

Telerehabilitation and neurodegenerative diseases: what possible perspectives?

Bottiroli Sara

¹Giustino Fortunato University, Benevento, Italy

²IRCCS Mondino Foundation, Pavia, Italy

Telemedicine is defined as an interface in a virtual patient-clinician relationship to provide primary and secondary care by Information & Communication Technologies (ICT). It is not intended to replace healthcare model based on face-to-face interaction, but rather it is its declination varying according to patients' needs and characteristics. In this context, telerehabilitation (TR) is a young telemedicine subfield that could be defined as the set of instruments and protocols aimed at providing rehabilitation at a distance. TR systems bring the opportunity of beginning the rehabilitation process as soon as possible after hospital discharge and increasing the care access to individuals who are home-forced or in a far location from their healthcare service. Allowing remote delivery of different rehabilitation services in different medical conditions, TR systems represent an optimal solution to treat patients with an alternative way compared to the traditional face-to-face approach, providing benefits for the healthcare system and patients in terms of cost-effectiveness and feasibility for large-scale implementations. TR can use different types of technologies, such as sensor-based technology, tele/video-conference, specific ad-hoc development software, or virtual reality. Hence, in the field of neurorehabilitation TR may be useful for the treatment of both motor and cognitive deficits in patients with neurodegenerative disorders unable to reach healthcare services. However, some concerns have slowed the integration of cognitive TR into clinical practice. First, the loss of human contact with the clinician and the limited flexibility in the adoption of devices most appropriate for patients' differing needs could hinder adherence to TR. Similarly, people with advanced age or cognitive deficit might have poor informatic skills and find difficulties to manage technological devices on their own. Second, even if caregivers are supportive and facilitate adherence to TR in daily routine, it is important to avoid their excessive involvement to limit the burden of the approach and to prevent thwarting the benefits of the treatment itself. Furthermore, patients without a compliant caregiver could be excluded by the use of TR, representing a selection bias to this kind of intervention. The main goal of this contribute, is to provide existing evidence about TR use in clinical practice as well as give some recommendations to overcome possible related risks.