

Awareness about Role of Physiotherapy in Recovery of COVID-19 Patients among Adult Population

Disha Sujalkumar Tailor¹, Amit M. Patel²

¹Second Year MPT Student, JG College of Physiotherapy, Ahmedabad

²Senior Lecturer & PG Guide (MPT - Orthopaedics), JG College of Physiotherapy, JG Campus of Excellence, Opp. Gulab Tower, Off. Sola Road, Ahmedabad – 380061

Corresponding Author: Disha Tailor

DOI: <https://doi.org/10.52403/ijhsr.20220326>

ABSTRACT

Background: Coronavirus disease-2019 (COVID-19) was declared as a “pandemic” by the World Health Organization (WHO) in March 2020. Coronavirus 2 (SARS-CoV-2 or COVID-19) continues to spread globally and it becomes a major cause of concern for health care professionals all over the world. A number of international organizations including the World Confederation of Physical Therapists (WCPT), European Respiratory Society (ERS) and American Thoracic Society (ATS) have published guidelines and position papers on the role of physiotherapy in managing COVID-19. Physiotherapy is helpful to reduce the symptoms of dyspnea, improve lung capacity and reduced the complications resulting from respiratory failure and immobilization, reduce disability, improve the quality of life and reduce the level of anxiety and counteract depression

Aim and Objective: To find out the awareness about role of physiotherapy in recovery of covid-19 patients among young adult population.

Method: A cross-sectional study was carried out among young adults (age -21 to 45 years). Study was carried out by using self-made questionnaire. The questionnaire contained questions regarding role of physiotherapy treatment in covid-19 and post covid-19 rehabilitation. There were total of 10 questions which were rated on basis of agree, disagree and do not know. Statistical analysis was carried out by using Microsoft Excel 2019.

Results: Study showed that 83.28% participants were aware whereas 16.14% participants do not know about physiotherapy role in recovery of covid-19 patients. Study finding suggested that from 70 participants, 39 participants diagnosed with covid-19 and 21 participants took physiotherapy treatment.

Conclusion: The study concluded that there was good Awareness regarding role of physiotherapy among young adult.

Keywords: role of physiotherapy, COVID-19, young adults, awareness

INTRODUCTION

In December 2019, a series of cases of a novel virus causing respiratory infections in humans was observed in people of Wuhan, China. This novel virus was named as COVID-19. ^[1] Two main features of the virus are its low pathogenicity and high transmissibility that distinguish it from other members of the coronavirus family such as Severe Acute

Respiratory Syndrome (SAR-CoV) and Middle Eastern Respiratory Syndrome (MERS-CoV). ^[2] It is a highly infectious disease and severe cases leads to acute respiratory distress syndrome leading to bleed and coagulation dysfunction. ^[3]

On March 11, 2020, WHO declared COVID-19 as a pandemic and it has impacted more than 195 countries worldwide. More than 1,696,588 cases

diagnosed with COVID-19, with 105,952 deaths worldwide, mainly involving elderly people, have recent travel history, have comorbid diseases, healthcare workers, and immune compromised individuals. The European countries were most affected by COVID-19. [4]

The symptoms of Covid-19 can appear in as early as two days or as long as 14 after exposure. [5] National Health Commission of China declared that SARS-COV-2 was transmitted through respiratory secretions, droplets, contacts, faeces and aerosol transmission is possible. Human-to-human transmission was considered as major mode of transmission. [6]

Such outbreaks have been linked to overcrowding, close contact environments, slow detection and inadequate infection control practices. [7]

Most patients presented with very mild flu-like symptoms while few patients exhibit severe symptoms and degrade rapidly leading to ARDS, respiratory failure, multiple organ failure and even deaths. Common clinical features included fever, cough, shortness of breath, sputum production, fatigue, sore throat and headache. Some of the patients may have gastrointestinal symptoms, with diarrhoea and vomiting. [8]

Spread of Corona virus infection can be controlled or reduced from spreading/transmission by practicing the following IPC (Infection prevention and control) measures: [9]

- Frequently hand wash with soap and water (for at least 20 s)
- Frequently do hand sanitization with alcohol-based hand sanitizer
- Avoid close contact with anyone; maintain physical distance of at least 6 feet
- Avoid touching your mouth, nose or eyes
- Always cover your nose & mouth with a mask
- Stay home
- Frequently clean & disinfect the touched objects & surfaces

- Follow cough etiquettes

On the role of physiotherapy in managing COVID-19 number of international organizations/stakeholders including the WCPT (World Confederation of Physical Therapists), ERS (European Respiratory Society), ATS (American Thoracic Society), and CSP(Chartered Society of Physiotherapy) have published guidelines. [10]

Respiratory physiotherapy is an important part of multidisciplinary treatment and plays an important role in the treatment and care of patients with respiratory dysfunctions. [11-13] In the case of COVID-19, the ones most vulnerable to developing severe disease and death are elderly people with reduced immunity, which is accompanied by other, particularly chronic diseases (including cardiological, pulmonary, oncological). Thus, the role of physiotherapists is essential in treating these patients. [3]

In COVID-19 patients, the main goal of respiratory physiotherapy is to reduce the symptoms of dyspnea, improve lung capacity and reduced the complications resulting from respiratory failure and immobilization, reduce disability, improve the quality of life and reduce the level of anxiety and counteract depression. [14] Problems after COVID-19, include comorbid conditions such as bronchiectasis, secondary pneumonia, or aspiration may increase secretions. Postural drainage and standing (for gradually increasing periods of time) are suggested for secretion management. [15]

In inpatient rehabilitation, respiratory assessment should include dyspnea, thoracic activity, diaphragmatic activity, respiratory muscle strength (maximal inspiratory and expiratory pressures), respiratory pattern and cardiac status. [14,15]

In the postacute phase, if inspiratory muscles are weak inspiratory muscle training should be included. Deep, slow breathing, thoracic expansion, diaphragmatic breathing, mobilization of

respiratory muscles, Airway Clearance Techniques (as needed), and positive expiratory pressure devices can be added based on needs. [14,15]

According to 2020 database, about 67.27% population fall into the 15-64 age group and 6.57% were over 65 years of age. [16] Thus majority of population in India is youth and awareness regarding role of physiotherapy in recovery of COVID-19 patients help to spread awareness in community and prevent complications. So, need and aim of this study was to find awareness about role of physiotherapy among young adults.

METHOD

This cross-sectional study was carried out among 70 young adult participants. Snowball sampling was used. The study was conducted in the form of an online self-administrated questionnaire by using Google Forms. Link of questionnaire was sent through various social media platforms.

Participants aged between 21 to 45 years and able to understand English were included in the study. A person with a previous history of any psychiatric condition which is diagnosed by doctor and those who have visual disabilities were excluded from the study. The online self-administrated questionnaire was developed by the investigator. The data collection was initiated on January 2021 to March 2021.

Self-made questionnaire include demographic details and questions like have you been diagnosed with COVID-19? have you taken physiotherapy treatment for COVID-19? And total 10 questions regarding to awareness about role of physiotherapy in COVID-19 and post COVID-19 rehabilitation.

Answers were in the form of agree, disagree and do not know. Statistical

analysis was done by using Microsoft excel 2019.

RESULTS

Total 70 young adult participated in this study. Out of 70, 47% (n=33) were females and 53% (n= 37) were male. (Figure-1) Out of 70, 65% (n=39) participants diagnosed with COVID-19 and 39% (n=25) participants took physiotherapy treatment. (Figure-2) 83.28% participants were aware about physiotherapy role in recovery of covid-19 patients whereas 16.14% participants do not know.

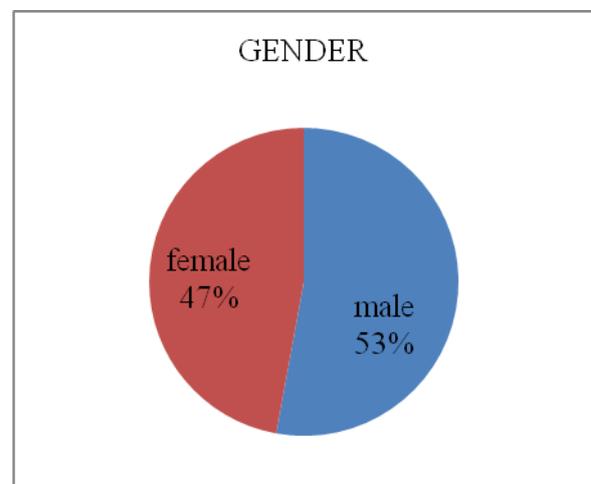


Figure 1. Gender distribution of participants

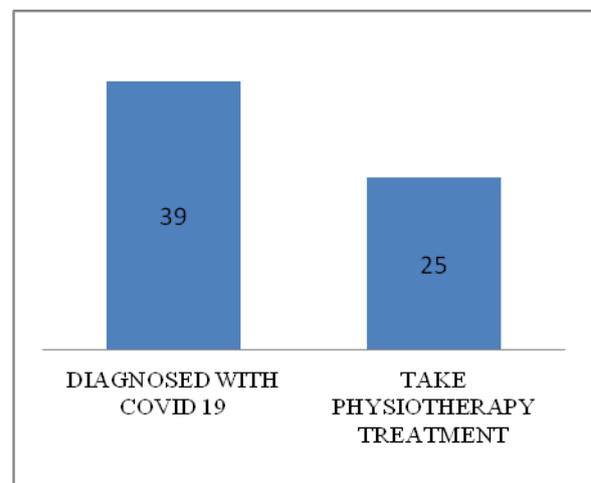
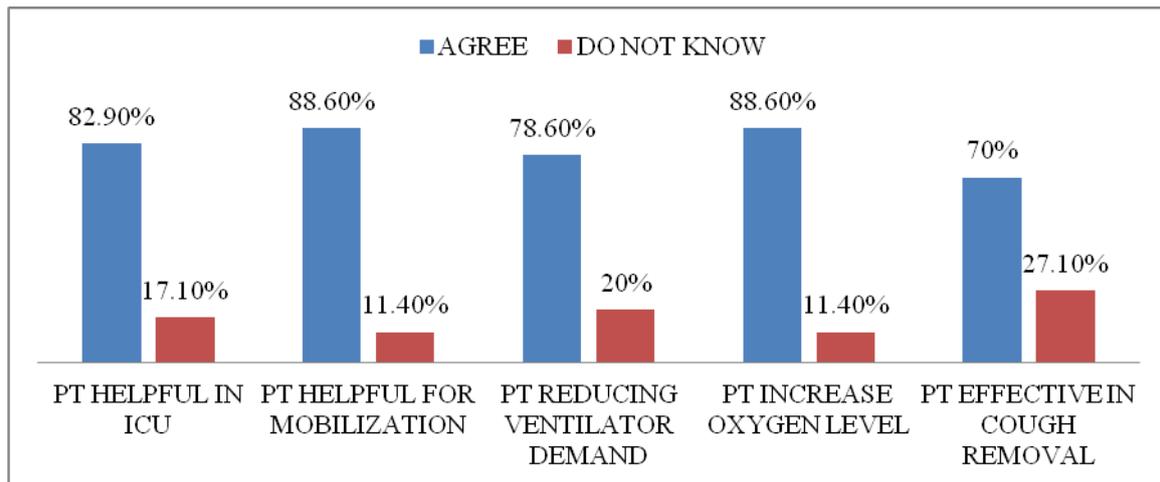
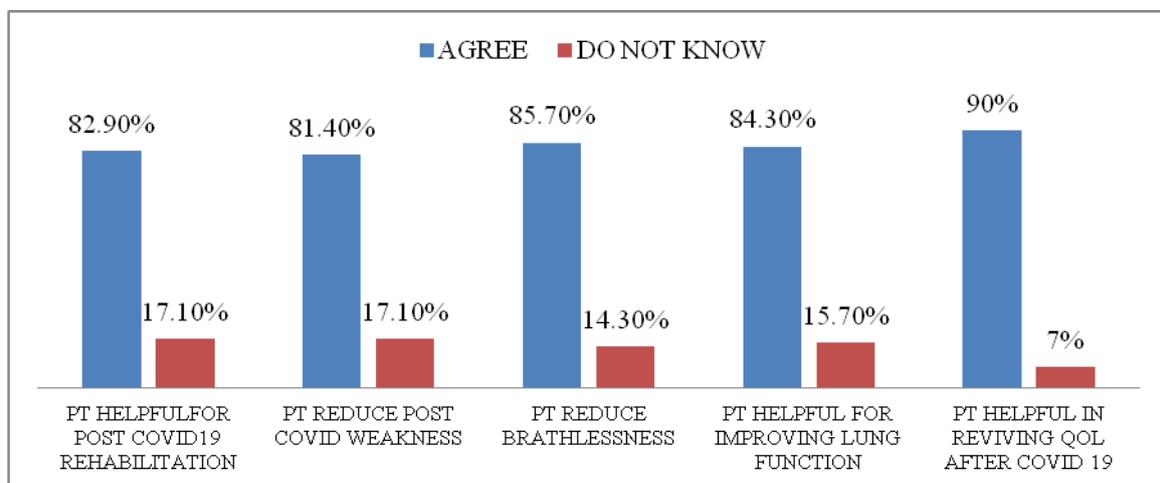


Figure 2. Participant diagnosed with COVID-19 and taken physiotherapy treatment



Graph 1. Knowledge about role of physiotherapy treatment in covid-19.



Graph 2. Knowledge about physiotherapy treatment in post COVID-19

DISCUSSION

The present study evaluated the awareness about role of physiotherapy in COVID-19 among young adult population. Study showed that overall, 83.28% participants were aware about physiotherapy role in recovery of COVID-19 patients whereas 16.14% participants do not know about role of physiotherapy in COVID-19.

In this study 82.90% participants agreed that physiotherapy was helpful in ICU patients and 88.60% participants agreed that physiotherapy aid in improvement of oxygen level in patients diagnosed with COVID-19. Peter Thomas et al. conducted a study on Physiotherapy management for COVID-19 in the acute hospital setting: Recommendations to guide clinical practice they concluded that Physiotherapists who practice in the ICU also provide Airway Clearance Techniques

for ventilated patients who show signs of inadequate airway clearance and they can assist in positioning of patients with severe respiratory failure associated with COVID-19, including the use of prone positioning to optimise oxygenation.^[17]

In 2021, Cristina Udina conducted study on Rehabilitation in adult post COVID-19 patients in post-acute care with therapeutic exercise and concluded that adults and older adults surviving COVID-19 seems to improve their functional status, despite previous admission to ICU, through a short, individualized, multi-component therapeutic exercise intervention.^[18]

In this study, 78.60% participants agreed that physiotherapy was helpful in reducing ventilator demand. Systemic review done by Antony Leo Asser suggested that the use of physiotherapy interventions aids in quicker recovery of

COVID-19 patients and act as a protective barrier as well as boost immune and respiratory system. Early rehabilitation reduces the length of stay in the ICU/hospitals and further decreases the treatment cost of COVID-19.^[19]

Chhaya Verma et al. conducted study on Changes in Mode of Oxygen Delivery and Physiological Parameters with Physiotherapy in COVID-19 Patients: A Retrospective Study she concluded that Physiotherapy treatment in conjunction with medical treatment can be effectively administered in patients with COVID-19 in acute care setup taking into consideration the health status and the hemodynamic stability of the patients. It emphasizes the role of physiotherapy in the alleviation of symptoms, facilitating early weaning and recovery enabling early discharge from the hospital.^[20]

In this study, 81.40% participants agreed that physiotherapy was helpful to reduce post COVID-19 weakness. In 2020, Dr. Agnieszka Lewko conducted study on Recommendations for physiotherapy of adult patients with COVID-19 and concluded that Patients who have been hospitalized in the ICU still suffering from respiratory dysfunction or muscle weakness, should continue physiotherapy after discharge, in the in-patient rehabilitation unit or at home, supervised by an experienced physiotherapist, in order to regain full function.^[21]

In this study, 90% participants agreed that physiotherapy was helpful in improving quality of life and 84.30% participants agreed that physiotherapy was helpful for improving lung function after Covid-19. Auwal Abdullahi conducted study on Safety and Efficacy of Chest Physiotherapy in Patients with COVID-19: A Critical Review, he concluded that following discharge, rehabilitation involving respiratory muscle training, diaphragmatic training, cough removal exercise, stretching exercise, and home exercise has been applied. Training and exercise of these forms, improved FEV1 (L), FVC (L),

FEV1/FVC%, diffusing lung capacity for carbon monoxide (DLCO%), endurance, and quality of life and a reduction in anxiety and depression symptoms when performed for two sessions per week for 6 weeks, resulted in.^[22]

Previously, various studies had been done about physiotherapy treatment in COVID-19 and post COVID-19 rehabilitation. And it suggested that physiotherapy was helpful for improving their overall functions as well as their quality of life.

The limitation of this study was limited sample size. Study population was restricted to young adults (21-45 years) and a person who understand English and uses social media platform. The proportion of male and female respondents was not the same. The future recommendation is further studies can be done with different age groups and different population. Through this study future researchers can benefit by generalizing how much more awareness is needed in population.

CONCLUSION

Study finding suggested that out of 70 participants, more than half of the participants aware about physiotherapy role in COVID-19. Out of 70, 39 were diagnosed with COVID-19 and 25 took physiotherapy treatment which is more than half of the participants. There was a good knowledge among adults regarding various effects of physiotherapy in COVID-19.

Acknowledgement: None

Conflict of Interest: None

Source of Funding: None

Ethical Approval: Approved

REFERENCES

1. Fauci AS, Lane HC, Redfield RR. Covid-19 ; navigating the uncharted. New England Journal of Medicine. 2020 Mar 26;382(13):1268-9.

2. Nemati M, Ebrahimi B, Nemati F. Assessment of Iranian nurses' knowledge and anxiety toward COVID-19 during the current outbreak in Iran. *Arch Clin Infect Dis.* 2020 Apr 1;15(COVID-19):e102848.
3. Chen N, Zhou M, Dong X, Qu J, Gong F, Han Y, Qiu Y, Wang J, Liu Y, Wei Y, Yu T. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. *The lancet.* 2020 Feb 15;395(10223):507-13.
4. World Health Organization. Coronavirus disease 2019 (COVID-19) Situation Report - 80 [Online] April 9, 2020 [cited April 09, 2020] Available from URL: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports>.
5. Centers for Disease Control and Prevention. 2019 Novel Coronavirus [Online] 2020 [Cited February 02, 2020]. Available from URL: <https://www.cdc.gov/coronavirus/index.html>.
6. Wang Y, Wang Y, Chen Y, Qin Q. Unique epidemiological and clinical features of the emerging 2019 novel coronavirus pneumonia (COVID-19) implicate special control measures. *Journal of medical virology.* 2020 Jun;92(6):568-76.
7. Al Mohaisen M. Awareness among a Saudi Arabian university community of Middle East respiratory syndrome coronavirus following an outbreak. *EMHJ-Eastern Mediterranean Health Journal.* 2017;23(5): 351-60.
8. Guo YR, Cao QD, Hong ZS, Tan YY, Chen SD, Jin HJ, Tan KS, Wang DY, Yan Y. The origin, transmission and clinical therapies on coronavirus disease 2019 (COVID-19) outbreak—an update on the status. *Military Medical Research.* 2020 Dec;7(1):1-0.
9. Suganthan N. Covid-19. *Jaffna Medical Journal.* 2019;31(2):3–8. DOI: <http://doi.org/10.4038/jmj.v31i2.72>
10. Abdullahi A, Bello B, Mukhtar NB, Kaka B, Abba MA, Usman JS, Shittu A, Mayana KI, Maiwada SA, Mohammed J. Physiotherapy management of COVID-19 in Africa: ongoing efforts, challenges, and future directions. *Physiotherapy Theory and Practice.* 2020 Aug 2;36(8):871-2.
11. Gosselink R. Physiotherapy in respiratory disease. *Breathe.* 2006 Sep 1;3(1):30-9.
12. Troosters T, Pitta F, Oberwaldner B, Lewko A, Inal-Ince D, Grant K, Gosselink R, Burtin C, Emtner M, Clini E, Chatwin M. Development of a syllabus for postgraduate respiratory physiotherapy education: the Respiratory Physiotherapy HERMES project. *European Respiratory Journal.* 2015 May 1;45(5):1221-3.
13. Chartered Society of Physiotherapy (CSP). Physiotherapy works: Critical Care. 2011. Available at: <https://www.csp.org.uk/publications/physiotherapy-works-critical-care> (21.03.2020)
14. Zhao HM, Xie YX, Wang C; Chinese Association of Rehabilitation Medicine; Respiratory Rehabilitation Committee of Chinese Association of Rehabilitation Medicine; Cardiopulmonary Rehabilitation Group of Chinese Society of Physical Medicine and Rehabilitation. Recommendations for respiratory rehabilitation in adults with coronavirus disease 2019. *Chin Med J (Engl).* 2020;133(13):1595-1602. doi:10.1097/CM9.0000000000000848.
15. Liang T. Handbook of COVID-19 prevention and treatment. The First Affiliated Hospital, Zhejiang University School of Medicine. Compiled According to Clinical Experience. 2020 Mar;68.
16. Aaron O'neill, age distribution in india 2010-2020 [internet] January 19, 2022. available from <https://www.statista.com/>
17. Thomas P, Baldwin C, Bissett B, Boden I, Gosselink R, Granger CL, Hodgson C, Jones AY, Kho ME, Moses R, Ntoumenopoulos G. Physiotherapy management for COVID-19 in the acute hospital setting: Recommendations to guide clinical practice. *Pneumon.* 2020 Jan;33(1): 32-5
18. Udina C, Ars J, Morandi A, Vilaró J, Cáceres C, Inzitari M. Rehabilitation in adult post-COVID-19 patients in post-acute care with therapeutic exercise. *The Journal of frailty & aging.* 2021 Jul;10(3):297-300.
19. Antony Leo Asser P, Soundararajan K. The vital role of physiotherapy during COVID-19: A systematic review. *Work.* 2021 (Preprint):1-7.
20. Verma CV, Arora RD, Mistry HM, Kubal SV, Kolwankar NS, Patil PC, Dalvi AA, Vichare SA, Natesan A, Mangaonkar AN, Kanakia DD. Changes in mode of oxygen

- delivery and physiological parameters with physiotherapy in COVID-19 patients: a retrospective study. Indian Journal of Critical Care Medicine: Peer-reviewed, Official Publication of Indian Society of Critical Care Medicine. 2021 Mar;25(3): 317.
21. Cieloszczyk A, Lewko A, Sliwka A, Wtoch T, Pyszora A. Recommendations for physiotherapy of adult patients with COVID-19. Pol Physiother Assoc. 2020.
22. Abdullahi A. Safety and efficacy of chest physiotherapy in patients with COVID-19: a critical review. Frontiers in medicine. 2020:454.
- How to cite this article: Tailor DS, Patel AM. Awareness about role of physiotherapy in recovery of COVID-19 patients among adult population. *Int J Health Sci Res.* 2022; 12(3):186-192. DOI: <https://doi.org/10.52403/ijhsr.20220326>
