

# POST COVID-19 TELEPHYSIOTHERAPY: LITERATURE REVIEW

HARSHIKA GUPTA\*(BPT-4th Year)

UG-category (Junior)  
CAREER POINT UNIVERSITY, KOTA  
JULY 2021

## Abstract:

### **Background:**

The purpose of the study is about diversity of application, profession standard maintenance, and advancement, broadly scope of physical therapy, health promotion and upliftment of the profession.

Corona virus disease 2019 (COVID-19), caused by severe acute respiratory syndrome corona virus 2 (SARS-Cov-2), is a multisystem infectious disease which has led to a global pandemic.

Tele-medicine is a tool to connect patients and health care professions while maintaining social distancing and restrictions. Tele-physiotherapy is a field of physiotherapy which has the advantage of providing therapy.

### **Methodology:**

The author conducted a comprehensive search of open access articles of major scientific databases including PuBMed, SCIENCECIRECT, EBSCO, SCOPUS, Web of Science, shodhganga, Google Scholar etc. Two significant scientific studies were found relating to the post covid-19 Telephysiotherapy. One study was selected based on inclusion criteria.

### **Results:**

Digitalization & automation have proved to be the solution in this challenging phase. Telerehabilitation increases the level of treatment for people with disorders in both physical & mental wellbeing, lowers hospital expenses.

These studies would give the overall idea of how the social, economic, cultural & psychological aspects are influenced by the pandemic.

### **Conclusions:**

Healthcare is also affected, as a result of the social distancing to break the chain of infection, and patients are unable to visit the clinics and hospitals. Conducting live sessions whether it may be individual, or group sessions reduces the psychological risks to the patients and also is beneficial for the motivation of the therapy. Tele physiotherapy strengthens conventional face-to-face practice, and boost treatment adherence and satisfaction.

**Keywords:** COVID-19, Telerehabilitation, Telephysiotherapy, Digitalization.

## Table of Contents:

S.NO.	CONTENTS	PAGE NUMBER
1	INTRODUCTION	06-08
2	MATERIALS & METHODS	09
3	RESULTS & DISCUSSION	10
4	FUTURE SCOPE	11
5	CONCLUSION	12
6	ACKNOWLEDGEMENT	13

**WITH THE GRACE OF GOD I DEDICATE THIS TO MY DEAREST PARENTS & TEACHERS**

### **Introduction:**

Corona virus disease 2019 (covid-19), caused by severe acute respiratory syndrome corona virus-2 (SARS-Cov-2), is a multisystem contagious ailment which has led to a global pandemic.

Tele-medicine is a mood to connect patients & health care professions while maintaining social distancing & restriction. Tele-physiotherapy is a field of physiotherapy which has the advantage of providing physiotherapy. Telemedicine well known as an interdisciplinary teletherapy program to assist in both evaluation & therapeutic intervention post covid-19 patients.

Telephysiotherapy can be also called as e-physiotherapy, telerehab, virtual physiotherapy & online physiotherapy is a clinical method of consultative, diagnostic, preventive & therapeutic services via two-way interactive technology for providing best rehabilitation program in this present scenario.

Various studies shown that telephysiotherapy provides multiple benefits for the health system & patients as it ameliorate the use of health resources & improves patient's quality of life.

Telephysiotherapy program is provided by the physiotherapy who designs the exercise schedule, sets & repetition for the patients which is to be performed by the patient in their home environment.

The physiotherapist accurately monitors the progress of the patient from each session through telecommunication, thus enabling the professional to track patient's compliance to the exercise program.

By standardizing our treatment protocol for delivering tele-therapy services in the home settings, it might be a affirmatory impact on re-entry rates, costs & satisfaction.

Recent advancement in medical section have led to the ability to stream exercise classes both live & pre-recorded videos-with help of available lots free mobile application.

Tele-physiotherapy has display efficacy for a variety of chronic health condition. So far nevertheless trial evidence for the advantage of telephysiotherapy in chronic illness, clinical uptake remains limited.

Now a days – due to covid-19 telephysiotherapy delivered prominently home-based pulmonary rehabilitation program with good results.

On the basis of each patient's outcomes, one-on-one program is developed geared toward respiratory mobility & activity of daily living (ADL) needs.

Tele-physiotherapy helpful for assessment of clients with the help of quesstionairres & monitoring of therapy sessions & even shows great efficacy for group therapy sessions.

The clinical features of covid-19 ranges from no symptoms to life threatening pathologies, such as sever pneumonia, multiple – organ failure & death.

Patients with severe covid-19 experience a considerable amount of morbidity during hospitalization many of these deficits including lethargy, breathlessness diffuse myalgia & cognitive dysfunction may remain post-recovery from the acute illness.

## **DEFINITION:**

Pulmonary rehabilitation (PR) is one of the most dominant management strategies to ameliorate dyspnea, exercise hardness of patients and well-being status. It is helpful to reduce symptoms of anxiety and depression.

A comprehensive intervention based on a thorough patient assessment followed by patient-tailored therapies, which includes, but are not limited to, exercise training, education & behaviour change, designed to improve the physical & emotional condition of people with chronic respiratory disease & to promote the long-term adherence of health-enhancing behaviour.

(According to the 2013, American Thoracic Society (ATS)/European Respiratory Society (ERS)).

Patients with a sublimate features load or those at enhanced danger of speed-up are recommended to take part in a regular rehabilitation program that is structured & multi-disciplinary.

This viewpoint significantly elevated exercise endurance & self-efficacy of patients. A positive attitude towards progress in health-related quality of life (HRQoL) in comparison with regular medical care.

## **Materials and Methods:**

**STUDY DESIGN:** Narrative Study

**SOURCE OF DATA:** PuBMed, SCIENCEDIRECT, EBSCO, SCOPUS, Web of Science, shodhganga, Google Scholar.

## **INCLUSION CRITERIA:**

- The language of publication is English.
- The publication is published in journal of physiotherapy and science direct.
- Selected publication available free online.
- Post – Covid-19 patients.

**EXCLUSION CRITERIA:**

- The language of publication is not any-other.
- The publication is not an article in a peer-reviewed journal.
- Published article not payable.
- Healthy person or Non-covid patients.

**Results and Discussion:**

Results based on Telerehabilitation produced similar as the hospital based rehabilitation program. Digitalization and automation have proved to be the solution in this challenging phase. Telerehabilitation increases the level of treatment for people with disorders in both physical and mental well-being, lowers hospital expenses.

These studies would give the overall idea of how the social, economic, cultural and psychological aspects are influenced by the pandemic.

One major impediment is the lack of well developed, evidence – based statements to guide its set-up in the community.

Secondly, major impediment is a paucity of high-quality evidence indicating that Telerehabilitation confers comparable or even greater clinical benefits to patients compared with traditional program at a reasonable cost.

Third, currently no technology that can ensure the safety of patients during unsupervised pulmonary rehabilitation, adequate supervision from trained pulmonary rehabilitation healthcare professionals is still necessary at this moment.

**Future Scope:**

The lack of real-time supervision may be considered a limitation of the program. However, we consider this strength. The low reimbursement rate of pulmonary rehabilitation has caused many programs to close and fewer programs available for patients with in a reasonable distance to their house.

There is a need to provide pulmonary rehabilitation to more people with fewer resources. Knowledge that a semi-supervised model is safe and effective would allow some programs to use this design in a hybrid approach to pulmonary rehabilitation. Future direction of this work will be to use this program design in conjunction with an in program to allow more patients to be seen in a finite amount of time.

**Conclusion:**

Healthcare is also affected, as a result of the social distancing to break the chain of infection, and patients are unable to visit the clinics and hospitals. Conducting live sessions whether it may be individual, or group sessions reduces the psychological risks to the patients and also is beneficial for the motivation of the therapy. Tele physiotherapy strengthens conventional face-to-face practice, and boost treatment adherence and satisfaction.

Telerehabilitation may be a viable solution for post-covid19 patients and may be particularly relevant in the era of the covid-19 pandemic. Further research can elucidate possible benefits of home pulmonary rehabilitation in lung transplant outcomes.

**Acknowledgement:**

First and foremost I would like to thanks the **Almighty god** for their blessings throughout my work.

I would like to take this opportunity to thanks my parents **Mrs. Krishan Gupta, Mr. Ajay Gupta**, My teachers-cum-guide for their constant support, encouragement and guidance.

DATE: 20 Aug, 2021

SIGNATURE

PLACE: Uttar Pradesh

HARSHIKA GUPTA

**References:**

- [1] <https://www.hindawi.com/journals/ijta/2014/903816/>
- [2] <https://cbphysiotherapy.in/blog/does-telephysiotherapy-work-who-can-benefit-from-it>
- [3] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7935590/>
- [4] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7981192/>
- [5] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7903963/>
- [6] Milne S, Yang CX, Timens W, et al. SARS-CoV-2 receptor ACE2 gene expression and RAAS inhibitors. *Lancet Respir Med.* 2020; **8**(6):e50–e1. doi:10.1016/S2213-2600(20)30224-1
- [7] Sungnak W, Huang N, Becavin C, et al. SARS-CoV-2 entry factors are highly expressed in nasal epithelial cells together with innate immune genes. *Nat Med.* 2020; **26**(5):681–687. doi:10.1038/s41591-020-0868-6
- [8] Curci C, Pisano F, Bonacci E, et al. Early rehabilitation in post-acute COVID-19 patients: data from an Italian COVID-19 rehabilitation unit and proposal of a treatment protocol. *Eur J Phys Rehabil Med.* 2020; **56**(5):633–641. doi:10.23736/S1973-9087.20.06339-X
- [9] Ferraro F, Calafiore D, Dambruoso F, Guidarini S, de Sire A. COVID-19 related fatigue: which role for rehabilitation in post-COVID-19 patients? A case series. *J Med Virol.* 2020. doi:10.1002/jmv.26717
- [10] Salawu A, Green A, Crooks MG, Brixey N, Ross DH, Sivan M. A proposal for multidisciplinary tele-rehabilitation in the assessment and rehabilitation of COVID-19 survivors. *Int J Environ Res Public Health.* 2020; **17**(13):4890. doi:10.3390/ijerph1713489
- [11] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7431073>
- [12] Becevic M, Sheets L, Wallach E, et al. Telehealth and telemedicine in Missouri. *Missouri Medicine.* 2020; **117**(3):228–234.
- [13] Inskip J.A., Lauscher H.N., Li L.C. Patient and health care professional perspectives on using telehealth to deliver pulmonary rehabilitation. *Chron Respir Dis.* 2017; **15**:71–80.
- [14] Varsi C., Solberg Nes L., Kristjansdottir O.B. Implementation strategies to enhance the implementation of ehealth programs for patients with chronic illnesses: realist systematic. *J Med Internet Res.* 2019; **21**:e14255.
- [15] Polgar O., Aljishi M., Barker R.E. Digital habits of PR service-users: implications for home-based interventions during the COVID-19 pandemic. *Chron Respir Dis.* 2020; **17** 1479973120936685.
- [16] Holland A.E., Malaguti C., Hoffman M. Home-based or remote exercise testing in chronic respiratory disease, during the COVID-19 pandemic and beyond: a rapid review. *Chron Respir Dis.* 2020; **17** 1479973120952418.
- [17] Peretti A., Amenta F., Tayebati S.K., Nittari G., Mahdi S.S. Telerehabilitation: review of the state-of-the-art and areas of application. *JMIR Rehabil Assist Technol.* 2017; **4**:e7.
- [18] Humphreys J., Schoenherr L., Elia G. Rapid implementation of inpatient telepalliative medicine consultations during COVID-19 pandemic. *J Pain Symptom Manage.* 2020; **60**:e54–e59.
- [19] World Health Organisation . World Health Organization; Geneva: 2016. Global diffusion of eHealth: making universal health coverage achievable: report of the third global survey on eHealth.
- [20] Reeves J.J., Hollandsworth H.M., Torriani F.J. Rapid response to COVID-19: health informatics support for outbreak management in an academic health system. *J Am Med Inform Assoc.* 2020; **27**:853–859.
- [21] Peretti A., Amenta F., Tayebati S.K., Nittari G., Mahdi S.S. Telerehabilitation: review of the state-of-the-art and areas of application. *JMIR Rehabil Assist Technol.* 2017; **4**:e7.

