

Abstract

Introduction. Multiple sclerosis (MS) has a lifelong, ever-changing impact on health, mobility, social and occupational participation and quality of life. While pharmacological treatment plays a major role in attenuating the progression of MS, comprehensive rehabilitation respecting the biopsychosocial model of health and disability is an essential way to maintain physical function and increase the participation of people with MS (pwMS) in situations of everyday life. Therapists need to have reliable tools at hand that can both comprehensively assess the overall situation of the pwMS and evaluate changes due to progression and/or rehabilitation intervention.

Objectives. To describe and evaluate in detail a large group of Czech versions of 31 assessment tools used in research and therapy of pwMS in terms of psychometric properties (reliability, validity, responsiveness) and their connection to the International Classification of Functioning, Disability and Health (ICF) categories specific for pwMS (ICF Core sets). Particular attention is paid to the assessment of the characteristics of the tools based on the perspective of the person with MS.

Methods. A total of 28 assessment tools in Dataset A consisting of 128 individuals with MS measured at four time points (one month before and just before intervention, just after and one month after the 2-month intervention) were assessed for test-retest reliability, internal consistency, predictive and discriminant validity in relation to the Expanded Disability Status Scale (EDSS) and the frequency of falls, concurrent and divergent validity, and responsiveness, including estimates of Standard Error of Measurement (SEM), Minimal Detectable Change (MDC) and Minimal Important difference (MID). Eight assessment tools in Dataset B, consisting of 29 people with MS measured before the intervention, were evaluated in the same way, and additionally validated using correlation and cluster analysis with the ICF categorical profile assessment of people with MS, which was extensively evaluated as an additional comprehensive assessment tool.

Results. Each of the 31 individual assessment tools was described in detail, including a thorough review of psychometric characteristics, based on the literature. Reliability and validity of the Czech versions of the tools was in most cases consistent with the literature, both in positive recommendation and criticism. Tools evaluated from the perspective of pwMS were mostly excellent and able to cover both specific aspects (balance, gait) and the complex impact of the disease. The ICF categorical profile proved to be highly useful both in terms of good coverage of the different impacts of MS and in validating the tools, as well as for a deeper understanding of the situation and needs of pwMS.

Conclusion. The summary of approaches to the organization, planning and evaluation of rehabilitation presented in the theoretical part, together with the analysis of the ICF categorical profiles and the Czech versions of assessment tools in the practical part, provided Czech therapists with the necessary basis for the effective delivery of evidence-based secondary prevention care, respecting the values and needs of people with MS. Understanding the ICF classification using the ICF Core set for MS, together with the validated linking of ICF categories to assessment tools, allows for excellent individualization of care delivery and evaluation for diseases with such diverse manifestations as MS.