

Overview of Pulmonary Physiotherapy in Symptoms and Complication of COVID 19

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Abstract

COVID 19 or CORONA as we know it has not only become a global pandemic but a real threat to humanity which is proving itself as a third world war for the world. Everyone is talking about the basic preventive measures for fighting with this situation let it be proper hygiene, social distancing or allied healthcare measures. The basic symptoms of the covid-19 patients, the virus attacks healthy as well as immune-compromised individuals. The onset of virus starts from inhalation of droplets impregnated with virus which shows its effect on larynx and via it, progresses to lungs covering the respiratory system causing acute respiratory infections. Once in lungs it makes it as a strong hold on ground for further deterioration of immunity and respiratory functions which leads to fatal conditions like pneumonia acute respiratory distress syndromes. Now if by various respiratory physiotherapeutic practices if we can increase the strength of lungs it can actually increase the recovery of the patients with the aim of maintaining the bronchial hygiene and strengthening the respiratory muscles at various stages. Bronchial toileting, positioning can be helpful in dealing with complications like pneumonia and ARDS, where pursed lip breathing and ACBT can be helpful in dealing with breathlessness in early stages.

Keywords: COVID 19, Pneumonia, ARDS, Bronchial toileting, Positioning, Pursed lip Breathing, ACBT.

Introduction

The recent COVID -19 outbreaks has been declared as the global health emergency, India till date has already registered 909 covid-19 positive cases with 19 deaths and 40 cured cases⁽¹⁾. Indian government has taken various preventive measures against the virus and has taken a major step by locking down the whole country. Still we are getting various positive cases of covid-19⁽¹⁾. India is at a brink of entering at tertiary level. Various preventive measures for the people in India and intervention are getting implemented with the cases who are positive COVID 19. Since the complications of COVID 19 affects directly the respiratory system it has become important that the few strong measures should be highlighted for prevention and rehabilitation.

Method

Various international research articles have been reviewed for this study so that a standard protocol for the

intervention of respiratory care should be inoculated as well as to establish the importance of respiratory therapy as the preventive measure

Findings: The incubation period of covid-19 is from 1 day to 14th day the symptoms which are initially seen are fever, sore throat, dry cough, breathlessness and headache. The cases which have been resolved spontaneously are the one who were not having any secondary issues like diabetes, hypertension, any renal diseases, or who were not immune-suppressed⁽³⁾. However rest of them who are undergoing fatal complications like organ failure, septic shock, pneumonia & acute respiratory distress syndrome. Notably people who intensive care, are with multiple co morbidities including cerebro-vascular diseases, cardiovascular diseases and endocrine disease, digestive and respiratory disease^(4,5,6). More symptoms which were reported from ICU are severe dyspnoea, dizziness, anorexia and abdominal pain^(4,5,6).

Few doctors from the city Jaipur, Rajasthan has

treated the patients with drugs used in HIV and they found it to be useful as no effective anti-viral treatment for covid-19 is available or researched till now. Whole community of doctors and pharmacist are rigorously researching for antidote of covid-19. On a temporary note the doctors are treating patients symptomatically via anti pyretic therapy, cough expectorants for non productive cough. Broad spectrum antibiotics are used in cases diagnosed with sepsis post covid-19 within an hour. Patients are also reporting with various fungal & bacterial infections are also treated with the same protocol.

According to World Health Organization acute respiratory syndrome is the first sign along with temperature \Rightarrow 38 degree Celsius⁽¹⁾. Preventive measures which taken are social distancing and regular hand hygiene where nobody is talking about bronchial hygiene. By maintaining bronchial hygiene we can save the patient from being collapsing⁽⁷⁾.

Preventive measures in medical setups are nearest distance is 2 meters for 15 minutes as such patients are recorded with the temperature of more than 38 degree Celsius. No passive bronchial toileting can be indicated in acute respiratory infection or acute stages of patients with covid-19 pursed lip breathing (where the patient is asked to purse his lips and to breathe in via nose and exhale with the pursed lips), positioning and relaxation technique can help patient with symptoms of shortness of breath^(7,9).

The Active Cycle of Breathing Technique consisted of 4–6 breathing control breaths, 3–4 thoracic expansion exercises and the forced expiration technique including 4–6 breathing control breaths combined with 2–3 huffs followed by cough⁽¹¹⁾. It can also be used as a respiratory therapy if the patient is in condition to perform as it has proved as a great measure to deal with respiratory failure⁽¹⁰⁾, it can be a preventive measure for further stages of covid-19.

Where as in pneumonia along with covid-19 in acute stages bronchial drainage is contra indicated, the patient being ill & lung being totally consolidated and unproductive⁽⁷⁾. Breathing exercises to maintain maximum ventilation in all areas of lung plus foot exercises (ankle pump) can be useful⁽¹²⁾. Once entered the hepatization stage physiotherapy is to aid in cleaning the exudates is required⁽⁷⁾.

In cases with ARDS of covid-19 frequent changes of

positioning must be used in order to bring improvement in ventilation/perfusion ratio in certain parts of lungs and to prevent prolong dependency on any one section of lung⁽⁷⁾. This improvement is only temporary but often leads to temporary improvement in oxygenation⁽⁷⁾. Few study also have documented that prone positions significantly increase oxygenation and decrease driving pressure in patients with ARDS⁽¹³⁾

In general people can use various breathing exercise which can help in maintaining the bronchial hygiene and strength of respiratory system on a daily basis which will be a preventive measure on a larger note⁽⁸⁾.

Conclusion

In such unprecedented situations which the whole world is facing, we as a developing country not only have to work on our primary health care system but simultaneously we have to develop the second line of health defense measures so that we not only reduces the risk of primary infections but also strengthen the respiratory system to fight this virus effectively in case one get infected be it a healthy individual or a immune-compromised one.

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Ethical Clearance: As it is a review so no ethical clearance required

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