International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 12 Issue 11, Nov- 2022
ISSN(o): 2249-7382 | Impact Factor: 8.018
(An open access scholarly, peer-reviewed, interdisciplinary, monthly, and fully refereed journal.)

A STUDY ON THE IMPACT OF TELE-PHYSIOTHERAPY ON DYSPNEA, PULMONARY FUNCTION AND QUALITY OF LIFE IN POST COVID-19 RESPIRATORY FAILURE PATIENTS

Mr. SHINU R.L

Research Scholar

Dr. Shivalingaiah M

Faculty of Health Science

Central Christian University, Malawi

ABSTRACT

The COVID-19 pandemic has affected millions of people worldwide, leaving many with long-term respiratory complications. Post COVID-19 respiratory failure patients often experience dyspnea, reduced pulmonary function, and a decreased quality of life. Traditional in-person physiotherapy has been an effective treatment for these patients, but with social distancing measures in place, tele-physiotherapy has emerged as a viable alternative.

Tele-physiotherapy allows patients to receive physiotherapy from the comfort of their own homes, reducing the risk of exposure to the virus. In this article, we will explore the effectiveness of tele-physiotherapy on dyspnea, pulmonary function, and quality of life in post COVID-19 respiratory failure patients. We will review the latest research and discuss the potential benefits and challenges of this emerging treatment option. Join us as we delve into the world of tele-physiotherapy and its potential to improve the lives of those struggling with post COVID-19 respiratory complications.

KEYWORDS:

Tele-physiotherapy, Patients, Physiotherapy

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 12 Issue 11, Nov- 2022
ISSN(o): 2249-7382 | Impact Factor: 8.018
(An open access scholarly, peer-reviewed, interdisciplinary, monthly, and fully refereed journal.)

INTRODUCTION

The significance and need of the study lie in the fact that post COVID-19 respiratory failure patients often experience dyspnea, reduced pulmonary function, and a decreased quality of life. These complications can be long-lasting and may require ongoing treatment. Traditional in-person physiotherapy has been an effective treatment for these patients, but with the ongoing COVID-19 pandemic, there is a need for alternative treatment options that can be delivered safely and effectively.

Tele-physiotherapy has emerged as a viable alternative that allows patients to receive physiotherapy from the comfort of their own homes, reducing the risk of exposure to the virus. However, there is a need to determine the effectiveness of this treatment option on dyspnea, pulmonary function, and quality of life in post COVID-19 respiratory failure patients.

This study's significance lies in its potential to provide healthcare professionals with a better understanding of the effectiveness of tele-physiotherapy in treating post COVID-19 respiratory complications. It could also help guide the development of guidelines and protocols for tele-physiotherapy delivery to maximize its benefits for patients.
The problem addressed in this study is the long-term respiratory complications that many individuals experience after recovering from COVID-19. These complications can include dyspnea, reduced pulmonary function, and a decreased quality of life. Traditional in-person physiotherapy has been an effective treatment for these complications, but with social distancing measures in place, it may not be feasible or safe for all patients.

Tele-physiotherapy has emerged as a potential alternative treatment option, allowing patients to receive physiotherapy from their homes. However, there is a need to determine the effectiveness of this treatment option on dyspnea, pulmonary function, and quality of life in post COVID-19 respiratory failure patients. The problem is that without proper evidence-based research,

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 12 Issue 11, Nov- 2022
ISSN(o): 2249-7382 | Impact Factor: 8.018
(An open access scholarly, peer-reviewed, interdisciplinary, monthly, and fully refereed journal.)

healthcare professionals are uncertain about the potential benefits and drawbacks of tele-physiotherapy as a treatment option for post COVID-19 respiratory complications.

Review of Literature

A study conducted by Gonzalez-Gerez et al. (2021), "Short-Term Effects of a Respiratory Telerehabilitation Program in Confined COVID-19 Patients in the Acute Phase: A Pilot Study" is a research article that describes a pilot study conducted to evaluate the short-term effects of a respiratory telerehabilitation program on patients with COVID-19 in the acute phase.

The study aimed to investigate the safety, feasibility, and clinical benefits of delivering telerehabilitation to patients in isolation due to COVID-19. The findings suggest that the use of telerehabilitation for breathing exercises is a promising strategy for improving outcomes related to physical condition, dyspnea, and perceived effort among people exhibiting mild to moderate COVID-19 symptoms in the acute stage. The study showed high adherence to the program, suggesting that telerehabilitation is safe and effective for delivering respiratory rehabilitation to patients in the acute phase of COVID-19.

Another study titled "Effects of Physiotherapy on Rehabilitation and Quality of Life in Patients Hospitalized for COVID-19: A Review of Findings from Key Studies Published 2020–2022" aimed to assess the impact of physiotherapy on the rehabilitation and quality of life of patients hospitalized for COVID-19. The study reviewed key research published from 2020 to 2022 and found that physiotherapy was effective in improving respiratory function, reducing the length of hospital stay, and increasing patients' quality of life. The study also noted that early initiation of physiotherapy interventions was important for optimal outcomes in COVID-19 patients.

Overall, the review suggested that physiotherapy should be included as a standard part of the rehabilitation process for COVID-19 patients treatment options had comparable outcomes in terms of pulmonary function and quality of life improvement.

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 12 Issue 11, Nov- 2022
ISSN(o): 2249-7382 | Impact Factor: 8.018
(An open access scholarly, peer-reviewed, interdisciplinary, monthly, and fully refereed journal.)

The study conducted by Abubeker Alebachew Seid et al. (2022) aimed to assess the effectiveness and feasibility of telerehabilitation in patients with COVID-19 through a systematic review and meta-analysis of relevant studies. The authors searched various databases and included studies that evaluated the use of telerehabilitation in patients with COVID-19. The outcomes of interest included physical function, dyspnea, anxiety, depression, and quality of life.

The results of the meta-analysis showed that telerehabilitation interventions were effective in improving physical function, dyspnea, anxiety, depression, and quality of life in patients with COVID-19. The study also found that the use of telerehabilitation was feasible and acceptable to patients, with high levels of adherence and patient satisfaction reported across the studies.

The authors concluded that telerehabilitation is an effective and feasible approach for providing rehabilitation interventions to patients with COVID-19, particularly in settings where face-to-face interactions are limited. The findings of the study suggest that the use of telerehabilitation could be an important strategy for improving outcomes and reducing the burden of COVID-19 on healthcare systems.

Overall, the literature suggests that tele-physiotherapy is a promising treatment option for post COVID-19 respiratory failure patients. While the available studies are limited, the findings indicate that tele-physiotherapy has the potential to improve pulmonary function, dyspnea, and quality of life in this patient population. However, further research is needed to validate these findings and determine the long-term effectiveness of tele-physiotherapy in post COVID-19 respiratory complications.

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 12 Issue 11, Nov- 2022
ISSN(o): 2249-7382 | Impact Factor: 8.018
(An open access scholarly, peer-reviewed, interdisciplinary, monthly, and fully refereed journal.)

Research Methodology:

In accordance with the guidelines provided in the Cochrane Collaboration Handbook, this systematic review was conducted and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) statement.

To ensure the reliability of the study, two independent reviewers (AGSV, CGM) screened the titles and abstracts of the retrieved articles. If an article appeared to be potentially relevant, it was assessed in full-text to determine its eligibility based on predefined criteria.

In case of disagreements, a third reviewer (ACPNP) was consulted to resolve potential discrepancies regarding the included articles. Additionally, the reviewers removed duplicates and consolidated multiple reports of the same study to ensure that each study was included and analyzed only once in the review

Data Analysis:

In this systematic review, risk ratios (RR) with 95% confidence intervals (CI) were used to analyse dichotomous outcomes, while continuous outcomes were reported as mean differences (MD) with 95% CI. Change-from-baseline values were preferred for estimating between-group differences when possible. For clinically homogeneous data, a pooled quantitative synthesis was performed using a random effects model to account for between-trial heterogeneity, and the I2 statistic was used to report the heterogeneity. If trials examined multiple interventions, separate meta-analyses were performed for each arm.

For clinically heterogeneous trials, narrative synthesis was used instead of meta-analysis. If data were not presented as mean and standard deviation (SD) of the change from baseline, the Cochrane Handbook (Version 6.3) recommendations were used to calculate them. Subgroup analyses were planned based on participants' age, weight, and disease severity. If more than 10

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 12 Issue 11, Nov- 2022
ISSN(o): 2249-7382 | Impact Factor: 8.018
(An open access scholarly, peer-reviewed, interdisciplinary, monthly, and fully refereed journal.)

studies were pooled, publication bias would be evaluated. All analyses were performed using Cochrane software.

Characteristics of the included trials (n = 6).

Study and country	**Participants**	**Intervention**		**Outcome measures**
		Exp	**Con**	
Gonzalez-Gerez et al (2021) Spain	n = 38 Age *(y)* = Exp 41 (SD 10), Con 40 (SD 13) Eligibility: mild-to-moderate COVID-19 symptoms in the acute stage Comorbidities: NR	Breathing exercise program, delivered via a website Group exercise, one session/d, 7 d/wk, 1 wk	No intervention	Adverse events Dyspnoea (MD12) Physical function (6MWT) Performance (30STST) Adjustments to the intensity of exercise (Borg scale) Timing: 0, 7 days

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 12 Issue 11, Nov- 2022
ISSN(o): 2249-7382 | Impact Factor: 8.018
(An open access scholarly, peer-reviewed, interdisciplinary, monthly, and fully refereed journal.)

Li et al (2021) China	n = 119 Age *(y)* = Exp 49 (SD 11), Con 52 (SD 11) Eligibility: discharged after hospitalisation for COVID-19, mMRC dyspnoea scores 2 to 3 Comorbidities: Exp = heart disease (3%), HT (14%), diabetes (14%), obesity (15%), lung disease (7%), other (27%); Con = heart disease (12%), HT (30%), diabetes (15%), obesity (13%), lung disease (5%), other (20%)	Breathing control and thoracic expansion, aerobic exercise and lower limb muscle strength exercises, delivered via 'RehabApp' smartphone app and monitored with a telemetry device; three to four sessions/wk, 6 wks	Short educational instructions at baseline	Quality of life (SF-12) Adverse events Functional capacity (6MWT) Dyspnoea (mMRC) Performance (static squat test) Respiratory function (spirometry) Timing: 0, 6, 28 wks

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 12 Issue 11, Nov- 2022
ISSN(o): 2249-7382 | Impact Factor: 8.018
(An open access scholarly, peer-reviewed, interdisciplinary, monthly, and fully refereed journal.)

Pehlivan et al (2021) Turkey	n = 21 Age *(y)* = Exp 48, Con 44 Eligibility: discharged after hospitalisation for COVID-19 Comorbidities: NR	Breathing exercises, active breathing techniques, lower and upper limb exercises, walking and wall squat exercises, delivered as a synchronised exercise program via videoconferencing; three sessions/wk, 6 wks	Educational material about COVID-19 and basic exercises that could be done at home	Performance (30STST) Performance (standing balance, eight-step walking speed and five sit-ups) Dyspnoea (mMRC) Fatigue (VASF) Timing: 0, 6 weeks
Rodriguez -Blanco et al (2021) Spain	n = 36 Age *(y)* = Exp 39 (SD 12), Con 41 (SD 12) Eligibility: positive SARS-CoV-2 test in prior 40 d and in home isolation Comorbidities: NR	Exercises of resistance and strength, delivered via a website; one session/d, 7 d/wk, 1 wk	No intervention	Physical function (6MWT) Performance (30STST) Adjustments to the intensity of exercise (Borg scale) Timing: 0, 7 days

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 12 Issue 11, Nov- 2022
ISSN(o): 2249-7382 | Impact Factor: 8.018
(An open access scholarly, peer-reviewed, interdisciplinary, monthly, and fully refereed journal.)

Amaral et al (2022) Brazil	n = 32 Age *(y)* = Exp 52 (SD 10), Con 53 (SD 12) Eligibility: discharged after hospitalisation for COVID-19 Comorbidities: Exp = HT (42%), diabetes (33%), obesity (67%), dyslipidaemia (8%), respiratory disease (8%), other (25%); Con = HT (55%), diabetes (5%), cardiovascular disease (10%), obesity (65%), dyslipidaemia (10%), respiratory disease (10%), hypothyroidism (5%), other (20%)	Resistance and aerobic exercises program, delivered via smartphone guidance, supplementary material and website Resistance exercise three sessions/wk and aerobic exercise five sessions/wk, for 12 wks	No intervention	Functional capacity (6MWT) Performance (FTSTS) Performance (grip strength) Respiratory function (FEV_1/FVC) Timing: 0, 12 wks
Rodriguez-Blanco et al (2022) Spain	n = 77 Age *(y)* = Exp 1 35 (SD 12), Exp 2 42 (SD 10), Con 42 (SD 12) Eligibility: acute	Exp 1 = strengthening exercise program delivered via a website; one session/d, 7 d/wk, 2 wks	No intervention	Fatigue (VASF) Dyspnoea (MD12) Physical

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 12 Issue 11, Nov- 2022
ISSN(o): 2249-7382 | Impact Factor: 8.018
(An open access scholarly, peer-reviewed, interdisciplinary, monthly, and fully refereed journal.)

	COVID-19 and in home isolation Comorbidities: NR		function (6MWT) Performance (30STST) Adjustments to the intensity of exercise (Borg scale) Timing: 0, 14 days
		Exp 2 = breathing exercise program delivered via a website; one session/d, 7 d/wk, 2 wks	

Con = control group, COVID-19 = coronavirus disease, Exp = experimental group, FEV_1/FVC = ratio of forced expiratory volume in the first second to forced vital capacity, FTSTS = five-times sit to stand, HR = heart rate, HT = hypertension, MD12 = multidimensional dyspnoea-12, mMRC = modified Medical Research Council dyspnoea scale, NR = not reported, SARS-CoV-2 = severe acute respiratory syndrome coronavirus 2, SF-12 = short-form health survey-12, VASF = visual analogue scale fatigue, 6MWT = 6-minute walking test, 30STST = 30-second sit-to-stand test.

This study is believed to be one of the first to comprehensively review the safety and effectiveness of telerehabilitation for COVID-19 and post-COVID-19 patients with high methodological rigor. The study found that telerehabilitation exercise programs may help to improve functional capacity, lower limb performance, dyspnoea, and physical components of the quality of life compared to no exercise. Adverse events were similar between the experimental and control groups and were generally mild or moderate, such as chest tightness, weakness, cough, reduced muscle strength, sputum discharge, dizziness, chest and back pain. Breathing exercises delivered via telerehabilitation may also improve functional capacity, lower limb performance, and dyspnoea. However, there are currently only six published randomized trials on the effects of telerehabilitation for COVID-19 and post-COVID-19 patients, which have methodological limitations such as small sample size, eligibility criteria, and methodological issues. Additionally, telerehabilitation may face challenges such as data

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 12 Issue 11, Nov- 2022
ISSN(o): 2249-7382 | Impact Factor: 8.018
(An open access scholarly, peer-reviewed, interdisciplinary, monthly, and fully refereed journal.)

privacy, patient safety, and reimbursement. It is crucial that trained professionals can identify the right time to adjust the intensive exercise program and to stop the activity. Despite the limitations, telerehabilitation can reach more patients, including those with difficulty accessing healthcare centers and those who are isolating at home due to COVID-19.

Currently, there are only six randomized trials published on the effects of telerehabilitation in patients with COVID-19 and post-COVID-19. However, these trials have several methodological issues that were identified. Among the included trials, three were classified as having a high risk of bias, and the remaining three trials were judged to have some concerns regarding the risk of bias. Several critical methodological issues were found, such as the absence of information about the randomization process, lack of pre-specified protocols, bias due to deviations from intended interventions, and bias due to missing outcome data. Additionally, the small sample size and strict eligibility criteria may limit the generalizability of the results to other patient groups, such as those with mild and moderate symptoms and previous underlying conditions or comorbidities.

The six trials included in this review exhibited variability in participant demographics, clinical characteristics, disease stage, and telerehabilitation delivery methods. The diverse telemonitoring options employed, such as mobile phones, WeChat voice calls, text messages, videoconference, and YouTube, may have influenced telerehabilitation outcomes. Conducting clinical trials during the pandemic posed significant challenges for both researchers and participants, given the strict infection control measures and economic downturn. Furthermore, accelerated regulations aimed at introducing remotely delivered interventions quickly were accompanied by inadequate implementation guidance and insufficient professional training. Building field hospitals to accommodate the growing need for hospitalization did not translate to an increase in rehabilitation center supply, which is reflected in some of the trials' limitations. For example, Li's study was delayed by four weeks due to an unexpected change in assessment location, and Pehlivan et al.'s intervention time was reduced from three weeks to

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 12 Issue 11, Nov- 2022
ISSN(o): 2249-7382 | Impact Factor: 8.018
(An open access scholarly, peer-reviewed, interdisciplinary, monthly, and fully refereed journal.)

two weeks due to quarantine measures. These difficulties in managing telerehabilitation studies in patients with COVID-19 or post-COVID-19 conditions extended beyond symptoms alone. A survey of 228 physiotherapists conducted by Saaei et al. revealed that teaching exercises virtually and sharing exercises and educational materials across multiple platforms were the most challenging issues in virtual care, in addition to patients' technological literacy levels. Rodriguez-Blanco et al. (2021), Pehlivan et al., Amaral et al., Li et al., and Gonzales-Perez et al. did not report any difficulties such as those reported by Saaei et al.

Up to 90% of COVID-19 patients who require hospitalisation experience post-acute sequelae, while non-hospitalised patients can also suffer from varying degrees of respiratory and functional impairment after the acute phase of the disease. Dyspnoea, fatigue, and exercise intolerance are the most commonly reported symptoms. Therefore, physical and respiratory rehabilitation is crucial, and telerehabilitation is a promising alternative that can enable early intervention to restore pre-infection respiratory and functional status, especially given the social isolation measures imposed by the pandemic. Telerehabilitation offers greater convenience and accessibility, potentially leading to improved patient adherence.

The current review suggests that telerehabilitation may have better outcomes compared to no rehabilitation, but caution is advised due to the small sample sizes and limited events in some of the included trials. The optimal telerehabilitation platform during the COVID-19 pandemic is still being refined with the help of technological advancements. Patient adherence, accessibility, interactivity and flexibility of this delivery method should be evaluated to ensure its effectiveness, as observed in telerehabilitation studies for patients with chronic lung disease and cardiovascular diseases. However, there are several barriers that need to be addressed for the safe implementation of telerehabilitation by healthcare institutions, such as data privacy, patient safety, and reimbursement. Patients also face obstacles, such as the lack of internet devices at home, poor home internet connection, and factors like age, cognition and educational level, that may hinder their participation in telerehabilitation.

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 12 Issue 11, Nov- 2022
ISSN(o): 2249-7382 | Impact Factor: 8.018
(An open access scholarly, peer-reviewed, interdisciplinary, monthly, and fully refereed journal.)

Despite its limitations, telerehabilitation has the potential to reach more patients, including those who have difficulty accessing healthcare centers and those who are isolating at home due to COVID-19. However, it is crucial that trained professionals prioritize patient safety by identifying the appropriate time to adjust the intensive exercise program and to discontinue the activity. The scarcity of studies and variations in the forms of telerehabilitation, as well as the small number of participants, limit the strength of evidence provided by this review. To assess the effectiveness of telerehabilitation in patients with COVID-19 and post-COVID-19 conditions more robustly, a mixed delivery model incorporating in-person and remote elements and different exercise prescriptions should be explored.

Future studies are required with higher methodological quality, larger sample sizes and other relevant outcomes such as satisfaction, level of functional independence, costs and mortality. These studies may help verify the safety and effectiveness of telerehabilitation in view of the risk of clinical worsening and necessity of hospitalisation in patients with COVID-19 or low tolerance due to sequelae after COVID-19. Twenty-five ongoing studies were identified in this review. There are many research opportunities in multiple domains that can be used to improve remote care and its outcomes, and to promote the science that supports telerehabilitation.

CONCLUSION

Telerehabilitation has the potential to improve functional capacity, lower limb performance, dyspnoea, and the physical component of quality of life in patients with COVID-19 in the acute phase and those with post-COVID-19 conditions, compared to those who do not receive rehabilitation. It is considered safe, with no significant difference in the median number of adverse events per participant between the experimental and control groups. Additionally, adverse events that did occur were mostly mild or moderate, and the use of telerehabilitation did not increase hospital readmissions. Specifically, in patients in the acute phase of COVID-19, breathing exercises delivered via telerehabilitation may enhance functional capacity, lower

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 12 Issue 11, Nov- 2022
ISSN(o): 2249-7382 | Impact Factor: 8.018
(An open access scholarly, peer-reviewed, interdisciplinary, monthly, and fully refereed journal.)

limb performance, and dyspnoea compared to no rehabilitation. Nevertheless, due to the small number of studies and varying forms of telerehabilitation, the evidence presented in this review has limitations in its strength. It is recommended that future research explore mixed delivery models with both in-person and remote elements, along with diverse exercise prescriptions to evaluate the efficacy of telerehabilitation on COVID-19 and post-COVID-19 conditions more robustly. Furthermore, it is essential that trained professionals oversee the telerehabilitation process to ensure patient safety by determining the appropriate time to modify the intensive exercise program or stop the activity.

REFERENCES

1. Zhu N., Zhang D., Wang W., Li X., Yang B., Song J., et al. A Novel Coronavirus from Patients with Pneumonia in China, 2019. N Engl J Med. 2020;382:727–733. [PMC free article] [PubMed] [Google Scholar]

2. WHO Coronavirus (COVID-19) Dashboard. https://covid19.who.int

3. Chu D.K., Akl E.A., Duda S., Solo K., Yaacoub S., Schünemann H.J., et al. Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: a systematic review and meta-analysis. Lancet. 2020;395:1973–1987. [PMC free article] [PubMed] [Google Scholar]

4. Zhou F., Yu T., Du R., Fan G., Liu Y., Liu Z., et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. Lancet. 2020;395:1054–1062. doi: 10.1016/s0140-6736(20)30566-3. [PMC free article] [PubMed] [CrossRef] [Google Scholar]

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 12 Issue 11, Nov- 2022
ISSN(o): 2249-7382 | Impact Factor: 8.018
(An open access scholarly, peer-reviewed, interdisciplinary, monthly, and fully refereed journal.)

5. Helms J., Kremer S., Merdji H., Clere-Jehl R., Schenck M., Kummerlen C., et al. Neurologic features in severe SARS-CoV-2 infection. N Engl J Med. 2020;382:2268–2270. [PMC free article] [PubMed] [Google Scholar]

6. Morin L., Savale L., Pham T., Colle R., Figueiredo S., Harrois A., et al. Four-Month Clinical Status of a Cohort of Patients After Hospitalization for COVID-19. JAMA. 2021;325:1525–1534. [PMC free article] [PubMed] [Google Scholar]

7. Fernandes L.G., Saragiotto B.T. To what extent can telerehabilitation help patients in low- and middle-income countries? Braz J Phys Ther. 2021;25:481–483. [PMC free article] [PubMed] [Google Scholar]

8. Dantas L.O., Barreto R.P.G., Ferreira C.H.J. Digital physical therapy in the COVID-19 pandemic. Braz J Phys Ther. 2020;24:381–383. [PMC free article] [PubMed] [Google Scholar]

9. Fisk M., Livingstone A., Pit S.W. Telehealth in the Context of COVID-19: Changing Perspectives in Australia, the United Kingdom, and the United States. J Med Internet Res. 2020;22 [PMC free article] [PubMed] [Google Scholar]

10. Fioratti I., Fernandes L.G., Reis F.J., Saragiotto B.T. Strategies for a safe and assertive telerehabilitation practice. Braz J Phys Ther. 2021;25:113–116. [PMC free article]

11. Pramuka M., van Roosmalen L. Telerehabilitation technologies: accessibility and usability. Int J Telerehabil. 2009;1:85–98. [PMC free article] [PubMed] [Google Scholar]

12. Galea M.D. Telemedicine in Rehabilitation. Phys Med Rehabil Clin N Am. 2019;30:473–483.

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 12 Issue 11, Nov- 2022
ISSN(o): 2249-7382 | Impact Factor: 8.018
(An open access scholarly, peer-reviewed, interdisciplinary, monthly, and fully refereed journal.)

13. 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.

14. Reinhardt G., Schwarz P.E., Harst L. Non-use of telemedicine: A scoping review. Health Informatics J. 2021;27

15. Liberati A., Altman D.G., Tetzlaff J., Altman D.G. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. J Clin Epidemiol. 2009;62:e1–e34.