“An Overview of Literature Related to Post COVID-19 Rehabilitation”

COVID-19 is an evolving disease that has completely changed modern healthcare systems worldwide. At the time of research, the Center for Disease Control (CDC) has recorded about 80 million cases since December 2019. Initially, research related to COVID-19 was focused on treating those hospitalized and discharged with symptoms related to post-intensive care syndrome (PICS). As the pandemic progressed, it became apparent that symptomology persisted in some individuals, unrelated to the severity of initial illness. The purpose of our research was to examine current literature pertaining to COVID-19 rehabilitation and potential interventional strategies that can be used in an outpatient physical therapy setting.

We found evidence that supports the use of pulmonary rehabilitation, strength and aerobic training, and the use of interval training in the form of HIIT protocols. Pulmonary rehabilitation (PR) was utilized through breathing techniques, relaxation exercises, changing activity habits, and maximizing energy levels. These were all done to modify the patient’s daily routines to accommodate to their symptoms, utilize the energy they had in performing tasks and work on breath control during activities to modulate their symptoms. Strength and aerobic training was geared towards functional movements and improving quality of life. Patients performed full body exercises that included leg press, squats, lunges, walking programs, dancing, upper and lower body cycle ergometers, and many more. The research utilized the modified Borg Rate of Perceived Exertion (mRPE) scale in order to determine a range that the patient can safely work to not cause an exacerbation of symptoms; it was discovered that for strength training, patients should maintain 5-6/10, and for aerobic, patients should maintain 4-6/10 on the Borg mRPE. Interval training was performed through High Intensity Interval Training (HIIT) protocols that causes an increase in intensity from the exercise to then cause a surge of anti-inflammatory myokines to the system to help with repairing tissue damage due to infection. This is done by releasing interleukin 6 into the bloodstream to help with viral clearances, and the mobilization of natural killer and dendritic cells for reducing the vascular inflammation caused by COVID-19. The researchers were able to use the most common HIIT protocols that include 4x4, 6x1, 10-20-30.

 All of these interventions can be utilized by physical therapists in order to treat the patients impairments caused by COVID-19, but we are also able to use and educate the patients on the importance of activity pacing and conservation of energy. This is important because patients should be able to break down tasks to save energy, perform more exertional tasks when they are less fatigued, and take rest breaks when needed to not exacerbate their symptoms. As physical therapists we are able to individualize the patient’s plan of care and recognize the patient’s unique symptoms since COVID-19 can present differently from patient to patient.

COVID-19 has affected all realms of healthcare and continues to pose new challenges. As physical therapists, we are able to adapt and modify the patient's plan of care and make it specific to them and their goals through the use of pacing, education, and advocating for them. However, more research is necessary for healthcare and physical therapy to evolve with COVID-19 to be able to serve our patients and provide them with the most up-to-date information in order to give the best form of care.

 We have incorporated the Post-COVID-19 Functional Status Scale (PCFS) as a tool to help clinicians assess the full range of functional limitations of those who are recovering from COVID-19.