



World Federation for NeuroRehabilitation

Chapter 4

Neurorehabilitation Research related to the COVID-19 pandemic

Most people with COVID-19 have mild symptoms and recover, while 6.1% become critically ill (respiratory failure, septic shock, and/or multiple organ dysfunction/failure) and might develop a post intensive care syndrome, PICS with motor, cognitive and emotional disorders necessitating intensive rehabilitation.

Hence, priority research is necessary to elaborate rehabilitative needs, therapeutic options, and managed care for those affected by COVID-19 and neurological impairments, e.g. related to PICS.

Research has to document the epidemiology and rehabilitation needs of COVID-19 cases and their clinical course. It should further address the effectiveness of neurorehabilitation treatment including the use of new technologies for home care purposes (e.g. use of low cost technologies such as smartphones or tablets for virtual medical examination, counseling, and tele-rehabilitation), as well as health care system questions (e.g. how to cope with rapidly increasing demands for services), and guidance (practice recommendations).

Therefore, research priorities could be, but are not limited to:

- Epidemiology, risk factors for, and long-term outcome of altered body functions, activity limitations, participation restrictions and changes in quality of life of people affected by COVID-19
- Clinical instruments (assessment) to diagnose altered body functions (e.g. motor, sensory, cognitive, emotional) and activity limitations in people affected by COVID-19
- Pathophysiology (neurophysiology, brain imaging) of altered body functions (e.g. motor, sensory, cognitive, emotional) in people affected by COVID-19
- Effectiveness of (rehabilitative) interventions to treat people affected by COVID-19 such as counseling, training, psychotherapy, medication

- Use of technology to facilitate managed care for people affected by COVID-19 (virtual medical examination, tele-counseling, tele-rehabilitation)
- Health care system questions when organizing rehabilitation care for people affected by COVID-19
- (Evidence-based) clinical practice recommendations for rehabilitation care of people affected by COVID-19

Among other activities the WFNR in collaboration with “Frontiers in Neurology” launched a collection of articles (Research Topic) titled: COVID-19: The Neurorehabilitation Perspective.

The idea is to collect high-level manuscripts from international experts, who will tackle the issue from different points of view, with the main aim to create a continuously accumulating e-Book compilation. Manuscript contributions can be of different formats (for details see the applicable author guidelines published by Frontiers). During 2020 a waiver policy by Frontiers is in act that grants publication free of charge to authors for those manuscripts that were enlisted and approved as abstracts.

Research groups interested to submit their research reports and all health care professionals in neurorehabilitation teams who want to keep them informed about the most recent COVID-19 neurorehabilitation research are invited to visit the project web site at <https://www.frontiersin.org/research-topics/14021/covid-19-the-neurorehabilitation-perspective>