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RESULTS OF PROGRAM IMPLEMENTATION THE INDEPENDENT WILL BE BUSY WITH PHYSICAL EXERCISES IN STRESSFUL SITUATIONS AMONG YOUTH STUDENTS

The article examines the effectiveness of the program of independent physical exercises in stressful situations among students of the Dnipro National University named after Oles Gonchar.

War is seen as a source of extreme stress that is unexpected and extremely intense. Its psycho-traumatic potential is connected with this. Therefore, it is important to understand what means can be used to bring a person out of a stressful state and to treat mild forms of mental disorders caused by stress. It is especially relevant to consider those methods of combating stress that do not require any additional costs, and therefore are generally available to everyone.

A program of independent classes was developed according to scientific studies, which claim that anaerobic activity is as effective in stressful conditions as aerobic exercises, regime of alternating strength exercises and aerobics with a duration of 30 minutes. Exercise intensity was moderate to moderate, as any positive effect of exercise on reducing the risk of depressive symptoms may be limited by exercise intensity.

Results received. The number of respondents who had a moderate degree of depression according to the Beck scale decreased by 15%. Also, the number of students with a mild degree of depression decreased by 34%, and the number of students with a normal psychological state increased accordingly (by 49%). Conclusions were made: 1. Self-exercise is an opportunity to support both physical and psychological health of a person. 2. In a stressful state, motor activity is a mandatory component for getting out of it and reducing its effect. 3. To reduce symptoms of depression, the focus should be on exercise frequency, not duration or intensity. 4. A mandatory condition for teachers of physical education departments of higher education institutions is the education of priority health orientations in students, motivational incentives for regular independent physical exercises, because systematic training is an important guarantee of normal physical and spiritual development of young people.

Key words: stress, physical culture, motor activity, independent studies.

Мартінова Н., Хотієнко С., Агалаков В. Результати впровадження програми самостійних занять фізичними вправами серед студентської молоді в умовах стресових ситуацій. У статті проведено перевірку ефективності програми самостійних занять фізичними вправами при стресових ситуаціях серед студентів Дніпровського національного університету імені Олеся Гончара.

Війна розглядається як джерело екстремального стресу, яке є несподіваним та гранично інтенсивним. Саме з цим пов'язаний її психотравмуючий потенціал. Тому важливо розуміти, які засоби можна використати для виводу людини зі стресового стану і для лікування легких форм психічних розладів викликаних стресом. Особливо актуальним є розгляд тих способів боротьби зі стресом, які не потребують жодних додаткових витрат, а тому є загальнодоступним для кожного.

Було розроблено програму самостійних занять згідно наукових досліджень, які стверджують, що анаеробна активність так само ефективна при стресових станах, як і аеробні вправи, режим чергування силових вправ та аеробних з тривалістю в 30 хвилин. Інтенсивність вправ була помірною та середньою, адже будь-який позитивний вплив фізичних вправ на зниження ризику симптомів депресії може бути обмежений інтенсивністю фізичних вправ.

Отримано результати. Кількість респондентів, які мали помірну ступінь депресії за шкалою Бека зменшилась на 15%. Також зменшилась кількість студентів з легким ступенем депресії – на 34% та відповідно збільшилась кількість студентів, які мають нормальний психологічний стан (на 49%). Зроблено висновки: 1. Самостійні заняття фізичними вправами є можливістю підтримки як фізичного так і психологічного стану здоров'я людини. 2. У стресовому стані рухова активність є обов'язковою складовою для виходу з нього та зменшенню його ефекту. 3. Для зменшення симптомів депресії увага повинна бути зосереджена на частоті вправ, а не на тривалості чи інтенсивності. 4. Обов'язковою умовою для викладачів кафедр фізичного виховання ЗВО є виховання у студентів пріоритетних орієнтацій на здоров'я, мотиваційних стимулів до регулярних самостійних занять фізичними вправами, адже систематичні тренування є важливою запорукою нормального фізичного і духовного розвитку молоді.

Ключові слова: стрес, фізична культура, рухова активність, самостійні заняття.

Formulation of the problem. Stress is an integral part of our lives. It becomes very difficult for a person who is under constant physical and psychological stress, especially in war conditions, to endure the consequences of modern events, due to which the number of people with mental disorders increases significantly. According to the expert, war is not a "classic" source of stress, however, its stressogenic potential is extremely high. War can be seen as a source of extreme stress – unexpected and extremely intense. Its psycho-traumatic potential is related to this [5]. That is why it is important to understand what means can be used to bring a person out of a stressful state and to treat mild forms of mental disorders caused by stress. It is especially relevant to consider those methods of combating stress that do not require any additional costs, and therefore are generally available to everyone.

It is generally known that leading a healthy lifestyle by the population to preserve and strengthen health is five times more effective than medical and diagnostic procedures. Numerous scientific studies have proven that physical activity significantly contributes to maintaining a healthy lifestyle, as well as in some cases reducing the negative impact of harmful habits on the human body, increasing stress resistance, helping to overcome stress and various mental disorders, and distracting from antisocial behavior [3].

Analysis of literary sources. Current scientific literature highlights: the impact of regular physical exercise in free time to provide protection against future depressive symptoms (Harvey et al., 2018); the effect of exercise intensity on reducing the risk of depression symptoms (Dishman, McDowell & Herring, 2021); the relationship between exercise and mental health (Sammi R Chekroud et al., 2018) and others.

The purpose of the article is to check the effectiveness of the developed program of self-study for students of higher education institutions in distance physical education classes to increase motor activity and overcome stress during martial law.

Research methods: generalization of data from scientific and methodical literature, questionnaires, pedagogical experiment.

Presentation of the main research material. Experts have proven that motor activity ensures physical, mental, social and spiritual well-being of a person. It has a beneficial effect on human health as a whole. Physical exercises activate and improve metabolism, improve the activity of the central nervous system, ensure the adaptation of the cardiovascular, respiratory and other systems to the conditions of muscle activity, accelerate the process of entering the work and functioning of the circulatory and respiratory systems, as well as shorten the length of functional recovery after shifts caused by physical activity. According to the WHO, regular physical activity prevents heart disease, type 2 diabetes and cancer, reduces symptoms of depression and anxiety, improves memory and improves brain health [1, 4].

Scientists state that motor activity normalizes and increases the level of neurotransmitters, improving mental health. They emphasize that the effect of physical exercises can be compared with the effect of antidepressants. According to the WHO, other key benefits of exercise include improved mood, increased energy levels, mental clarity and improved cognitive function. Physical activity can help reduce risk factors for psychological and physical health, increase self-esteem, and help create more meaningful relationships with others [2].

Physical activity has also been shown to have a beneficial effect on the prevention of various diseases, and evidence suggests that this statement is likely to be true for mental illnesses such as depression and anxiety disorders [9]. In particular, with regard to the relationship between physical activity and mood, evidence suggests that moderate exercise improves mood (or helps maintain it), whereas vigorous exercise tends to worsen it, and that these changes in mood are more related to the construct of depression than to the construct of anxiety [9].

Data from some studies also indicate that lack of physical activity can be a risk factor for depression [8].

Other scientists posit that the mechanisms underlying the antidepressant effect of physical exercise remain a matter of debate; however, the effectiveness of exercise in reducing depressive symptoms has been well established. They also add that the focus should be on exercise frequency rather than duration or intensity until normal behavior is well established. Adding self-monitoring techniques can increase awareness of the immediate benefits of engaging in exercise, which tends to empower the patient [6, 11].

Therefore, we conducted a survey among full-time students of the Dnipro National University named after Oles Gonchar (172 people) to find out the motives for independent physical exercises.

The survey results in Figure 1. Let us add that the students chose several items (from 2 to 4). As you can see, a fairly large percentage of students (40.1%) chose physical exercises to relieve stress.

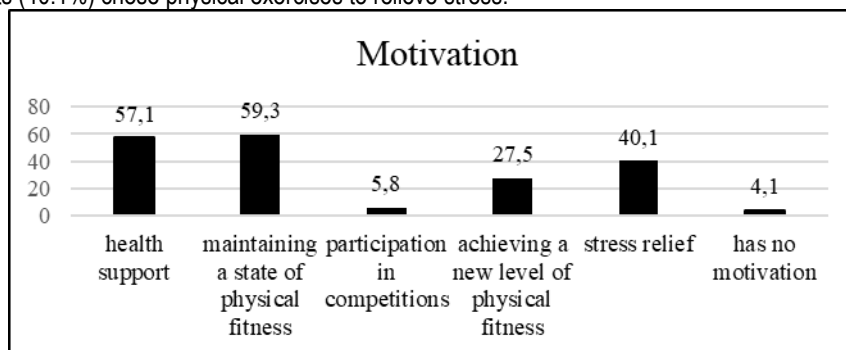


Fig. 1. Motives of students for independent physical exercises

The next question was "Do you consider independent physical exercises to be relevant during martial law?". 99.3% of respondents answered «yes», and only 0.7% answered «no».

Therefore, the students were offered a training program (three days a week) during the academic semester, where in addition to mandatory classes (once a week), they independently trained by alternating strength exercises (gym/strength exercises at home) and aerobics (walking/running/cardio-fitness). One day – strength exercises, the second – cardio, the third – strength, the fourth – cardio and so on.

The program of self-training was developed according to scientific studies, which claim that anaerobic activity is just as effective as aerobic exercise. Exercise lasting at least 21 minutes seems to be necessary to achieve a reduction in state and personal anxiety [10]. Therefore, the mode of alternating strength exercises and aerobic exercises with a duration of 30 minutes was chosen. The intensity of exercise was moderate to moderate, as it has been studied that any positive effect of exercise on reducing the risk of depressive symptoms may be limited by the intensity of exercise [7].

At the end of the experiment, the respondents passed the survey "Did you get the desired result?". According to the subjective assessment of the respondents, the answers were as follows: «yes» – 70.3% answered, 25% did not fully answer, «no» – 4.7%.

Also, at the beginning and at the end of the experiment, the students took a depression test and gave answers according to the Beck scale (Table 1).

Table 1

The results of the Beck scale survey

Period research	does not have depression (0-9)	mild depression (10-15)	moderate degree of depression (16-19)	average degree of depression (20-29)	severe depression (30-63)
start	21%	63%	16%	-	-
finish	70%	29%	1%	-	-

According to the test data, we can see that the number of respondents who had a moderate degree of depression according to the Beck scale decreased by 15%. Also, the number of students with a mild degree of depression decreased by 34%, and the number of students with a normal psychological state increased accordingly (by 49%).

Conclusions. So, having analyzed the scientific and methodical literature, conducted a questionnaire and a pedagogical experiment, we can draw the following conclusions.

1. Self-exercise is an opportunity to support both physical and psychological health of a person.
2. In a stressful state, motor activity is a mandatory component for getting out of it and reducing its effect.
3. To reduce symptoms of depression, the focus should be on exercise frequency rather than duration or intensity until normal behavior is well established.
4. A mandatory condition for teachers of physical education departments of higher education institutions is the education of priority health orientations in students, motivational incentives for regular independent physical exercises, because systematic training is an important guarantee of normal physical and spiritual development of young people.

Prospects for further research include the development of motivational incentives for regular independent exercise classes for students of higher education institutions.

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APPLICATION OF STEM-TECHNOLOGIES IN THE PROFESSIONAL TRAINING OF SPECIALISTS IN THE FIELD OF HUMAN HEALTH

The article examines the current aspects of the use of STEM technologies in the professional training of specialists in the field of human health. Focusing on scientific and technical disciplines such as materials science, engineering, computer science and mathematics, the article highlights the benefits and challenges of applying STEM approaches in the educational process. The impact of the specified technologies on the development of key competencies and increasing the efficiency of professional training of future specialists in the field of health care was studied. The article also considers the possibilities of integrating STEM education into training programs, thereby contributing to the creation of better conditions for the successful implementation of these technologies in the field of training specialists in education and human health.

The purpose of the article is to analyze scientific approaches to defining and studying the features of STEM education; the study of existing educational practices related to the development and implementation of STEM subjects and the determination of ways of their respective implementation in the educational process for the purpose of health protection.

Methodology. The methodological basis of the research is a systematic and person-oriented approach to the analysis of psychological-pedagogical literature and pedagogical experience on issues of social-pedagogical activity. The work uses a multi-level systematic analysis of scientific sources, which is based on philosophical, general scientific and partly scientific and specific scientific levels of knowledge.

Scientific novelty. The scientific novelty of this article lies in the in-depth study and analysis of the impact of STEM technologies on the professional training of specialists in the field of human health. The work highlights the latest approaches to the use of scientific and technical knowledge and skills for health maintenance, revealing in detail their role in the development and improvement of the quality of education in this field. In addition, the article offers innovative strategies and methods of introducing STEM approaches into educational programs to optimize the process of professional training, which contributes to the continuous improvement of educational practices in the field of human health.

Conclusions. Studies of the use of STEM technologies in the professional training of health professionals indicate the significant potential of these innovations in the field of improving the quality of education and improving the practical skills of future medical workers. The use of STEM approaches allows not only to effectively combine scientific knowledge and technical skills, but also stimulates critical thinking, creative approach and the ability to solve complex problems in the medical field. The results of the analysis indicate the need to integrate STEM education into pedagogical programs to provide students with a wider range of competencies, taking into account the development of technologies in the modern world. At the same time, it is important to take into account the specifics of human health education and provide adapted STEM strategies to ensure their optimal effectiveness in the context of human health. In general, the use of STEM technologies in the training of specialists in the field of human health is a promising direction that can contribute to raising the quality of health education and training qualified personnel for the challenges of the modern public health system.

Key words: STEM education, educational environment, educational institutions, modern technologies, health care, healthy lifestyle.

Мехед О. Б. Застосування STEM-технологій в професійній підготовці фахівців в галузі здоров'я людини. У статті розглянуто актуальні аспекти використання STEM-технологій у професійній підготовці фахівців галузі здоров'я людини. Зосереджуючись на науково-технічних дисциплінах, таких як наука про матеріали, інженерія, інформатика та математика, стаття висвітлює переваги і виклики застосування STEM-підходів у освітньому процесі. Досліджено вплив вказаних технологій на розвиток ключових компетенцій та підвищення ефективності професійної підготовки майбутніх фахівців у галузі охорони здоров'я. У статті також розглянуто можливості інтеграції STEM-освіти в програми навчання, сприяючи тим самим створенню кращих умов для успішного впровадження цих технологій у сфері підготовки фахівців з освіти та здоров'я людини.