

EDITORIAL

EARLY PHYSICAL THERAPY INTERVENTION CAN REDUCE THE CHANCE OF RESPIRATORY COMPLICATIONS IN COVID-19

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Since the start of 2020, a COVID-19 emerged as a new strain of Coronavirus. Initially, it affected the population of Wuhan, China and after that it outspread all over the world and was declared as a pandemic by World Health Organization on 30th January, 2020.¹ It has been identified that COVID-19 can cause mild illness including common cold to more severe condition known as acute respiratory distress syndrome (ARDS), if not treated promptly.² While people of all ages are susceptible to COVID-19, those over 60 years of age and with cardiovascular diseases along with diabetes have even more chances of becoming seriously ill Whereas children seem to be less affected.³ Currently there is no pharmacological treatment, still some antiviral drugs have been proven to be helpful along with plasma transfusion in which plasma is extracted from the blood of patient who got recovered from COVID-19 an is transfused into the patient still suffering from the said disease.⁴

Symptoms of respiratory complications due to this disease influence the mind of a Physical Therapist (PT). Though after discussing the maneuvers of respiratory Physical Therapy with fellow professional colleagues as well as clinicians and practically applying it on respective relatives, friends and advice seekers after getting the informed consent from them; those who started to have initial symptoms of COVID-19 before being tested positive and then later got positive. It resulted in great ease for most of them to breathe and did not led to serious respiratory complications that include dyspnea and accumulation of thick and tenacious secretions inside the lungs, which ultimately is a precursor of pneumonia. Following were the PT interventions suggested to the patients showing acute symptoms;

Steam inhalation, breathing exercises and postural drainage positions were inculcated in the treatment plan and guided respectively, steam inhalation therapy is normally advised to be used as primary care in acute respiratory diseases.⁵ It is most commonly used therapy at home and is inexpensive, moreover it promotes self-reliance in the patients; it is used therapeutically by inhaling steam through nose so that it reaches the respiratory system.⁶⁻⁸ Steam inhalation helps in loosening the mucus, it opens the nasal airway passages decreases mucosal inflammation and heat can prevent replication of viruses.⁹ It helps to relax muscles and relieves coughing by preventing excessive dryness in the mucosal membranes.¹⁰

Moreover, breathing exercises have been reported to have beneficial effects in improving symptoms and optimizing pulmonary function in patients. Breathing programs have been reported to have positive effects in alleviating symptoms and optimizing pulmonary function in patients.¹¹ Breathing exercises aim to improve the individuals breathing pattern and increase in lung expansion, they also enhance the performance of respiratory muscles thus leading towards increase in functional residual capacity, and inspiratory reserve volume.¹² Breathing exercises reduces breathlessness, increase exercise capacity and improve overall well-being of a person ^{13,14,15,16} The physiological effect of breathing exercises comprises of increase in intra-bronchial pressure thus preventing the collapse of bronchi and leading towards increase in inspiratory and expiratory flow rate.^{13,15} It act by stimulating the autonomic system thereby promoting relaxation and in return improves the physiological parameters.¹⁶

Furthermore, body positioning improves the efficiency and effectiveness of both primary and accessory muscles of breathing leading to ease in dyspnea and reduction in work of breathing.¹⁷ These positions improve the ventilation perfusion ratio and utilize the gravity to remove secretions.¹⁸ Positioning decrease the ventilation demand resulting in longer expiratory time thereby preventing hyperinflation and ultimately resolving dyspnea.¹⁹

As a healthcare professional and specially a Physical Therapist we would like to ask the imminent researchers to fill this gap by conducting different surveys and trials. Through our experience we've found that the manoeuvres we applied have been very effective and improved the overall outcome of the patients suffering from COVID -19.

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