



World Federation for NeuroRehabilitation

CHAPTER 3

CHANCES FOR REHABILITATION

As the complete, or almost complete, suspension of out-patient and day hospital rehabilitative activities and of home rehabilitation, is unavoidable and it will persist for a long period, the rehabilitative interventions from afar (i.e. Telerehabilitation), will take on a key role. In the clinical literature, many studies, focused on motor, cognitive and speech fields, already show that the same rehabilitative treatment, delivered from a distance or face to face, produces the same results (1,2,3). Other studies evidenced similar results on quality of life, satisfaction with care and improving depression of patients and caregivers. Therefore, Telerehabilitation can also be an important psychological help, reducing the deep feeling of abandonment of patients locked at home or in care facilities. (3,4)

Instead, knowledge concerning the management of services for Telerehabilitation are still lacking. In this phase, so complex for health services worldwide, it is important to clarify and define how the different kinds and levels of Telerehabilitation can be useful.

- 1) **Setting** It would be appropriate to realise a service of Telerehabilitation in every rehabilitation ward where it is possible. The setting can be the same for the different kinds of Telerehabilitation. The service would be supplied with the best connections possible.
- 2) **Tele-counselling and tele-care** A counselling centre has to be organised; the centre has to be open 12 hours per day to receive the calls from patients, but also to contact patients to check them; the counselling centre has not just to be a call centre but it has to be organised with a regularly scheduled timetable. The service can limit the activity to the phone call, but it would be more advisable to use current and free applications such as *Skype* or *WhatsApp*, to also offer a visual contact by computer or smartphone. These devices can also be used to check the motor (movements and postures), cognitive (attention, memory), speech (conversation), swallowing (head postures), etc., performances of the patient. Tele-counselling and Tele-care seem to be only basic interventions but could become an important psychological support for patients stuck at home for a long time.
- 3) Tele-counselling and Tele-care are currently considered support measures. In this phase, when the loneliness of the patients at home can severely affect the clinical outcome, these interventions from afar can gain an important role.
- 4) **Tele-monitoring** The service can be implemented with the use of wearable devices. Many different sensors, currently commercialized at low cost, are available to monitor from a distance, patients' movement and physiological data such as heart rate, respiratory rate, and oxygen saturation. Many different sensors may allow the service personnel to monitor the status of a large number of patients.

5) **Tele-therapy** For this level of intervention, more difficulties arise. In literature, many experiences of teletherapy, specially based on virtual reality systems, have been published; unfortunately, the great majority of these studies utilised closed systems, useful for research but very limited for a complete Telerehabilitation service. Anyway, some open systems, already commercialized, are available. The equipment is expensive, but the global costs of the teletherapy systems are lower in comparison with those of the current rehabilitative home treatments. In a Telerehabilitation service some arrangements would be suggested:

- to have available an open system providing treatments for the principal areas of intervention (motor, cognitive, speech, rehabilitative treatments) by the same equipment.
- if a multifunction system is not available, it would be appropriate to utilize specific systems for the different macro-areas.
- to limit the costs and to make easier the use, it would be suitable to utilise systems downloadable on ipad or smartphone.
- to avoid indirect contacts between operator and patient, it is recommended to download the exercises on the computer and/or other devices of the patient.

WFNR Task Force on SARS-CoV2/-COVID-19 Pandemic

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