

## Changes in Home Based Management in People with Multiple Sclerosis with the Advent of Telemedicine

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### DESCRIPTION

The literature reports the focal study as the first randomized study of a medical home care model specific for MS. Pozzilli et al. exploring the effectiveness and the costs of home-based healthcare, compared to the standard hospital care, and demonstrated a significant difference favoring home-based care, with improved quality-of-life measures and reduced costs by decreasing hospitalizations. Results showed that a comprehensive home based follow up intervention implemented by an interdisciplinary team (neurologist, urologist, rehabilitation physician, psychologist, physical therapist, nurse, social worker, coordinator) and designed specifically for patients with multiple sclerosis improved some aspects of their quality of life related to daily living and basic social routines, without increasing the cost of care. Thus, the intervention analysis suggested great economic potential, since the care in multiple sclerosis can be provided in patients' homes using a model of home-based management at the same or lower cost than an equivalent admission to hospital, with improved outcomes being achieved.

The positive findings encouraged the research to conduct other controlled study to define the exact size of home-based schemes in multiple sclerosis and its relation to hospital and community services. Furthermore, a systematic review recently conducted by Rocks et al. [1], report that integrated care is likely to reduce cost and improve outcome. However, existing evidence varies largely and is of moderate quality. Future economic evaluation should target methodological issues to aid policy decisions with more robust evidence on the cost-effectiveness of integrated care.

Multiple Sclerosis (MS) is characterized by clinical symptoms resulting from lesions in the brain, spinal cord, or optic nerves that can affect balance, gait, and fall risk. Lesions accumulate over time and occur in different areas of the CNS causing symptoms that include weakness, spasticity, and fatigue. Thus, it is not surprising that imbalance, gait dysfunction, and falls are common in people with MS (pwMS), often making it

challenging to travel to medical appointments independently to seek necessary care.

Today, with the development and the increasing use of the digital tools, we can count on another important resource. Telemedicine is a rapidly growing, valuable tool to address barriers to accessing specialized healthcare services and increase flexibility in scheduling [2].

Studies conducted in the recent years showed how mobile technologies probably slightly decrease the time to deliver health care, as well as the number of face-to-face appointments, when compared with usual care, and probably increase the number of people receiving clinical examinations for some conditions. Mobile technologies may have little or no impact on healthcare workers' and participants' satisfaction, health status or well-being [3]. Other evidence shown the potential of telemedicine in decreases travel burden, reduces caregiver burden, improve care to rural areas and limits time off work [4]. Furthermore, telemedicine offers easier patients monitoring and follow up, decrease the risk to exposure to pathogens and germs within clinics or hospitals improve time and commute efficiency, reduce the money wasted on commute.

Especially in the past year, we assisted to a great implementation of the delivery health care. The SARS-COV-2 pandemic has required healthcare practitioners and patients alike to adapt to new deliveries of care. While telemedicine services were available prior to the SARS-COV-2 pandemic, its adoption has been greatly increased since March 2020. During the pandemic, health care practitioners have utilized videoconferencing, virtual communication software, video visits, telephone visits, and electronic written visits with the potential advantages of providing comparable quality care while maintaining social distancing. This historical moment promotes the research to continue to investigate the effectiveness and the feasibility of the use of telemedicine to improve the health care services.

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Based on the focal article, we collected the main point's actualized to nowadays, with the aim to offer new ideas for future controlled trials with the use of telemedicine.

Like the home-based care, telemedicine offers personalized interventions conducted by a multidisciplinary team, adapting the treatments based on the patients' needs, guarantee speed and flexibility, saving time and make easier the management of the health care service.

In the focal article, the enrollment of patients was extended only for the ones with higher disability (moderate to severe), thus home-based care has been developed as an appropriate model of care for severely disabled patients who are still living at home but usually spend long periods in hospital. Today with the coming of Telemedicine, we can extend the delivery care to greater number of patients with different score of disability, including the younger and healthier patients, as well and offer also to them the service of a multidisciplinary team using technology devices to administer the cares.

The comparisons of the two modes of care, conventional healthcare and home-based care, both in terms of patient outcomes and in terms of the cost to the health service, often produce conflicting results. A comprehensive analysis of the cost of home-based telemedicine programs and their determinants is still required before the cost efficiency of these programs can be better understood, which becomes crucial for these programs to be more widely adopted and reimbursed [5].

To improve the efficiency and the effectiveness of health cares through telemedicine is important to identify barriers to implementing telemedicine in practice from both patient and providers' perspectives given its rapid adoption. Studies have showed implementation barriers include internet access issues (internet speed, poor video and audio quality), communication issues (limited body language, low physician communication skills), resistance to technology, patients' health conditions, difficulty to use the system, scheduling conflicts, security and privacy concerns or issues [2].

With the advent of telemedicine, many researchers focused their attention on the development and validation of the

telerehabilitation. A range of telerehabilitation interventions might be an alternative method of delivering services in MS populations. There is currently limited evidence on the efficacy of telerehabilitation in improving functional activities, fatigue and quality of life in adults with MS. However more robust trials are needed to build evidence for the clinical and cost effectiveness of these interventions [6]. A recent study suggests that implementation of telehealth physical therapy during the COVID-19 pandemic was feasible and acceptable and the patients, like the providers, were satisfied. These results can encourage and expand the use and study of telehealth for physical therapy [7].

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