

Covid-19 Pandemic: A Physiotherapy Update in University of Benin Teaching Hospital, Benin City, Edo State, Nigeria

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Abstract

Physiotherapists have significant role in the recovery of patients who require hospital intensive care. However, thus far, there is insufficient information in the literature on the interventions by physiotherapists alongside with multidisciplinary teams in hospital units that receive COVID-19 patients. The role and significance of physiotherapy in the management of COVID-19 patients admitted in the University of Benin Teaching Hospital was discussed in this perspective article. It was therefore concluded that early physiotherapy may improve clinical outcomes and reduce the risks associated with COVID-19, as well as minimize costs and therefore, should be promptly carried out.

Keywords: *COVID-19, pandemic, intensive care, physiotherapy, rehabilitation,*

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Introduction

World Health Organization (WHO) declared Corona Virus Disease (COVID-19) a global pandemic and public health emergency, following the outbreak in Wuhan, China in December 2019. The COVID-19 disease primarily affects the lungs, causing interstitial pneumonitis and severe acute respiratory distress syndrome. Individuals with COVID-19 can present with an influenza-like illness and respiratory tract infection demonstrating fever (89%), cough (68%), fatigue (38%), sputum production (34%) and shortness of breath (19%) (Guan, Ni, Hu, Liang, Ou & He, 2020). The spectrum of the disease severity ranges from asymptomatic infection or mild upper respiratory tract illness through to severe viral pneumonia with respiratory failure or death. Current reports estimate that 80% of cases are asymptomatic or mild; 15% of cases are severe (infection requiring oxygen); and 5% are critical requiring ventilation and life support (WHO, 2020). As COVID-19 spreads all across the world, the rehabilitation community had to respond to the challenges associated with this emergency. In a scenario characterized by no evidence of any effective treatment for COVID-19, a reorganization of the work and an adaptation of health care interventions were necessary. In this perspective article, the role and importance of physiotherapy in the management of confirmed or suspected COVID-19 cases with focus on patients admitted in University of Benin Teaching Hospital (UBTH) isolation center are discussed.

Physiotherapy and the Acute Phase of COVID-19

Prior to admission of COVID-19 patients in UBTH, a group of experts in cardiorespiratory and neuromusculoskeletal physiotherapy in UBTH came together to rapidly prepare and adopt a series of clinical guidelines for the prevention and treatment of COVID-19. The recommendations were then made in relation to workforce planning and preparation, including screening to determine indications for physiotherapy; and delivery of physiotherapy interventions, including both respiratory and rehabilitation as well as personal protective equipment (PPE) requirements. These recommendations were based on the most recent and relevant COVID-19 clinical practice guidelines from highly-respected organizations, national physiotherapy organizations and peer-reviewed studies. The authors represent UBTH group of physiotherapists, with extensive

clinical experience in the ICU and on the wards. Physiotherapy is an integral part of the management of critically ill patients in hospitals in both developing and developed countries. Physiotherapists are positioned as very important members of the multidisciplinary team in the management of COVID-19 patients in UBTH to ensure optimal clinical and economic outcomes. In particular, respiratory physiotherapy focuses on the management of acute and chronic respiratory conditions and aims to improve physical recovery following an acute illness. Physiotherapy is for sure beneficial in the respiratory treatment and physical rehabilitation of patients with COVID-19. Moreover, physiotherapy may be indicated if patients with COVID-19 present with copious airway secretions that they are unable to independently clear. This may be evaluated on a case-by-case basis and interventions applied based on clinical indicators. High-risk patients may also benefit, that is, patients with existing comorbidities that may be associated with hypersecretion or ineffective cough. Physiotherapists in isolation centers may also provide airway clearance techniques for patients who show signs of inadequate airway clearance and they can assist in positioning patients with severe respiratory failure associated with COVID-19 to enhance oxygenation (WHO, 2020). The main goals of physiotherapists in this phase are optimizing ventilation and oxygenation, improving compliance and ventilation or perfusion mismatch, reducing work of breathing, decreasing ventilator dependence and improving residual function, improving respiratory muscle strength and reducing complications (Yezli & Khan, 2020). Mobilization protocols are also indicated for some patients in the acute phase to ensure early ambulation.

Physiotherapy and Long COVID-19

The COVID-19 patients with prolonged protective lung ventilation, sedation and use of neuromuscular blocking agents may be at high risk of developing ICU-acquired muscular weakness, respiratory complications, muscular atrophy, joint stiffness, contractures, edema (pedal edema), joint or muscular pains, pressure ulcers and so on (Kress & Hall, 2014), this may worsen their morbidity and mortality (Herridge, Tansey, Matté, Tomlinson, Diaz-Granados & Cooper, 2011). It is therefore imperative to initiate early rehabilitation after the acute phase of respiratory distress in order to avert or limit the severity of these complications and promote rapid functional recovery. Physiotherapists have roles in providing therapeutic exercises, mobilization and rehabilitation interventions to survivors of critical illness associated with COVID-19 in order to enable a functional return to the community. It is also worth mentioning, in this regard, that a position statement paper has defined the role of exercise in enhancing the immune function (Simpson & Robinson, 2020), and promoting a global positive immune response (Pancera, Galeri & Porta, 2020). Many lessons can be learnt from the cumulative experience and the role of physiotherapy in this pandemic. In this sense, the work of physiotherapists was found to be beneficial in the respiratory treatment and physical rehabilitation of COVID-19 patients.

Physiotherapists Experience in UBTH Isolation Center

Physiotherapists are important members of the multidisciplinary team that participated actively in the management of COVID-19 patients in UBTH isolation center. Almost all the patients in this center were seen and treated by physiotherapists. The most common techniques adopted by physiotherapists in the management of COVID-19 patients include postural drainage, soft tissue mobilization such as stroking, effleurage, kneading or tactile stimulation, passive mobilization, manual hyperinflation, percussion, vibrations, suctioning, coughing, and various breathing and functional exercises, stretching and the use of thrombo-embolitic deterrent (TED) stockings also known as compressive stockings. Some of the patients were treated with a combination of these techniques depending on their underlying pathophysiologic condition, with the intention of preventing complications. In this center, it was observed that attention is now focused on early physiotherapy while the patient is still in the critical state. Several important areas for physiotherapy in critical illness include: physical deconditioning, neuromuscular and musculoskeletal complications; prevention and treatment of respiratory conditions; and emotional problems and communication. However, many problems including deconditioning, muscle weakness, joint stiffness, retained airway secretions, atelectasis and avoidance of intubation and weaning failure have been identified as evidence-based targets for physiotherapy. Moreover, it was observed that early presentation and absent of comorbidity were good predictors of better prognosis of the disease in the UBTH isolation center.

Conclusion

Early physiotherapy may improve clinical outcomes and reduce the risks associated with COVID-19, as well as minimize costs and thus, should be promptly and appropriately carried out. Hence, the role of physiotherapists with other professional in COVID-19 management cannot be over emphasized.

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