IMPACT OF THE EPIDEMIOLOGICAL SITUATION ON THE MOTOR ACTIVITY OF UNIVERSITY STUDENTS

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INTRODUCTION
One of the main problems of society today is dealing with an epidemic. Unfortunately, people are not always prepared for its emergence, especially that infection which takes the lives of many people. For several decades has not faced an emergency situation caused by pandemic covid-19 (SHCHENENKOVA, 2020; BYSTRITSKAYA et al., 2019; YUDIN, MASHICHEV, 2020). According to the Ministry of Health of the Russian Federation, the number of people infected with coronavirus was 4,057,698, the number of deaths was 79,696 (February 2021). And this is only in Russia. To prevent the spread of infection, mankind was forced to resort to conditions of "self-isolation". Even "self-isolation" itself leads the body into a state of permanent stress, caused by a decrease in social contacts, a change in the daily routine, a sharp decrease in motor activity. One of the most vulnerable spheres of society was education, both professional and general (SETYAEVA, SOKOLOVSKAYA, DIODITSA, 2017; ALEXANDROV, 2020; RUBLEV, SHABALIN, TOLMACHEV, 2020A). Based on a Russian government order to combat the disease and prevent infection, the governor of Nizhny Novgorod Oblast imposed a quarantine, which implies not only personal safety, but also a ban on being in public places in large numbers of people. In connection with this, universities in Nizhny Novgorod and some classes in schools switched to distance learning. This form of education allows you to stay healthy and not endanger yourself and your loved ones. Students have more opportunities to be at home, to solve family and household issues in parallel, but the restriction of movement, brought enough negative moments, regarding the impact of reduced motor activity on the physical condition of students (RUSLYAKOVA, GOLUB, KISELEVA, 2020; MYALKINA, 2019; VORONOVA et al., 2020, GALKIN, 2008).

In distance learning, in addition to the fact that students are deprived of live communication with their peers, teachers, they have a disrupted daily routine and eating habits. In this regard, there is a violation of digestion, sleep, and general well-being. The most important disadvantage of distance learning is the deficit, and in some cases the lack of physical activity.

The analysis of the literature has shown that in many higher education institutions of the country this problem is one of the leading ones. There have been studies on the problem of distance learning, as well as physical activity of students during self-isolation (ZAITESEVA, KULCHITSKAYA, 2020; KAMASHEVA, GILYAZEVA, TOLMACHEV, 2019; KARKAVTSEVA, BELETSKAYA, KARKAVTSEVA, 2020). The questionnaire survey of students of the Northern (Arctic) Federal University named after Lomonosov M.V. revealed that the transition to distance learning provoked some deviations in the state of health of young people. Most students

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experienced psychological stress, and 34% had decreased vision. Deikova and E.G. Mishina (2020) revealed that the process of physical education is very difficult to organize in a distance learning format; a person’s need for physical activity increases in the period of crisis phenomena. The analysis of the system of distance learning in the discipline “Physical Education” in different higher educational institutions showed that the process of physical education in the period of self-isolation has its advantages and problems. Some university teachers have revealed that the classes in individual mode with the use of distance learning system, provide quite effective process of learning the theoretical section of the discipline (DEIKOVA, MISHINA, 2020; CHELNOKOVA, AGAEV, TYUMASEVA, 2018; TYUMASEVA, OREKHOVA, 2019).

Therefore, the analysis of the literature on the issues revealing the problem of students' motor activity during self-isolation, as well as the forms of physical education programs offered by universities allowed us to conclude that it is relevant to study the features of students' motor activity and find ways of effective forms of classes in the discipline of "Physical Education and Sports" in a distance format.

**METHODOLOGICAL FRAMEWORK**

In the process of analyzing modern literature on the problem of physical health of students, we came to the problem of physical activity deficit in the period of self-isolation. This phenomenon was one of the underlying reasons for the deterioration of students' physical health during the quarantine period. A.A. Rublev, Shabalin and Tolmachev (2017) in their article describe the problem of physical health of students during the pandemic. The results of the survey among students showed that the majority (67.9%) of them believe that their physical activity decreased, but there were also a few who were able to maintain this indicator at the same level, apparently home training played into the hands of students. For some students motor activity occupies an integral part of life (YADRYSHNIKOV et al., 2018; RUBLEV, SHABALIN, TOLMACHEV, 2017, IVANOVA et al., 2017). The Far Eastern Federal University conducted a study among students. A survey was conducted to analyze the impact of distance learning on students’ physical activity. Analysis of the results showed that most students (59.7%) significantly reduced their motor activity. 71.4% of students felt a lack of physical activity due to the complete transition to distance learning and self-isolation. Independently exercised at home 63% of the students surveyed. But we should understand that self-study must make some adjustments on the part of the teacher. Since not all students know what they need to do and what goal they want to achieve with these exercises. 28.6% of respondents did not do any exercises at home, but would like to. And 8.4% of the respondents did not do and would not like to do anything.

Motor activity of students in the special medical group was studied by Deikova and Mishina (2020) The study was conducted in Sverdlovsk region based on a branch of the Russian State Professional Pedagogical University. To assess physical activity, students filled out a health diary in which they noted the main activities such as housework, working at the computer, watching TV shows, physical and health activities, preparing for classes, walking outdoors and their duration in minutes. Students also independently carried out self-monitoring of the state of their body on the following indicators: heart rate, systolic and diastolic blood pressure, respiratory rate, on a five-point scale noted their well-being.

The results of this study showed that during the period of self-isolation the motor activity of students decreased sharply. In its stead it was noted such activities as: a walk in the fresh air, doing housework, watching TV, working at the computer. The need for movement increased many times over. If before the quarantine students did not understand the value of movement in human life, during its period the situation has changed. The authors note that it is necessary to make changes in the program of physical education of students, namely, to increase the number of hours to study the section “Basics of Methods and Organization of Independent Exercise. Self-monitoring of students”. Thus, studying the problem of physical activity of students, we can conclude that its level decreased sharply during the pandemic. Many students noted its complete absence. In connection with this there was a deterioration in the field of health on the part of vision, increased body weight, respectively, there were deteriorations in the cardiovascular system, as well as, not unimportant, deteriorated the psychological health of students.
The study of the psychological health of students during the pandemic has been studied by many authors. To date, this problem is very relevant, as distance learning has its positive and negative sides. At first, most students, especially nonresident students, were glad that there was an opportunity to spend more time in the family (CHEJEMOV, NURULLAEVA, 2020). This fact was pleasant for students who already had their own families, including young children. On the one hand, there was more opportunity to pay more attention to their loved ones and relatives, to devote more time to raising children, but on the other hand, family and domestic relations often led to quarrels, as constant being in the four walls led to disagreements and misunderstandings from the close ones. Along with these problems came other problems. Being constantly at the computer and not being able to be physically active at home led to stress. The sheer amount of work assigned to students during the distance learning period often resulted in students sitting up late into the night in the same position. Constant disruptions in the Internet network led to nervous breakdowns.

At Izhevsk Academy, teachers Rublev, Shabalin, Tolmachev (2020b) conducted a survey among 4th year students. Their aim was to analyze with the help of questionnaire the change of mental health of students to reveal obsessive-compulsive disorder (occurrence of different fears, compulsive states) in students during quarantine. The questions in the questionnaire were of different kinds, helping to establish how much the coronavirus and the fear of being infected by it affected the students’ psyche.

The study showed that during the quarantine many students faced several negative factors affecting their normal mental health - it is an increase in stress, anxiety, anxiety, which in turn led to the development of some of the student's problems with sleep, which also contributed to a decrease in attention, memory, general performance, increased emotional lability. Also, as a prevention of mental health disorders and the progression of emotional disorders in students, the authors suggest organizing work on the health of students with the involvement of specialists from medical and psychological services (STAFEEVA, KURYATNIKOV, ZHEMCHUG, 2019). We believe that the data obtained in the course of this work are important for the work of psychologists and teachers working in higher and secondary educational institutions, can be useful in the practical counseling activities of psychotherapists.

RESULTS

The study of students’ motor activity during the period of self-isolation was conducted since the Kozma Minin National State Pedagogical University. The first survey was conducted in the fall of 2020, when the second wave of the pandemic arrived. It involved 591 people, students of 1-3 years of Minin University. The second questionnaire was administered in May 2021 before students entered the full-time format. There were 149 participants. The 2nd and 3rd year students submitted their results. The self-monitoring diary was voluntarily accepted by 73 people, students of 1-3 years.

Also, for a whole semester were conducted observation and interviews with students 1,2,3 courses who were trained at Minin University in the discipline "General Physical Training" in the framework of distance learning. The analysis of students' works was carried out, and opinions concerning the implementation of the distance learning program in physical education were considered and recorded.

At the first stage of the study a questionnaire survey was conducted to identify the features of students’ motor activity during the pandemic, and its impact on the physical and psychological health of students of Minin University. The results of the questionnaire were tested and interpreted. 90% of female students and 10% of male students participated in the questionnaire. The main age of the subjects was 18-20 years old. Students who participated in the survey studied at the following faculties: humanities, pedagogy and psychology, natural sciences, mathematical and computer sciences.

According to SanPIN, students at Minin University are divided into three health groups: the main group, which includes students who do not have any deviations in physical health, preparatory group “A”, in which students who have limitations are engaged, and preparatory group “B”, students who are completely exempt from physical education.
Figure 1 shows the results of the health group responses. The health group may have changed during the pandemic due to various illnesses that students may have experienced. Students were asked to mark the necessary.

**Figure 1. Student health group before the epidemic and during the period of self-isolation**

Based on the data in Figure 1, we see that before self-isolation 49.9% of the subjects belonged to the main group, to the special group "A" - 38% and to the preparatory group "B" - 12.7%. During the period of self-isolation, the picture changed. 46% of students began to belong to the main health group, 40.9% to preparatory group "A" and 13.4% to preparatory group "B". More students began to belong to preparatory groups. In this regard, we can assume that the transition to the distance learning format has affected the level of physical health of students.

To the question "Are you affected by the covid-19 epidemic?" students answered ambiguously. The results of the survey are shown in Figure 2.

**Figure 2. Incidence rate of Covid-19 virus among students**

In Figure 2 we see that 12.9% of the students had this infection and were being treated, 20.5% of the subjects did not get sick, but were in the risk zone because their relatives were sick, and 66% did not get sick. Many were unable to give an exact answer to the question and gave various explanations: "I don’t know", "I lost my sense of smell for 8 days", "my relatives and friends were sick, I must have had the disease too...", "I am waiting for the test results", etc.

The next question asked students to choose or write the type of motor activity that students were engaged in before the epidemic and, further, during the epidemic. The results are presented in Figure 3.

**Figure 3. Types of student activity before the epidemic and during self-isolation**
Based on the data in Figure 3, significant changes occurred in the level of motor activities of students during the transition to self-isolation. Most of the subjects before the self-isolation regime were engaged in physical activity not only at the university, but also had additional activities at home. This number is 35.5%. 25.4% of the subjects practiced only at the university. At home, 18.6% were engaged in physical activity. This number refers to students who have health limitations. Slightly less, 13.5% of people did physical activity not only at the university, but also in a fitness club. Some of the subjects attended only a fitness club and, unfortunately, 6.5% did not engage in physical activity at all. We also see that during the period of self-isolation the situation with the students’ motor activity has fundamentally changed. 27.9% of subjects did not exercise at all, the majority (59.2%) did it at home, only 12.1% went to the gym and 9% ran and did sports walking. The respondents also gave additional comments on this question: “dancing”, "swimming", "I work as a courier, so I walk a lot" and others.

Thus, for most students, motor activity does not take place during the period of self-isolation. If the subjects exercised, in most cases at home. These loads are incomparable to the previous ones, before the epidemic. We needed to know how the epidemiological situation in the country affected the psychological health of students. The results of the questionnaire are shown in Figure 4.

**Figure 4. Psychological health of students during self-isolation**

| Yes, I have become more balanced and stress-resistant to different situations | Yes, I have become more irritable and short-tempered | Yes, I had to see a psychologist | No, it didn’t | No, I know my psychological peculiarities and I know how to control them |
|---|---|---|---|---|
| Psychological health of students during a period of self-isolation | Psychological health of students during a period of self-isolation |

**Source:** Search data.

Figure 5 shows that most students (36.6%) believe that the quarantine situation did not affect their psychological state in any way. 10.9% of the students believe that they became more balanced, 26.2% of the subjects became more irritable, 2.4% even went to a psychologist. 26.1% of students are aware of their psychological peculiarities and know how to control
themselves. Some gave additional comments, the situation with the epidemic had a negative impact on their psyche. Thus, most students believe. That the self-isolation situation affected their psycho-emotional state. The changes in students’ diets can be seen in Figure 5.

**Figure 5.** Diet of students

Based on the data in Figure 5, most of the subjects, which is 49.9%, ate the same amount during the quarantine period as they did before the quarantine. 25.6%, which is not insignificant, began to eat more. 17.9% of the students stopped eating full meals and only 7% consistently ate right.

"What was your weight before the epidemic and what is it now?" Students were reluctant to answer this question. Of those who provided their information, most had gained weight. On average, they put on between 2 and 4 pounds. Only 17% of those surveyed maintained their weight and only 5% lost weight. Thus, many students during the epidemic ate the same way they did before the epidemic. Since the level of consumption remained at the same level as before the epidemic, while physical activity significantly decreased, changes occurred in the body. First, the overweight of the subjects was affected.

Next, students were offered an open-ended question: "What types of motor activity are possible for you during the quarantine period". Subjects were offered many options: running, walking, home training, yoga, strength training at home, regular exercise, dancing at home, fitness club training, walking, fitness training on video and many others. For the most part, students were offered activities of various kinds at home, with most writing an additional morning exercise routine. According to the results of our survey the following conclusions can be made.

1. The question of students’ motor activity in the period of self-isolation is very relevant today. The question of maintaining physical and psychological health in the home environment is acute.
2. Before the period of self-isolation, students had an active lifestyle. The situation with self-isolation significantly reduced the level of physical activity and affected the psycho-emotional state of students.
3. The students’ daily routine changed. Sleep became longer, cases of insomnia were observed. The diet practically did not change, many students gained weight.
4. During the period of self-isolation, the subjects observed general weakness and fatigue. In this regard, the doctor was consulted during the epidemic for acute respiratory infections, acute respiratory viral infections, and general malaise. Among the subjects there were those who had had coronavirus.
5. Students had the need to increase their motor activity during the epidemic. They suggested different activities at home, as well as running in the street.
During the pandemic students of Minin University were offered a distance learning format using the electronic environment moodle on the following sections of the program according to the curriculum: Athletics (topic 1.1 Training process in the gym), sports, movement games and CPR (topic 2.1: the rules of volleyball), health aerobics (topic 3.1 Power Fitness). In each section, students were offered the following forms and types of learning material:

1. Lectures. Students were read lecture material in Zoom conference by the instructor, as well as students had the opportunity to study it independently on the course in the electronic environment moodle.

2. Control tasks. On materials of given lectures students were offered tasks in the form of notes, essays, development of exercises, etc.

3. Practical tasks. Within practical tasks students were offered video materials for studying. After that, it was necessary either to record their video or do analytical work on these materials and perform the task.

4. Independent work. Students were offered video exercises of different orientation. They studied videos and practiced at home. They attached video report of their trainings to the corresponding section on the course in electronic environment moodle.

5. Testing. Students took interim testing by sections and final testing to determine the level of mastering of the training material.

After passing the section and mastering the training material in a distance format, we organized another questionnaire to identify the difficulties of mastering the program, preferences for the proposed forms of practical tasks, etc. The first question on the questionnaire was the following: "Are students satisfied with the current physical education program?" The results of the answers are shown in Figure 6.

**Figure 6.** Satisfaction with mastering the physical education program

Based on the data in Figure 6, we see that the majority (84.6%) of students are satisfied with the current program in the discipline "General Physical Training". 13.4% of students are not satisfied. 4% answered that they do not know. 1 person (0.7%) gave a comment to this question. He is not satisfied with the very format of classes in this discipline. There were also questions in the questionnaire about mastering certain sections of the program, what caused difficulties for them? The data is shown in Figure 7.
Figure 7. Difficulties in mastering the physical education program

Source: Search data.

Figure 7 shows that most students (36.9%) had difficulty in mastering the physical education program tasks from the section “Athletics”, 32.9% of students noted the section “Sports and movement games”, slightly less (22.8%) noted “Recreational aerobics”. 12.7% of students gave additional comments to the question. Mastering the program for them was successful and not difficult. They coped with all the tasks and there were no difficulties. To the question, “What forms of classes seemed the most difficult for you to master?” The survey data is shown in Figure 8.

Figure 8. Forms of physical education classes

Source: Search data.

Based on the data in Figure 8, we see that the majority (53%) of students had difficulties in doing independent work. These works were of a practical nature. Students had to first study and then record a practice video at home and send it to the instructor. 38.9% of the students had difficulty completing the practical assignments. Some of them also required doing the exercises at home. Passing the test caused difficulties for 7.4% of the examinees. Only a few students (6% and 5.4%) noted that they had difficulties studying the lecture material and writing an outline on it. Students gave additional comments on this question: “everything was easy” and “there were problems with taking pictures on the phone”. Thus, difficult to master were the practical and independent works, which implied the performance of certain exercises.

We proposed a question that concerned students’ attitudes toward the change in the distance learning physical education program. The option of having the group study with the instructor in online conference mode was considered. Would such classes be effective in distance learning? The results of the responses are shown in Figure 9.
Figure 9. The effectiveness of the program of elective courses in health aerobics

![Graph showing effectiveness of elective courses](image)

**Source:** Search data.

Figure 9 clearly shows that most students 59.1% believe that such physical education classes will be effective. 22.8% of students responded that it would not be effective, 18.1% found it difficult to answer this question. 1 student (0.7%) gave an additional comment to the question: “Yes, if the group is small”.

Thus, most students believed that distance learning classes during the pandemic would be more effective if students had their own choice and if classes were conducted online in conjunction with the instructor.

The last question on the questionnaire was an open-ended question. Students gave their suggestions and recommendations for distance learning physical education classes. The response options varied and are presented below:

- Having an online marathon where the instructor and students work together to do a series of exercises in zoom (5.6%);
- More practical lessons (3.5%);
- In addition to the main program, you can add electives in other areas of physical education, such as previously were in full-time mode, where the student could choose instead of basic classes sections of choice, including checkers. In my opinion, instead of a checkers or in addition, you could add chess and include swimming in the sections. Such a division will only cause more interest in the class and increase their motivation;
- Do exercises and games every day at home;
- To do exercises in the video;
- Satisfy everything (2.1%), etc.

Thus, the distance learning program in the discipline of “physical education and sports” most students are satisfied and consider it effective. But many students were offered elective courses (elective disciplines), through which students can choose the direction, means of physical education. This will help students to be prepared for the conditions and requirements necessary for classes in this direction, considering the peculiarities of physical and psychological health of students. Practical online classes will allow students to study directly at the appointed time with the teacher, as well as all the tasks and exercises will be performed directly in the classroom. Students will not have to record additional videos and complete written assignments in large quantities, which will save time for students and teachers. Most importantly, this program will maintain and improve physical and psychological health.

To determine the level of physical health, students were asked to fill out a self-monitoring diary, in which they had to indicate how they felt, their daily routine violations, blood pressure, breathing rate, appetite, pulse in lying position after waking up, pulse in standing position and the difference between these indicators. Students filled out a diary throughout the semester. The diary materials are presented in the appendix. In the google survey, students provided data at the beginning of self-isolation and at the end of distance learning.
The analysis of the data of the self-monitoring diary showed that the students have changes in their state of health. At the beginning of the self-isolation period the majority (60.8%) of the subjects noted their general state of health as good. 28.4% of students reported their condition as satisfactory and 16.2% reported it as excellent. Only a few noted poor and unsatisfactory condition. By the end of distance learning the majority (45%) of students also noted their condition as good. This percentage is much lower than at the beginning of the distance learning period. Only 33.3% of the subjects marked as satisfactory, which is 9% more than at the beginning of the period. Many more students (26.7%) rated their condition as excellent. Only two people, or 3.3%, reported a poor condition.

Thus, there was no significant difference in the general state of health of students, but it is worth noting that the number of students with excellent state of health has increased. That is, by the end of distance learning, the result was more positive.

As for sleep, at the beginning of self-isolation students noted it was longer, but in terms of quality it was different. At the beginning of the self-isolation period, sleep was stronger and deeper, which cannot be noted by the end of the period. Students noted more shallow sleep and responsive sleep.

As for appetite, there was no significant difference. There are some students who noted a loss of taste and smell. This was due to the spread of the Covid-19 virus. This is what they described in their self-monitoring diaries.

The analysis of the otorstatic test did not result in significant changes. The difference in heart rate readings in the supine position after awakening and in the standing position after awakening did not change significantly.

Blood pressure values were not noted by all students. We can note that it did not change much. Some students noted a slight increase in blood pressure at the end of distance learning. The reasons may be different: a decrease in the level of hemoglobin in the blood, increased physical activity, lack of vitamins in the body, as well as worries during the session.

When analyzing resting heart rate measurements, students did not observe significant changes during the whole period of self-isolation. By the end of self-isolation, there were more students (by 3.5%) with a lower resting heart rate during mixed instruction.

There were also no significant changes in the analysis of orthostatic test measurements. There are units in which the difference in heart rate changed by 2-3 units.

There are changes in respiratory rate, which were measured by students during the period of self-isolation. At the beginning of this period, most students (35.1%) had this number 13-16 times. By the end of the period, the number of breathing frequencies per minute increased. 28.3% of the students noted a breathing frequency of 16-20 times. There was a 1.8% decrease in the number of examinees who noted values from 7-10. Thus, we can conclude that the students had changes in the respiratory system. Some of the subjects had shortness of breath after a long walk and climbing a hill.

Students in the self-monitoring diary noted disturbances during the day. This also affects the psychological and physical health of each student. It is worth noting that in the beginning of the period of self-isolation students broke the regime less often than at the end. 25% of the subjects had violations in the regime of the day during the closure for quarantine, 40% - by the end of the period of self-isolation. Most students went to bed late throughout the distance learning period. This affected the quality of sleep and students' activities throughout the day.

**RECOMMENDATIONS**

The study of the features of students' motor activity during self-isolation, as well as its impact on the physical and psychological health of students allowed to make the following conclusions and recommendations for the format of classes on the discipline of "Physical Education in a distance format:

1. The study of motor activity of students in the period of self-isolation is relevant for today.
2. The lack of physical activity in many students has led to disorders of the respiratory and endocrine system. Some students transferred from the main group to the preparatory groups "A" and "B". The number of students suffering from hypodynamia has increased. Students had decreased vision, many went to the doctor and received a preparatory health group. More than 12% of them had coronavirus infection.

3. The level of students' motor activity decreased significantly. Many had none. Most students exercised at home on the recommendations of doctors and physical education teachers. Almost 30% of students did not engage in any type of motor activity. During the day they spent time at the computer, doing their academic assignments.

4. During the pandemic the level of motor activity decreased to 1-2 hours per week. The psychological state of health was not affected by the pandemic, but we cannot help noting the fact that almost 30% of the subjects became more irritable and irascible. Several people sought help from a psychologist.

5. General well-being of students during the transition to the distance learning format was characterized by good. Despite this, there was an increase in the percentage of subjects who had a generally poor or satisfactory well-being. More than 30% often felt general weakness and fatigue.

6. During the pandemic, many students went to the doctor for various issues: Acute respiratory infections, acute respiratory infections, referral to subspecialists, and Covid-19 virus illness. Some students went to narrow specialists due to the consequences of coronavirus infection.

7. Most students were willing to increase motor activity during the period of self-isolation and offered their options: running, walking, home training, yoga, strength training at home, online classes with teachers, etc. Also, most students were willing to go to face-to-face classes and perform physical activities as they were used to. 30% of the subjects had difficulty answering this question.

8. To maintain the level of physical health of students during the period of self-isolation it is necessary to introduce a physical education program in universities, through which students can do physical education at home, while respecting all safety standards and personal protection, and most importantly maintain and raise their level of physical health.

9. By the end of the self-isolation period, students reported their health status as "good" and "excellent. In our opinion, due to the introduction of tasks with motor activity into the educational process, the result was more positive. There are changes on the part of the respiratory system. The resting breathing rate of students became higher. Some began to have shortness of breath after physical education classes. During the period of self-isolation, students complained of lower back pain, headaches. Lack of sleep, constant spending their time at the computer affected the students' health.

10. There were violations of the daily routine in some students. In most cases, students tried to lead a rational lifestyle. Some students overloaded themselves with physical activities, which also affected their overall health.

Thus, the transition to the distance learning format had a significant impact on the motor activity of students. Its absence and lack of mobility affected the physical and psychological health of Minin University students.

Analysis of the results of the study showed that quarantine measures during the pandemic and self-isolation significantly affected the motor activity of students, as well as physical health. As a result, it is necessary to introduce programs of elective courses in universities, which students can choose independently and consider all the rules and requirements for it.

The content of elective courses should be built so that students can engage in this type of activity at home, while constantly maintaining communication and communication with the teacher. It is this fact that is very important for students, because there are so many questions
when studying the material independently, and you can damage your own health if you do it at home.

Determination of the effectiveness of the use of the program of physical education in the framework of distance learning, as well as the analysis of questionnaire data among students allows us to conclude that the application of the program of elective courses on “Health aerobics and fitness technology” will be implemented and have high effectiveness.

REFERENCES
ALEXANDROV, P.A. Coronavirus infection - symptoms and treatment/journal “Proboleznii”. Infectious Diseases, 2020. Available at: https://probolezny.ru/koronavirusnaya-infekciya/. Access: May 23, 2021.

BYSTRITSKAYA, E.V.; IVANOVA, S.S.; BURKHANOVA, I.Y., et al. The role of rhizome model in future physical education teachers self-realization. EurAsian Journal of BioSciences, 2019,13 (2), p. 1581-1588.

CHEJEMOV, G.A.; NURULLAEVA, A.I. The impact of distance learning on the well-being of students during the pandemic. Questions of Student Science, 2020,5, p. 54-57.

CHELNOKOVA, E.A.; AGAEV, N.F.; TYUMASEVA, Z.I. The formation of students’ motivation to engage in physical education and sports in high school. Vestnik of Minin University, 2018, 6 (1). Available at: http://vestnik.mininuniver.ru/jour/article/view/755. Access: Oct.12, 2018.

DEIKOVA, T.N.; MISHINA, E.G. Distance learning technologies as a modern means of implementing active and interactive teaching methods in organizing independent work of students. Open Education, 2020, 24 (3), p. 56-66.

GALKIN, Y.P. Physical condition as a component of professional readiness of students of higher education institutions of physical culture. Scientific and theoretical journal “Uchenye zapiski”. Smolensk, 2008, 5 (39), p. 36-40.

IVANOVA, S.S.; BYSTRITSKAYA, E.V.; BURKHANOVA, I.Y.; STAFEeva, A.V.; ZHEMCHUG, Y.S. Problems of professional activity of the teacher of physical culture in the polyethnic educational organization. Eurasian journal of analytical chemistry, 2017, 12 (7B), p. 1615-1620.

KAMASHEVA, O.V.; GILYAZEVA, G.I.; TOLMACHEV, D.A. Factors affecting the mental state of medical students. Science through the prism of time, 2019, 4, p.116-118.

KARKAVTSEVA, I.A.; BELETSKAYA, E.V.; KARKAVTSEVA, K.S. Problem of physical and psychological recovery of learning youth in conditions of forced self-isolation. North and Youth: Health, Education and Medicine, 2020, p. 120-124.

MYALKINA, E.V. Diagnostics of the quality of education in higher education. Vestnik of Minin University, 2019, 7 (3), 4. Available at: https://doi.org/10.26795/2307-1281-2019-7.3.4. Access: Jul. 30, 2020.

RUBLEV, A.A.; SHABALIN, V.N.; TOLMACHEV, D.A. State of health of students studying in higher educational institutions. International Journal of Applied and Fundamental Research, 2017, 2, p. 193-197.

RUBLEV, A.A.; SHABALIN, V.N.; TOLMACHEV, D.A. The problem of physical health of students. FGBOU VO Izhevsk State Medical Academy, 2020a, 11, p. 212-216.

RUBLEV, A.A.; SHABALIN, V.N.; TOLMACHEV, D.N. Impact of pandemic covid-19 on mental health of students. FSBEI VO Izhevsk State Medical Academy, 2020b, 12 (2), p. 230-233.

RUSLYAKOVA, E.E.; GOLUB, A.A.; KISELEVA, Y.P. Peculiarities of neuropsychological stress in modern students under conditions of forced self-isolation. World of Science. Pedagogy and Psychology, 2020, 3, p. 125-138.
SETYAEVA, N.N.; SOKOLOVSKAYA, L.V. D; IODITSA, L.V. Assessment and correction of the health of students during their studies at a pedagogical university. Physical education of students. Surgut State Pedagogical University, 2017, 8, p. 37-41.

SHCHENENKOVA, I.P. Problems of distance learning in the discipline of "Physical Education". Pedagogical Sciences. International Journal of Humanities and Natural Sciences, 2020, 3 (44), p. 190-193.

STAFEEVA, A.V.; KURYATNIKOV, D.S.; ZHEMCHUG, Y.S. Increasing professional competence of students in the process of mastering the discipline of "Physical Culture". Azimuth of scientific research, 2019, 8 (26), p. 186-189.

TYUMASEVA, Z.I.; OREKHOVA, I.L. Family environment as a means of preserving, strengthening the health of students and the formation of self-preserving behavior. Vestnik of Minin University, 2019, 7 (3), 5. Available at: https://vestnik.mininuniver.ru/jour/article/view/1007. Access: Sept. 19, 2019.

VORONOV, M.A.; NOVOZHILOVA, S.V.; IGNATOVA, E.V.; AVDEEVA, S.N. Self-exercise physical education students of higher education during self-isolation with elements of remote control in the discipline of "Applied Physical Education". Modern problems of science and education, 2020,5, p. 132-137.

YADRYSHNIKOV, K.S.; BYSTRITSKAYA, E.V.; BURKHANOVA, I.Y.; IVANOVA, S.S.; STAFEEVA, A.V.; VOROBOY, N.B. Case-Technology Functions In College Student Vocational Training. Modern journal of language teaching methods, 2018, 8 (3), p. 305-316.

YUDIN, B.L.; MASHICHEV, A.S. Physical activity during an epidemic: rules and limitations. Young Scientist, 2020, 21 (311), p. 246-247.

ZAITSEVA, N.V.; KULCHITSKAYA, YU.V. Ways of realization of discipline "Physical training" in the period of self-isolation of university students. Development of Science, National Innovation System and Technologies: collection of scientific papers on the materials of the International Scientific-Practical Conference on May 13, 2020. Belgorod, p. 125-129.
Impact of the epidemiological situation on the motor activity of university students

Resumo
A pesquisa analisa a literatura metodológica sobre o problema da redução da atividade motora de universitários durante a pandemia, realizou um levantamento para identificar as características do modo motor de alunos durante a EAD. O objetivo da pesquisa foi a fundamentação teórica e análise dos indicadores de atividade motora, saúde mental e física de estudantes universitários durante o período de auto-isolamento e educação a distância. A pesquisa resultou na análise e interpretação dos dados obtidos durante o estudo para identificar o nível de atividade motora, saúde física e psicológica dos escolares durante o período de auto-isolamento forçado. O artigo propõe formas interativas como parte da educação a distância para alunos da disciplina de "Educação Física". O significado prático do estudo reside na possibilidade de aplicar o conteúdo das aulas desenvolvidas por meio de formas interativas sobre a cultura física durante o auto-isolamento forçado em instituições de ensino superior e médio especializado no âmbito do ensino a distância.

Palavras-chave: Educação profissional superior. Estudantes universitários. Pandemia. Atividade motora. Saúde física e mental.

Abstract
The research analyzes the methodological literature on the problem of reducing the motor activity of university students during the pandemic, conducted a survey to identify the characteristics of the motor mode of students during THE. The objective of the research was the theoretical basis and analysis of the indicators of motor activity, mental and physical health of university students during the period of self-isolation and distance education. The research resulted in the analysis and interpretation of the data obtained during the study to identify the level of motor activity, physical and psychological health of the students during the period of forced self-isolation. The article proposes interactive forms as part of distance education for students of the discipline of "Physical Education". The practical meaning of the study lies in the possibility of applying the content of the classes developed through interactive forms on physical culture during forced self-isolation in specialized higher and secondary education institutions in the field of distance learning.

Keywords: Higher vocational education. College students. Pandemic. Motor activity. Physical and mental health.

Resumen
La investigación analiza la literatura metodológica sobre el problema de la reducción de la actividad motora de los estudiantes universitarios durante la pandemia, realizó una encuesta para identificar las características del modo motor de los estudiantes durante la EI. El objetivo de la investigación fue la base teórica y el análisis de los indicadores de actividad motora, salud mental y física de los estudiantes universitarios durante el período de autoaislamiento y educación a distancia. La investigación resultó en el análisis e interpretación de los datos obtenidos durante el estudio para identificar el nivel de actividad motora, salud física y psicológica de los estudiantes durante el periodo de autoaislamiento forzado. El artículo propone formularios interactivos como parte de la educación a distancia para los estudiantes de la disciplina de "Educación Física". El significado práctico del estudio radica en la posibilidad de aplicar el contenido de las clases desarrolladas a través de formas interactivas sobre cultura física durante el autoaislamiento forzado en instituciones especializadas de educación superior y secundaria en el campo de la educación a distancia.

Palabras-clave: Educación profesional superior. Estudiantes universitarios. Pandemia. Actividad motora. Salud física y mental.