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## THE POSSIBILITIES OF IMPACT OF PHYSIOTHERAPY IN PATIENTS WITH POST-COVID SYMPTOMS. (RE)START FOR MIND AND BODY

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**Abstract:** The coronavirus leaves a lasting mark on health – in one way or another. Dealing with negative health effects, both physical and mental, presents a solid challenge for physiotherapy, rehabilitation and kinesitherapy professionals. As the natural course and pathophysiology of COVID-19 are not yet clear, close monitoring is needed for various sequelae in multiple organs that occur in post-COVID-19 syndrome [1]. The Covid infection affects the cardiovascular system, the nervous system, the musculoskeletal system and, with particular gravity, the respiratory system. The literature review presents the results of multiple observations of patients who recovered from COVID-19 [1,3]. The most common symptoms are: general weakness, impaired cognitive functions, memory loss, depression, anosmia, dysgeusia, shortness of breath, cough, chest pain, abdominal pain, anorexia, nausea, vomiting, diarrhea, less often - alopecia, skin rashes, and others [3,6]. Studies show that the elderly, people with disorders of the cardiorespiratory system, people suffering from diabetes or obesity, in a large percentage of cases develop severe forms of the disease [4,7]. It is extremely important to develop rehabilitation programs for these patients so that they can regain their physical strength and respiratory function and avoid the development of anxiety and depression. Despite the many works concerning the problem of physical recovery, psychoemotional rehabilitation seems to remain in the background. An often underestimated problem that needs to be given a lot of attention is the negative impact on the psycho-emotional state of the people. Immobilization resulting from reduced motor activity caused by the virus and/or self-isolation requires an eclectic rehabilitation program to improve quality of life. Many patients who have passed the covid-infection have residual symptoms that last more than six months. Evidence suggests that COVID-19 may have direct and indirect health effects, both in the short and long term [5,8]. POST-COVID-19 syndrome is defined as persistent symptoms and/or long-term complications that occur during or after corona infection, persist for more than 12 weeks, and cannot be explained by an alternative diagnosis [6,8]. It is proposed to distinguish between the post-COVID syndrome, developed after acute COVID-19 that lasts up to 12 weeks, and a prolonged variant of post-COVID clinical symptoms that last longer than 12 weeks, which should be distinguished from lingering COVID-19, its complications, and the consequences of intensive care [2]. Doctors who work on the subject are adamant that not enough attention is paid to the long-term consequences of the virus. It is necessary to improve not only the studies on the stages of the development of the disease, but also to give specific guidelines for the medical and rehabilitation care to be given to the victims [5]. Kinesitherapy finds very important role in the recovery process in post-covid patients, as a main tool for the prevention and rehabilitation of the damage caused by the virus in a functional and psycho-emotional aspect. Physiotherapy thanks to its eclecticism, has a complex effect on patients, and group activities have a proven psycho-emotional, toning effect which is a great combination for full recovery.

**Keywords:** Covid 19, physiotherapy, postcovid syndrome, recovery,

### 1. INTRODUCTION

**The aim of the present study** is the preparation and implementation of a physiotherapy protocol for group activities in adult patients who have passed Covid-19 and monitoring its effect.

### 2. MATERIALS AND METHODS

This experimental method of impact was tested in the balneological center in the town of Sandanski. For a period of two months, the protocol was applied to 30 patients (5 groups of 6 people) aged between 61-72 years. Each of the participants met the requirements for participation in the program to avoid accidents. The protocol we developed includes: reflex-stimulating techniques, exercises in the form of games and exercises that improve endurance. The protocol was applied in each of the groups for 30 days, with two sessions (morning and afternoon), each lasting 30-35 minutes. We used different techniques for breathing exercises, general and specialized physical exercises and exercises with equipment. We also implemented fun activities such as dances, games and art sessions which lifted everyone's spirits and were a real energy booster for the rest of the programme. Before starting the 30-day program,

we administered the Flank-Stange test to each of the participants to see what is the condition of their respiratory system. It is a widely used test for establishing chest mobility, characterized by its accuracy and simplicity of use. We also applied „0-10 point mood scale” (we asked the patients different questions about their life, their condition, expectations, ect. to determine the degree of satisfaction and general mental state. It is a very simple and easy way to shorten the distance between the physiotherapist and the patient, which makes the patients themselves relax and get into the essence of the rehabilitation program, following the instructions without distrust.

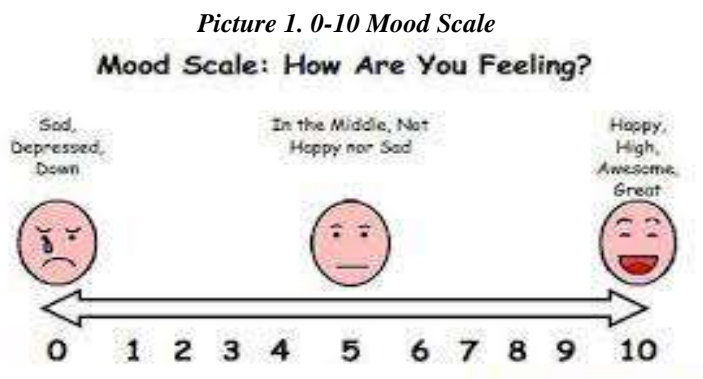
### 3. RESULTS

To evaluate and determine the functional status, at the end of the program we did the two tests again. In table 1 are the results of Flang-Shtange test.

**Table 1 Results of the Flang-Shtange test - Analysis of the results of the tracked indicator "chest mobility**

	N	$\bar{X}$	S	$\alpha$
START	30	22.14	4.056	0.262
THE END	30	22.18	4.058	0.268

The value of Asymp.Sig for the considered indicator is more greater than 0.05, which means that we can confirm that there is a significant difference between values measured in the beginning and in the end of the experiment. The score on the mood rating scale was extremely satisfactory. At the end of the program, all participants reached a higher level on the scale and increased their level of independence thanks to exercise, mood, self-efficacy and social support, which were the main components in our program.



### 4. CONCLUSION

The obtained results of the conducted tests, as well as the feedback from the patients at the end of the program, give us the right to summarize that carefully dosed group activities had a beneficial effect in adult patients with post-covid symptoms. It is important to mention that the achieved results are also due to the markedly positive effect of the group activities. The outcome also demonstrate that the social support is the strongest tool against depressive symptomology in older adults, particularly when combined with positive exercise-induced mood states.

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