-confidence, then swimming is one of the best ways. This sport not only helps to develop physical strength and endurance but also has a positive effect on the psychological state, strengthens self-awareness and self-confidence.

Strengthening your inner balance is the key to self-confidence and psychological well-being. As research shows, swimming can significantly affect a person's psychological state and help them achieve inner balance. This sport not only helps improve physical health but also has a positive effect on a person's psyche. While swimming, we focus on our breathing and concentrate on the water. This helps our brain escape from everyday worries and problems and focus on rest and relaxation. And when we feel relaxed and calm, we automatically begin to think more positively and confidently in our abilities.

Swimming can also improve your well-being by releasing endorphins, the hormones of happiness. A large amount of physical activity and deep breathing cause a stable physiological response that leads to a decrease in stress and apathy, a strengthening of the nervous system and a significant improvement in mood [4].

It is very important to have the right approach to training to get the greatest effect. To begin with, you can start with light endurance exercises and breaststroke, and then gradually complicate your program. It is also important to monitor the technique and breathe correctly to avoid injuries and increase the effectiveness of training.

Thus, swimming can help not only to improve physical health, but also effectively cope with stress and increase self-confidence. Regular training can help achieve inner balance and psychological well-being, as well as give strength and energy to achieve new goals in life.

Swimming is one of the healthiest sports that, for obvious reasons, has a great impact on a person's physical health. But those who practice swimming know that this sport also has a positive effect on their mental state.

Firstly, swimming reduces stress levels. This is due to the fact that water and the movements in it have a relaxing effect on the human body. In addition, water massages the skin, which also promotes relaxation. According to research, regular swimming helps reduce anxiety, improve mood and increase self-confidence [1].

Secondly, swimming can improve the quality of sleep. Research has shown that swimming reduces the time it takes to fall asleep and improves the quality of sleep. This, in turn, can lead to higher performance, energy and an improvement in overall psychological state.

Swimming can also help cope with depression and improve emotional state. As mentioned above, regular swimming helps reduce anxiety, improve mood and increase self-confidence. In addition, swimming promotes the production of hormones responsible for improving mood and reducing feelings of fatigue and stress. So, swimming is not only good for physical health, but

also for a person's psychological state. It helps reduce stress levels, improve sleep quality, increase self-confidence, and cope with depression. Therefore, by swimming, you not only improve your fitness, but also give your body health and a good mood.

Relaxation and reduction of aggression. Relaxation and reduction of aggression are important aspects of mental health that can be achieved through regular swimming. This sport not only effectively strengthens muscles and the cardiovascular system but also promotes relaxation of the body and mind. During swimming, a certain breathing rhythm is observed, which allows you to regulate your emotional state and reduce stress. Swimming also promotes the production of endorphins - hormones of joy that improve mood and increase the level of overall vital energy. Swimming also helps to reduce aggression. Soft and smooth movements are used when swimming, which helps to calm the nervous system and reduce emotional tension. In this regard, swimming can be used as a means of overcoming conflicts and improving relationships with others [2].

Thus, swimming is an effective way to solve problems and increase productivity. Relaxation of the body and mind, reduction of stress and aggression, as well as an increase in energy and mood are important factors for achieving success and improving the quality of life.

Conclusions.

Swimming is an effective way to increase productivity and solve problems that may arise in the process of achieving a goal. When we break away from everyday worries and daunting fuss, dive into the water and start moving, our body relaxes, we become more attentive to ourselves and our thoughts. It is this approach to decision-making and achieving goals that can help to get new ideas and solutions that did not occur to us before. Swimming also helps to improve the psychological state. During classes, this form of activity generates a certain optimism, improves self-esteem and gives the opportunity to discover new abilities of your body. Along the way, it becomes clear that the ability to navigate well in space and perfectly remember the water world does not necessarily contradict intellectual abilities that can be used at work or in personal life. It can also contribute to the improvement of cognitive functions and improve the ability to concentrate. In addition, swimming helps to cope with emotional tension and stress that can arise as part of the process of achieving goals. During swimming sessions, all thoughts are driven away, remaining at the bottom of the pool, and during the session you should simply enjoy the flow of even breathing and movement in the water. Disperses the present time and worries about the future, which often determines our efficiency and enthusiasm in the context of achieving goals. Thanks to swimming, you can improve cognitive functions and increase productivity at work. Swimming can be a useful tool in decision-making and achieving goals. This sport helps to cope with stress and emotional tension, which makes this activity even more useful for those who are engaged in an activity that requires great concentration of effort for a time.

Firstly, swimming promotes relaxation. The water that surrounds the body during swimming helps reduce stress and anxiety. In addition, swimming increases the production of endorphins, hormones that are responsible for our good mood and pain relief.

Secondly, swimming improves self-esteem and self-discipline. Training in the pool helps to increase self-confidence and give a sense of achieving goals. Regular swimming also requires discipline and self-control, which in the long term can be transferred to other areas of life.

Reference

1.Dakal, N., Kachalov, O. (2024). Positive effect of swimming on the musculoskeletal system. Health and medical swimming as a method of prevention of posture disorders and scoliosis. Scientific journal of the Mykhailo Dragomanov Ukrainian State University. Series 15, (9(182), 241-244 p.

2.Zubko, V., Cherevichko, O., Smirnov, K. (2024). Swimming in the system of physical education in higher educational institutions. The impact of recreational swimming on the body of students of higher educational institutions. Scientific Journal of the Mykhailo Dragomanov Ukrainian State University. Series 15, (11(184), 243-246 p.

3.Khimich, I., Parakhonko, V., Kachalov, O. (2023). Psychophysical indicators of the functional state of young swimmers. Scientific Journal of the Mykhailo Dragomanov Ukrainian State University. Series 15, (10(170), 12-15 p.

4.Cherevichko, O., Zubko, V., Garnusova, V., Smirnov, K. (2024). Different directions of education and training of students at the university. Initial and sports levels of training in swimming. Scientific journal of the Mykhailo Dragomanov Ukrainian State University. Series 15, (2(174), 22-26 p.