

NEUROSTIMULATING COMPLEXES OF PHYSICAL EXERCISES TO NEUTRALIZE LONG COVID

NEUROSTYMULUJĄCE ZESTAWY ĆWICZEŃ FIZYCZNYCH W PRZECIWDZIAŁANIU LONG COVID

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Authors' contribution
Wkład autorów:
A. Study design/planning
zaplanowanie badań
B. Data collection/entry
zebranie danych
C. Data analysis/statistics
dane – analiza i statystyki
D. Data interpretation
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E. Preparation of manuscript
przygotowanie artykułu
F. Literature analysis/search
wyszukiwanie i analiza literatury
G. Funds collection
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Dear Editor,

The mankind has been fighting the coronavirus infection for almost two years. This is the first time the world is facing a pandemic of such a huge scale. As a result of COVID-19 spread around the world, the researchers have identified a number of concerns in the field of medicine, psychiatry and public health.

After the first pandemic wave of COVID-19, the doctors have found out extremely unfavorable changes in the physical and mental health of people, namely the disease has had a negative effect on psychical and emotional state of the population, especially students. The researchers in the field of medicine and health have identified pathological changes after recovery from the coronavirus infection (long COVID). Almost everyone who had a COVID-19 infection experienced a post-COVID-19 syndrome, regardless of the severity of the disease. Nowadays, the specialists cannot determine the true causes of long COVID and completely assess its consequences [1].

Among the post-COVID-19 symptoms, there are poor health (fatigue, insomnia, very low physical activity, musculoskeletal pain, etc.); nervous system and neurocognitive disorders (panic attacks, depression, increased anxiety); respiratory system disorders; cardiovascular disorders (bronchospasms, shortness of breath, chest pains, severe headaches, poor coordination, blood pressure disorders, sharp appetite reduction, asthenia). As a result, there is a failure in the cerebral cortex work affecting memory, attentiveness, planning, motivation [2,3].

Despite all age groups can be affected by long COVID, there has been published little research on the recovery status of the younger generation, namely students. As a result, this condition causes a failure of the adaptive systems of a human body and its immunity deterioration. Unfortunately, medicine has not provided the basic means of getting rid of the COVID-19 consequences yet. Most often, the rehabilitation of the post-COVID-19 syndrome lasts 6-12 months. Most researchers have proposed to fight with long COVID both with drugs and by means of physical culture, exercising and breathing exercises, preferably in the open air [4].

Physical activity, regular physical exercises and sports have been recognized as an effective method for regulating the psychical and emotional state of a person.

Keywords: long COVID, alternative therapy, exercise, students

Słowa kluczowe: long COVID, terapia niekonwencjonalna, ćwiczenia, studenci

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Exercising in the open air, in the gym and, if necessary, at home, will allow the self-regulation mechanisms to adapt the body to external stimuli more intensively [5].

The purpose of the current work is to correct negative post-COVID-19 syndromes by means of neurostimulating exercise complexes. At the Russian University of Transport in Moscow, 63% of the students and teaching staff have already experienced a COVID-19 infection. Among them, there were a lot of complaints of extreme anxiety, extreme fatigue, muscle weakness, sleep difficulties, unstable emotional state, memory lapses, etc. In order to improve health and eliminate post-COVID-19 syndrome among students, the authors of the current paper have developed and are currently testing a methodology for improving students' health using a set of neurostimulating exercises. The study was approved by the local ethics committee of the Russian University of Transport on 18th September 2021 (Protocol No. 9).

We have been faced with the task of activating the work of both hemispheres of brain in order to eliminate the negative effects of post-COVID-19 syndrome. The uniqueness of the methodology is the complex application of neurostimulating exercises, which are based on the elements of health-improving gymnastics combined with sports games during physical training classes. Due to the targeted effect on the activation of both hemispheres of brain, there has been identified a decrease in emotional stress and anxiety, an increase in attentiveness, efficiency, stress resistance, and memory improvement among the tested students. There has been established a more productive adaptation of the mental mechanisms, resulting in a significant decrease in the post-COVID-19 symptoms among the tested students.

Long COVID is a great threat to the health of those who were tested positive for SARS-CoV-2. The sooner one starts using rehabilitation complexes, the greater opportunity is to recover and return to a full, active life in a relatively short period of time (within two to three months).

References:

1. Sudre CH, Murray B, Varsavsky T, Graham MS, Penfold RS, Bowyer RC, et al. Attributes and predictors of long-COVID: analysis of COVID cases and their symptoms collected by the Covid Symptoms Study App. *Nat Med.* 2021; 27(4): 626-631. <https://doi.org/10.1038/s41591-021-01292-y>
2. Hajra A, Mathai SV, Ball S, Bandyopadhyay D, Veyseh M, Chakraborty S, et al. Management of thrombotic complications in COVID-19. *Drugs.* 2020; 80(15): 1553-1562. <https://doi.org/10.1007/s40265-020-01377-x>
3. Nabavi N. Long Covid: how to define it and how to manage it. *BMJ.* 2020; 370: m3489. <https://doi.org/10.1136/bmj.m3489>
4. Del Rio C, Collins LF, Malani P. Long-term health consequences of COVID-19. *JAMA.* 2020; 324(17): 1723-1724. <https://doi.org/10.1001/jama.2020.19719>
5. Postol O, Shchadilova I. Correction of the anxiety level of students at the physical training classes using a complex of health-improving practices. *Indian Journal of Public Health Research & Development.* 2021; 12(4): 284-90. <https://doi.org/10.37506/ijphrd.v12i4.16558>