Article type: Rapid Communication

Home Page URL: https://www.alliedacademies.org/neurology-and-neurorehabilitation-research/

Telerehabilitation for patients with multiple sclerosis: Effectiveness and challenges.

Peter Muller*

Department of Brain and Spine Sciences, Heidelberg Medical School, Germany.

***Correspondence to:** Peter Muller, Department of Brain and Spine Sciences, Heidelberg Medical School, Germany, E-mail: peter.mueller@hms.de

Received: 03-Apr-2025, Manuscript No. JNNR-25-169113; **Editor assigned:** 04-Apr-2025, PreQC No. JNNR-25-1691135(PQ); **Reviewed:** 18-Apr-2025, QC No JNNR-25-1691135; **Revised:** 21-Apr-2025, Manuscript No. JNNR-25-1691135(R); **Published:** 28-Apr-2025, DOI:10.35841/ aajnnr -10.2.257

Introduction

Telerehabilitation has emerged as a promising approach for delivering rehabilitation services to patients with multiple sclerosis (MS), offering accessible, cost-effective, and patient-centered care. MS is a chronic, progressive neurological condition characterized by a range of symptoms, including muscle weakness, fatigue, balance problems, and cognitive impairments. These symptoms often require ongoing rehabilitation to maintain function and quality of life. However, traditional in-person rehabilitation can be challenging for many MS patients due to mobility limitations, transportation barriers, or geographic distance from specialized care centers. Telerehabilitation addresses these challenges by providing therapy remotely through video conferencing, mobile applications, and digital platforms, enabling patients to receive individualized treatment plans without leaving their homes [1].

The effectiveness of telerehabilitation in MS management is supported by growing evidence demonstrating its ability to deliver comparable outcomes to conventional rehabilitation. Physical therapy, occupational therapy, and speech therapy can all be adapted for virtual delivery, with therapists guiding patients through exercises, monitoring progress, and providing real-time feedback via secure communication platforms. Studies have shown improvements in mobility, balance, muscle strength, and fatigue management following structured telerehabilitation programs. Additionally, cognitive rehabilitation can be delivered remotely, using interactive exercises and digital tools designed to target memory, attention, and problem-solving skills. This adaptability allows telerehabilitation to address the diverse needs of MS patients while maintaining continuity of care [2].

One of the key advantages of telerehabilitation for MS patients is the ability to personalize interventions while ensuring frequent monitoring. Therapists can design programs tailored to each patient's abilities, adjusting exercise intensity, duration, and frequency as progress is made. Remote monitoring tools, such as wearable devices and smartphone applications, can collect data on physical activity, heart rate, and adherence to prescribed exercises. This information enables healthcare providers to make informed decisions and optimize treatment plans. Furthermore, telerehabilitation offers greater scheduling flexibility, allowing patients to engage in therapy sessions at times that best fit their daily routines. This flexibility can improve adherence, reduce stress associated with travel, and enhance overall patient satisfaction [3].

Citation: Muller R. Telerehabilitation for patients with multiple sclerosis: Effectiveness and challenges. J Neurol Neurorehab Res. 2025;10(2):257.

Despite its many benefits, telerehabilitation for MS patients also presents unique challenges that must be addressed to ensure widespread adoption and effectiveness. Technological barriers, such as lack of access to reliable internet connections, limited digital literacy, and inadequate equipment, can hinder participation for some patients. Additionally, certain rehabilitation activities that require hands-on assistance or specialized equipment may be difficult to replicate remotely. Privacy and data security are also important considerations, as sensitive health information is transmitted over digital platforms. Moreover, the absence of in-person interaction can reduce opportunities for therapists to assess subtle physical or emotional cues, potentially impacting the comprehensiveness of care [4].

Another challenge lies in ensuring equity in access to telerehabilitation services. Patients from rural or underserved communities, as well as those with lower socioeconomic status, may face greater difficulties in accessing the necessary technology and resources. Health systems and policymakers must work to bridge these gaps by investing in digital infrastructure, providing training in technology use, and offering loan programs for devices and equipment. In addition, there is a need for more standardized protocols and evidence-based guidelines to ensure consistent quality of care across different telerehabilitation programs. Continued research should focus on identifying the most effective delivery models, understanding long-term outcomes, and exploring strategies to integrate telerehabilitation seamlessly into the broader continuum of MS care [5].

Conclusion

Telerehabilitation offers an effective, flexible, and patient-centered solution for delivering essential rehabilitation services to individuals with multiple sclerosis. By overcoming geographical and mobility barriers, it can enhance access to care, support personalized treatment plans, and promote better long-term outcomes. However, to fully realize its potential, challenges related to technology access, training, equity, and standardization must be addressed. With continued innovation, investment in digital health infrastructure, and integration into multidisciplinary care models, telerehabilitation can become a key component of comprehensive MS management, improving both the quality and reach of rehabilitation services for this patient population.

References

1. Stino AM, Naddaf E, Dyck PJ, et al. Chronic inflammatory demyelinating polyradiculoneuropathy—Diagnostic pitfalls and treatment approach. Muscle Nerve. 2021;63(2):157-69.
2. Ortega-Hombrados L, Molina-Torres G, Galán-Mercant A, et al. Systematic review of therapeutic physical exercise in patients with amyotrophic lateral sclerosis over time. Int J Environ Res Public Health. 2021;18(3):1074.
3. Hawke F, Newman J, Miller JA, et al. Interventions for promoting physical activity in people with neuromuscular disease. Cochrane Database Syst Rev. 2021(5).
4. Wiendl H, Abicht A, Chan A, et al. Guideline for the management of myasthenic syndromes. Ther Adv Neurol Disord. 2023;16:17562864231213240.
5. Filippini G, Minozzi S, Borrelli F, et al. Cannabis and cannabinoids for symptomatic treatment for people with multiple sclerosis. Cochrane Database Syst Rev. 2022(5).

Citation: Muller R. Telerehabilitation for patients with multiple sclerosis: Effectiveness and challenges. J Neurol Neurorehab Res. 2025;10(2):257.