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Effects of telerehabilitation on respiratory muscle strength in individuals with post-Covid-19 fatigue: Case series report

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ABSTRACT

Covid-19 can cause persistent symptoms involving fatigue, dyspnea, changes in lung function, and respiratory muscle weakness. The aim of this study is to verify the effects of telerehabilitation on respiratory muscle strength and lung function in individuals with post-Covid-19 fatigue. This is a case series study, approved by the Research Ethics Council of the Federal University of Santa Maria. As an inclusion criterion, the volunteers had to be between 18 and 59 years old and answer the Chalder Fatigue Scale. Those considered eligible signed the Informed Consent Form and underwent Manovacuometry tests to assess respiratory muscle strength and spirometry to assess pulmonary function, before and after the eight-week intervention. They received the necessary equipment to carry out hybrid telerehabilitation (face-to-face and remote) with inspiratory muscle training and physical exercises (aerobic and resistance) five days a week, monitored by the researcher through the use of a cell phone or computer with internet. The researcher who worked on the intervention was blind to the evaluations. The results were analyzed using the mean and standard deviation. Three female volunteers with a mean age of 41.6 ± 16.2 years were evaluated. The mean inspiratory muscle strength was 87 ± 10 cmH2O and 114 ± 19 cmH2O, pre and post intervention, respectively, with an increase observed in all volunteers. The mean expiratory muscle strength was 107.9 ± 2.63 cmH2O and 113 ± 35 cmH2O, pre and post intervention, respectively. Spirometry showed normal ventilatory pattern in both pre- and post-intervention evaluations. It was concluded that telerehabilitation with a combination of physical and respiratory exercises for eight weeks has the potential to improve respiratory muscle strength in adults with persistent symptoms of post-Covid-19 fatigue, but no changes in lung function were observed.

Keywords: Covid-19, Respiration, Telerehabilitation.

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