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Citation for published version (APA):

van Dam van Isselt, E. F., Schols, J. M. G. A., Gordon, A. L., Achterberg, W. P., van Haastregt, J., Becker, C., Grund, S., & Bauer, J. M. (2022). Post-acute COVID-19 geriatric rehabilitation: A European perspective. *Zeitschrift für Gerontologie und Geriatrie*, 55(8), 655-659. <https://doi.org/10.1007/s00391-022-02128-1>

Document status and date:

Published: 01/12/2022

DOI:

[10.1007/s00391-022-02128-1](https://doi.org/10.1007/s00391-022-02128-1)

Document Version:

Publisher's PDF, also known as Version of record

Document license:

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Z Gerontol Geriat 2022 · 55:655–659
<https://doi.org/10.1007/s00391-022-02128-1>
 Received: 20 July 2022
 Accepted: 26 September 2022
 Published online: 25 November 2022
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 Springer Medizin Verlag GmbH, ein Teil von
 Springer Nature 2022



Post-acute COVID-19 geriatric rehabilitation

A European perspective

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In this article

- Introduction
- COVID-19 impact and need for geriatric rehabilitation
- The COVID-19 rehabilitation paradox
- Post-acute COVID-19 geriatric rehabilitation—What should it entail?
General recommendations for geriatric rehabilitation • Specific processes and procedures
- The EU-COGER study
- First lessons learned for the future
- Conclusion

Abstract

Coronavirus disease 2019 (COVID-19) poses a threat to the health and independence of older people in particular. In this article we elaborate on the content and importance of post-acute COVID-19 geriatric rehabilitation from a European perspective. We explain the geriatric rehabilitation paradox and how this can and should be solved. We also present what post-acute COVID-19 geriatric rehabilitation should entail. This might not only help us to develop better geriatric rehabilitation services, but it should also inform pandemic preparedness in the future.

Keywords

Coronavirus disease 2019 · Review · Older patients · Rehabilitation paradox · Preparedness

Introduction

The aim of this article is to present an overview on post-acute coronavirus disease 2019 (COVID-19) geriatric rehabilitation from a European perspective. The article discusses the impact of the pandemic on older people and the increased need but depleted resources for geriatric rehabilitation leading to the rehabilitation paradox. The main elements of the European guidance on post-acute COVID-19 geriatric rehabilitation are summarized as are the aim and design of the EU-COGER study, a multicentre observational cohort study in geriatric rehabilitation services across Europe. From thereon important lessons learned and challenges to be faced are identified and recommendations are given for important future directions in research and practice.

COVID-19 impact and need for geriatric rehabilitation

Older people have been affected by COVID-19 more than any other population group. In an umbrella review of 70 studies conducted up to December 2020, hospital and case mortalities from COVID infections increased per age year by 5.7% and 7.4%, respectively, while the risk of hospitalisation increased by 3.4% per age year [1]. Frailty also predicts adverse outcomes in those hospitalised with COVID-19 [2, 3]. Nationally representative survey data from the USA suggest an association between older people who self-report being socially isolated during the COVID-19 pandemic and those who report deteriorating physical function [4]. Hence, even older people who did not contract COVID-19



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might have experienced deconditioning during the ongoing pandemic.

Globally, much effort has gone into reconfiguring healthcare services to deal with the surge in demand associated with the pandemic. This included setting up additional intensive care unit (ICU) capacity by reallocating staff and beds from other services and equipping them appropriately [5], opening up “surge” capacity in field hospitals [6], expediting discharge from hospitals into community care settings to maximise bed availability, and opening up new rehabilitation pathways for patients recovering from ICU and those with long COVID [7]. These services have, though, been predominantly accessed by younger people [8, 9]. In some countries, policies implemented early in the pandemic have been determined to be ageist, as was the case in a judicial review of discharges from hospitals to care homes of older people in England during March and April 2020 [10].

The COVID-19 rehabilitation paradox

This ageism is evident in what we have previously described as the geriatric rehabilitation paradox [11]. Older people need rehabilitation just as much as any other population group; however, far from augmenting geriatric rehabilitation resources in response to COVID-19, many such services found their resources depleted and reallocated to support acute COVID-19 care. In a survey of eight European countries, Grund et al. described reduction in geriatric rehabilitation capacity in the majority of countries, with delays and staffing reductions representing the norm [12]. Nevertheless, the content of post-acute COVID-19 geriatric rehabilitation has been well established within Europe as are the criteria used for patient selection.

Post-acute COVID-19 geriatric rehabilitation—What should it entail?

Within the group of COVID-19 patients with complex rehabilitation needs, discrete groups of older patients can be identified. The first group primarily comprises older people living with frailty and multi-

ple long-term conditions who were already fully or partly dependent on formal or informal care before the onset of COVID-19. The second group comprises older people relatively healthy prior to the infection, who experienced severe functional decline and deterioration in activities of daily living alongside other phenotypic characteristics of frailty following COVID-19. Older COVID-19 patients might have been managed in hospital or at home or in a care home. All of these groups have in common that they will experience a mix of new and pre-existing disabilities, that the response to rehabilitation may be attenuated by frailty and cognitive impairment and that the ability to participate may be limited by environmental factors including social isolation and care dependency. These complexities substantiate the rationale for the more comprehensive approach to rehabilitation that is characteristic of geriatric rehabilitation [13].

On behalf of the special interest group (SIG) for geriatric rehabilitation of the European Geriatric Medical Society (EuGMS), Van Haastregt et al. drafted an initial guidance on the management of post-acute COVID-19 patients in geriatric rehabilitation [14]. This was adapted from guidelines developed in the Netherlands [15] but updated with additional insights from literature and input from experts working in other countries and from other disciplines participating in the SIG of the EuGMS.

The guidance is divided into a section addressing general recommendations and a section addressing specific processes and procedures. The first section addresses general requirements for post-acute COVID-19 geriatric rehabilitation and critical aspects for quality assurance. The second section addresses patient selection, admission, treatment, discharge, follow-up and monitoring.

General recommendations for geriatric rehabilitation

Providing post-acute COVID-19 geriatric rehabilitation that is safe for both patients and care providers requires additional arrangements and equipment, which are not required for other conditions routinely managed in geriatric rehabilitation. First, it is essential to have high quality per-

sonal protective equipment (PPE), following the current (national) guidelines and requirements. Furthermore, management guidelines for contagious patients, test facilities, and necessary equipment for safe care after COVID-19, should be available. Furthermore, attention should be paid to training the staff in using the necessary services and materials, and in monitoring the patients in a proper and safe way.

Grund et al. found that various processes and procedures were negatively affected by the COVID-19 pandemic mainly due to the necessary hygiene requirements, such as distancing, contact restrictions and handling of protective equipment [12]. It is important that multidisciplinary teams are aware of these potential threats to quality of care, to ensure that process and outcome measures are in place to capture the impact on patient care, and that measures are taken to counteract this.

Specific processes and procedures

With respect to selecting patients for post-acute COVID-19 rehabilitation in general, Wade indicated there are no specific symptoms or signs that enable prediction of the impact of COVID-19 on long-term functional status and hence the need for rehabilitation after the acute phase [16]. Therefore, an inclusive approach should be adopted to referring patients for rehabilitation [17].

The selection procedure of COVID-19 patients should consist of a comprehensive assessment of frailty status, functional prognosis, trainability, cognition and motivation of the patient to gain more insight into the possible benefits from rehabilitation. Furthermore, the geriatric assessment should conclude whether rehabilitation should be led by a geriatric rehabilitation facility, medical specialist rehabilitation facility or specialized pulmonary rehabilitation facility (if available) and if the setting should be inpatient, outpatient or home-based. Attention to differences in clinical characteristics between individual patients is important, because older COVID-19 patients discharged from hospital may show more severe symptoms, more severe deconditioning and more limited pulmonary

and physical reserves than patients who managed COVID-19 at home or in a care home [18].

The main activities that should be performed during the admission phase are divided into activities generally performed in geriatric rehabilitation treatment and activities specifically related to COVID-19 problems. Regarding the treatment phase, the guidance describes general and specific rehabilitation goals categorized into five domains: somatic, functional, psychological, existential and social. Treatment programs in geriatric rehabilitation need to be tailored to differing and fluctuating needs of post-acute COVID-19 patients, who are heterogeneous in terms of endurance and recovery trajectory. Predicting the time of discharge at admission is difficult among COVID-19 patients due to the unpredictable course of the disease and recovery process.

With respect to discharge planning, it is important that the patient and their family (if applicable) are actively involved in this phase, by discussing the available options for formal and informal care, aids and appliances at home. After discharge patients should be followed up, because COVID-19 can have various long-term somatic, cognitive, emotional and psychosocial consequences [19]. There is limited evidence regarding the optimal timing and frequency of follow-up assessments. eHealth applications can be used for follow-up and home-based rehabilitation as well as for monitoring purposes [20].

Finally, the guidance pays attention to the aspect of patient monitoring during all phases of geriatric rehabilitation and therefore a number of widely acknowledged measurement instruments are presented, which should be administered before, during and after rehabilitation. The final choice for instruments will depend on the instruments which are available and commonly used in the countries and the status of the patient.

The current guidance should be regularly updated based on new insights from the literature and practice.

The EU-COGER study

In the early days of the pandemic not much was known about the clinical char-

acteristics of patients admitted for post-acute COVID-19 geriatric rehabilitation, the course of the functional and medical recovery and the specific rehabilitation treatment needed and received. Therefore, the members of the EUGMS SIG designed the EU-COGER study, a multicentre observational cohort study in geriatric rehabilitation facilities across Europe [21].

The aims of this study were to explore the course of functional and medical recovery during and after geriatric rehabilitation in post-acute COVID-19 patients and to describe the services that were provided to these patients across Europe. It included patients that received post-acute COVID-19 geriatric rehabilitation. Patients with severe cognitive impairment and who did not give informed consent, or who had opted out of using anonymous data for research purposes, were excluded. Patients were included between October 2020 and October 2021. In total, over 750 patients from 10 countries (Germany, the Netherlands, United Kingdom, Russia, Ireland, Spain, Malta, Israel, Italy and Czech Republic) were included.

The setting in which geriatric rehabilitation is provided is heterogeneous across EuGMS countries, varying from skilled nursing facilities (Netherlands) to intermediate care facilities or community hospitals (United Kingdom) and acute geriatric wards in hospitals or geriatric rehabilitation clinics (Germany). In several other countries it can also be provided in the home environment [22].

EU-COGER did not influence any therapy provided or decisions about the medical treatment or treatment programs already used in the participating geriatric rehabilitation setting. This continued as normal at the discretion of clinical teams. Data on treatment by physical therapy, occupational therapy, and medical treatment by an advanced nurse practitioner, geriatrician or medical specialist were captured. Additional ad hoc input by other therapists, including but not limited to speech and language therapists, dieticians, orthotists and podiatrists, was collated.

The primary outcome measure of the EU-COGER study is activities of daily living (ADL) functioning. Additional functional and medical outcomes included: functional, nutritional and psychosocial

status, symptom burden and mortality. Several process measures (rehabilitation and service descriptors), such as length of stay (ICU, hospital and rehabilitation), discharge destination, and kind of treatment given were obtained. Furthermore, data on complications, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) diagnosis confirmed by the polymerase chain reaction (PCR) or serology and demographic data were collected. Data were collected at baseline, with follow-up at 6 weeks and 6 months following discharge. The data are almost complete, and analysis and publication are expected to be at the end of 2022.

First lessons learned for the future

The first lesson learned from the COVID-19 pandemic is the importance of preventing physical deterioration due to social isolation (in general and specifically during a pandemic) in older adults. To achieve this, national strategies should be aimed at promoting physical activity in old age in order to prevent further functional decline, also in those who are not infected.

Secondly, geriatric rehabilitation in general needs to be prioritised and protected across Europe. Proactive planning for future pandemics, epidemics or disasters that might affect older people will help to ensure that there will be sufficient capacity and that geriatric rehabilitation will be recognised as a crucial part of the response to a pandemic (COVID-19 or other). This should also include developing guidelines designed in such a way that they can be applied to contexts other than COVID-19.

Thirdly, there is a strong need for additional evidence on post-acute COVID-19 geriatric rehabilitation, including understanding of risk profiles of older patients living with frailty in order to develop more individualised treatment regimens. This should also include more insights into the optimal training program for frail older adults and the role that eHealth can play in home-based rehabilitation using sensor monitoring and telerehabilitation. Furthermore, research should focus on the role of cognition, as a risk and prognostic factor in relation to functional recovery after COVID-19 in frail older persons.

Also, the cost-effectiveness of post-acute COVID-19 geriatric rehabilitation should be established [23].

Finally, as the current guidance should be treated as an expert consensus because the scientific literature was underdeveloped at that time, an update of the guidance for post-acute COVID-19 geriatric rehabilitation is needed and feasible. This should be based on more recent insights from research [19], updated national guidelines [24] and the soon to be expected results from the EU-COGER study [21].

Conclusion

We have illustrated here the conflict between the high need for geriatric rehabilitation during COVID-19 and the limitations placed upon available resources, something which we have called the geriatric rehabilitation paradox. In spite of this, rehabilitation professionals throughout Europe have persevered and we have outlined both consensus guidelines and descriptive research in the form of EU-COGER which will better illuminate the experience of geriatric rehabilitation specialists across multiple countries.

The ultimate ambition for these processes is to develop a better understanding of what can be done and what should be done. This could help to develop better geriatric rehabilitation services during the prospective interval between major healthcare crises but it should also provide information on extreme event preparedness in the future. During COVID-19, geriatric rehabilitation was often regarded as “nice to have”. It should have been seen as essential, and older people will have undoubtedly experienced adverse outcomes as a consequence of the limitations placed upon it. We must not allow this to happen again in the future.

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Geriatrische Rehabilitation bei postakuten COVID-19-Patienten. Eine europäische Perspektive

Eine COVID-19-Erkrankung stellt gerade für ältere Menschen eine Gefährdung ihrer Gesundheit wie auch ihrer Selbstständigkeit dar. Im vorliegenden Artikel schildern die Autoren aus europäischer Perspektive die Prinzipien und die Bedeutung der geriatrischen Rehabilitation im postakuten Stadium der COVID-19-Infektion. Sie erklären ferner das Paradox der geriatrischen COVID-19-Rehabilitation und wie dieses aufgelöst werden sollte. Ferner wird beschrieben, welche Komponenten die geriatrische Rehabilitation im postakuten Stadium der Infektion umfassen sollte. Diese Darstellung kann nicht nur helfen, eine bessere geriatrische Rehabilitation für die Gruppe der älteren COVID-19-Patienten zu entwickeln, sondern sie sollte es zudem ermöglichen, auf eine zukünftige Pandemie besser vorbereitet zu sein.

Schlüsselwörter

Coronavirus disease 2019 · Review · Ältere Patienten · Rehabilitationsparadox · Vorsorge

Declarations

Conflict of interest. E.F. van Dam van Isselt, J.M.G.A. Schols, A.L. Gordon, W.P. Achterberg, J. van Haastregt, C. Becker, S. Grund and J.M. Bauer declare that they have no competing interests.

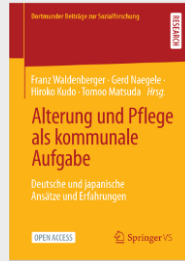
For this article no studies with human participants or animals were performed by any of the authors. All studies mentioned were in accordance with the ethical standards indicated in each case.

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Alterung und Pflege als kommunale Aufgabe: Deutsche und japanische Ansätze und Erfahrungen



F. Waldenberger, G. Naegele, H. Kudo, T. Matsuda (Hrsg.)
Alterung und Pflege als kommunale Aufgabe. Deutsche und japanische Ansätze und Erfahrungen. Erschienen in der Reihe Dortmund Beiträge zur Sozialforschung. XV, 364 S., 2022, Springer VS, Wiesbaden, ISBN 978-3-658-36843-2

Die Beiträge in diesem Open-Access-Sammelband beschreiben und analysieren aus multidisziplinärer Sicht die Herausforderungen und Bewältigungsstrategien von Alterung und Pflege in japanischen und deutschen Gemeinden. Thematisiert werden rechtliche Rahmenbedingungen, zivilgesellschaftliches Engagement, Pflegekräftemangel, Technologiekonzepte für die Pflege und schließlich auch der Einfluss der Covid-19 Pandemie auf die Situation älterer und pflegebedürftiger Bürgerinnen und Bürger. Die Gegenüberstellung der Ansätze und Erfahrungen beider Länder erweitert das Spektrum an Gestaltungsmöglichkeiten und kann Impulse für eine Neuausrichtung bestehender Lösungsstrategien geben.

Die Herausgeber

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