



WHY REHABILITATION MUST HAVE PRIORITY DURING AND AFTER THE COVID-19 PANDEMIC: A POSITION STATEMENT OF THE GLOBAL REHABILITATION ALLIANCE

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COVID-19 has become a pandemic with strong influence on health systems. In many cases it leads to a disruption of rehabilitation service provision. On the other hand, rehabilitation must be an integral part of COVID-19 management. Rehabilitation for COVID-19 should start from acute and early post-acute care and needs to be continued in the post-acute and long-term rehabilitation phase. Of course, it should follow specific safety protocol. Additionally, rehabilitation must be kept available for all other people who are in need. From the perspective of health system, the Global Rehabilitation Alliance urges decision makers to ensure that rehabilitation services will be available for all patients with COVID-19 in the acute, post-acute and long-term phase. Additionally, it must be ensured that all other persons with rehabilitation need have access to rehabilitation services. Rehabilitation services must be equipped with personal protection equipment and follow strict hygiene measures. In particular, rehabilitation must be accessible for vulnerable populations. For that reason, rehabilitation must be kept a health priority during the COVID-19 pandemic and given adequate financial resources. Last but not least, scientific studies should be performed to clarify the impact of the pandemic on rehabilitation services as well as on the needs for rehabilitation of COVID-19 patients.

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The COVID-19 pandemic has resulted in significant mortality, morbidly and unprecedented stress on healthcare systems worldwide. COVID-19 disproportionately affects older individuals, those of lower socioeconomic status, those with multi-comorbidities

LAY ABSTRACT

Since December 2019, COVID-19 has become worldwide pandemic. Rehabilitation as an important health strategy is disrupted during this pandemic. Rehabilitation is an integral part in management COVID-19 related health problems. Thus, rehabilitation should be provided from acute until long-term rehabilitation care during and after COVID-19 pandemic. The Global Rehabilitation Alliance as a worldwide collaborative body of civil society organizations with expertise in rehabilitation urges decision-makers to ensure that rehabilitation services are available for COVID-19 patients in the acute, post-acute and long-term phase of the disease. It also must be ensured that all other patients with rehabilitation need and, in particular, vulnerable populations have continuous access to rehabilitation services. All rehabilitation services providers must adequately equipped with personal protective equipment and follow strict hygiene measures. This, rehabilitation must be maintained as priority in health systems. Scientific studies related to COVID-19 and rehabilitation are needed.

(1–3), and ethnic minorities (4, 5). The pandemic has severely impacted on the delivery of most rehabilitation services, and the impact of this reduction in services is likely to be more pronounced in low- and middle-income countries (6). Therefore, the need for rehabilitation for COVID-19-related disability or pre-existing disability will undoubtedly increase post-COVID (7, 8).

The world is currently awaiting the development of vaccines and antiviral medications. During this period, healthcare and public health systems have focused on:

- prevention of infections through public health measures, such as isolation, social distancing, and hand-washing;
- increasing capacity to manage patients in acute care clinics/hospitals, intensive care units and respiratory departments.

The current situation requires investment in specific sectors of the health and social system.

With regards to rehabilitation, a number of questions need to be answered:

- What are the rehabilitation needs of patients with moderate and severe COVID-19?
- How do we ensure that persons with chronic health conditions and those with disability continue receiving rehabilitation services so that they can achieve and maintain optimal functioning?
- How do we ensure that the capacity of rehabilitation service will be extended to ensure access to rehabilitation services for all persons in need (e.g. persons with spinal cord injury, traumatic brain injury, cancer)?
- How do we address the rehabilitation needs of people living in poverty and other vulnerable subgroups of the population?
- Do the measures taken to prevent infections, such as lock-down and physical distancing, cause additional disability and need for rehabilitation, e.g. with respect to mental health disorders?
- Are rehabilitation workers sufficiently protected from COVID-19 infection?
- How will low- and middle-income countries cope with the rehabilitation needs of their population?

Little scientific evidence is available to answer these questions. Nevertheless, as an Alliance of civil society organizations with expertise in rehabilitation we urge decision-makers to take into consideration the advice of scientific and professional organizations, academic institutions and organizations of persons with disabilities and their families.

REHABILITATION AND THE SCOPE OF THE GLOBAL REHABILITATION ALLIANCE

The World Report on Disability defines rehabilitation as “a set of measures that assist individuals who experience, or are likely to experience, disability to achieve and maintain optimal functioning in interaction with their environments” (9). More recently the World Health Organization (WHO) has refined the definition of rehabilitation as “a set of interventions needed when a person is experiencing or is likely to experience limitations in everyday functioning due to ageing or a health condition, including chronic diseases or disorders, injuries or traumas” (10). Rehabilitation interventions include multiple components, and it has been shown that rehabilitation is effective in reducing disability and improving functioning. Thus, rehabilitation should be available at all levels of healthcare (primary, secondary and tertiary) and in all phases (acute, post-acute, long-term) (11).

As stated in the World Report on Disability, and reiterated again in 2017, the WHO aims to strengthen rehabilitation in health systems, to include it as an essential component of Universal Health Coverage, and to reach the UN Sustainable Development Goals 2030 (12).

The Global Rehabilitation Alliance was founded to “be a uniting body for rehabilitation stakeholders, jointly advocating for rehabilitation as a key health strategy of the 21st century, and the implementation of rehabilitation services in health systems worldwide. It “envisions a world where every person has access to timely, quality and user-centred rehabilitation services. Its mission is “to advocate for the availability of quality, coordinated and affordable rehabilitation through system strengthening according to population needs (11). This statement reflects the concerns of the Global Rehabilitation Alliance. We aim to raise awareness and foster collaboration of civil societies to take action to solve these problems (13).

PERSPECTIVE OF PATIENTS WITH COVID-19 AND THE NEED FOR REHABILITATION

Patients with moderate and severe COVID-19 primarily develop lung dysfunction, which may be fatal. However, increasing evidence suggests that SARS-CoV-2 infections may also affect the nervous system (e.g. loss of taste) and cardiovascular function (e.g. increased risk of thrombosis) (14, 15). It also has been shown that many patients develop mental health problems that need to be addressed through rehabilitation programmes. The evidence indicates that rehabilitation for people with COVID-19 is needed in all phases of the disease.

Acute phase

In the acute phase supporting respiration functions and preventing complications (e.g. contractures, thrombosis, pressure sores, deconditioning and frailty) are of major relevance. Interventions include positioning, respiration treatment, passive and active movements, early mobilization. To support the weaning phase through respiration techniques and mobilization is essential (14).

Early post-acute phase

In the early post-acute phase, training of lung function, early mobilization and rehabilitation of other affected body functions and (basic) activities of daily living are of major importance. Treating the side-effects of intensive care and artificial respiration and addressing so-called post-intensive-care syndrome (PICS) is also relevant (e.g. critical illness polyneuropathy, dysphagia, voice impairment, and others). Last, but not least,

support for coping with the disease and treating mental health problems are important (16–19).

Post-acute and long-term rehabilitation care

In post-acute and long-term rehabilitation care further training of respiration functions, the restoration of other affected body functions and the treatment of mental health problems are in the foreground. Many patients will also need support for restoring mobility, independent living (mainly elderly people) and support for return to work (people of working age) (14). Other studies also showed that it is likely that 10% of people will present with post-viral fatigue syndromes (20, 21).

To deliver such complex interventions, rehabilitation services must be empowered and, in many cases, upgraded. This includes a well-trained rehabilitation workforce in hospitals and community clinics treating people with COVID-19, well-equipped post-acute rehabilitation units that are equipped to treat patients who are potentially still infectious, and long-term rehabilitation services that are able to deliver patient-centred multimodal rehabilitation with multi-professional teams aiming at return-to-normal life.

PERSPECTIVE OF PERSONS IN NEED OF REHABILITATION: VULNERABLE POPULATIONS

Rehabilitation services have been locked down in many countries during the COVID-19 pandemic (6). In some cases this was done, among other reasons, to gain capacity for the treatment of patients with COVID-19 and/or patients who could not access hospitals due to limited capacity. In addition, the shortage of personal protection equipment (PPE) and the uncertainty regarding the prevention of infections while treating patients were major reasons for suspension of the delivery of outpatient services. Last, but not least, the general rules imposed during the lock-down and concern among patients limited the delivery of rehabilitation services (6).

It has been observed that persons in need of rehabilitation during the COVID-19 outbreak have received less care. In many countries, rehabilitation services for people with chronic health conditions were reduced or stopped completely. Although the impact has not yet been documented through research, it can be assumed that this situation has further reduced functioning in persons with disabilities and chronic health conditions. It also probably affected the rehabilitation of persons with acute events, such as stroke, traumatic brain injury or myocardial infarction. This is significant, because these individuals may not have access to essential post-acute rehabilitation during this important window of opportunity; this may

have led to further deterioration of function, which could have been prevented through rehabilitation interventions (22). In many cases, this will result in otherwise preventable functioning deficits, including quality of life, independent living and return to work.

Elderly individuals, those with comorbidities (e.g. congestive heart failure, cancer), and persons with disabilities (e.g. spinal cord injury (SCI), blindness, limb amputation) have a worse prognosis following COVID-19 infection, and this is of significant concern for people living in nursing homes (23, 24). We are also extremely concerned about people in poverty who live in precarious environmental conditions. It is therefore critical to strengthen the environment, health and functioning of vulnerable individuals, in order to prevent infection, lessen the impact and severity of symptoms, and promote recovery through effective rehabilitation strategies.

PERSPECTIVE OF HEALTH SYSTEMS

The long-term health, social and economic impacts of the COVID-19 pandemic are unknown. Nevertheless, we anticipate that it will lead to:

- shortage of intensive care beds and equipment for mechanical ventilation;
- prolonged periods of mechanical ventilation and extended lengths of stay in hospital;
- shortage of healthcare workforce (e.g. because of work overload, burn-out, need to quarantine, and COVID-19 infection);
- long-term disability and need for social support (also as a result of being unable to work).

We are very concerned that the pandemic will slow down, or even stop, initiatives to strengthen rehabilitation in health systems and the delivery of rehabilitation services to those in need. This would have devastating consequences on all persons who need rehabilitation, especially persons with disabilities, chronic health conditions, and those with acute disease and severe trauma. A devastating consequence of the impact of the pandemic on the delivery of rehabilitation services would be decreased participation of persons with disabilities in society. We also fear that the commitment to improve rehabilitation systems in low- and middle-income countries will lose momentum and be retrograded to lower level priorities.

We argue that rehabilitation can minimize the consequences of the COVID-19 pandemic by:

- shortening length of stay in all phases of healthcare;
- optimizing health outcomes and reducing healthcare and social costs;
- increasing the employment rate for COVID-19 survivors; and

- strengthening the health of the healthcare workforce (and families of patients).

With regard to the COVID-19 pandemic, strengthening rehabilitation is important both to minimize the consequences of the disease, and to avoid the negative effects of non-rehabilitation in persons with rehabilitation needs during the pandemic.

NEED FOR ACTION

The Global Rehabilitation Alliance believes that rehabilitation is an integral part of the response to the COVID-19 pandemic. Therefore, we recommend that rehabilitation services:

- are made available in acute, post-acute and long-term care for patients with COVID-19;
- must be extended in order to cover the needs of patients with COVID-19 and at the same time all other persons with rehabilitation needs (increase capacity);
- are made accessible to vulnerable populations, such as older people, people with disabilities and people living in poverty;
- are delivered by rehabilitation services providers who are adequately equipped with personal protective equipment;
- are maintained in health systems in this climate of shifting resources;
- are investigated in scientific studies that focus on:
 - the needs of COVID-19 patients;
 - the consequences of COVID-19 for persons with disabilities and other vulnerable groups; and
 - development of specific rehabilitation programmes for persons after COVID-19;
 - determining to what extent people recovered from COVID-19 have access to rehabilitation services in middle- and low-income countries.

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