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## Multiple Sclerosis

### Assessing Nutritional Knowledge and the Quality of Dietary Recommendations for Patients with Multiple Sclerosis in Ukraine: a Mixed-Methods Study

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#### Intro:

Nutrition knowledge is a potential tool for improving disease management in multiple sclerosis (MS). This study evaluates patient satisfaction with dietary advice and explores the need for tailored educational materials.

#### Methods:

A sequential explanatory mixed-methods design was used. Quantitative data were collected through structured online questionnaires from MS patients receiving treatment at Kyiv City Clinical Hospital №4 in Ukraine between November 2024 to January 2025, and descriptive statistics were calculated. Semi-structured interviews were then conducted until thematic saturation was reached.

#### Results:

A total of 59 patients were invited to participate in the survey, with 7 declining to participate. The median age was 36 (IQR: 29-42). The group included 38 (65,4%) inpatient and 14 (34,6%) outpatient participants, with 65,4% being female. Patients were categorized as having relapsing-remitting (86,5%), primary progressive (9,6%), secondary progressive (3,9%) forms of MS. A majority (70,6%) considered nutrition recommendations important, while 49% initiated the primary dialogue about nutrition with physicians, and 67,4% sought information online. Satisfaction with online resources averaged 3,7/5 (n=30), compared to 3,6/5 (n=23) for information provided by physicians. Interviews were conducted with seven patients. Three major themes were identified: insufficient evidence-based dietary recommendations, the need for personalized guidance and gaps between recommendations between different physicians.

#### Conclusion:

This study indicates moderate satisfaction with dietary information from online and physicians-provided sources, underscoring a necessity for improvement. Patients with MS value nutrition in disease management and express interest in receiving evidence-based guidance, highlighting the need for better educational materials.



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Why navigated transcranial magnetic stimulation is not used in clinical settings as an objective method for assessing motor disability in patients with multiple sclerosis?

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Although MRI has become the standard in diagnosing and monitoring patients with multiple sclerosis (MS), the evoked potentials (EP) (motor EP -MEP, somatosensory EP-SEP, and visual EP-VEP) for assessing functional integrity of motor and sensory pathways are unjustifiably considered less useful. MEP latency provides congruent information on the function of the corticospinal tract and is closely related to clinical EDSS score. A combination of two or all three EP modalities is significantly related to future EDSS scores over two to twenty years in CIS, RRMS, and PPMS. Recent studies point to MEP latency as the promising marker for an objective assessment and monitoring of motor disability in MS.

In the present study, navigated transcranial magnetic stimulator (nTMS) was used for mapping the corticospinal tract integrity for upper and lower extremity muscles as an additional tool to standard EDSS clinical assessment. The study will present several cases of PPMS and RRMS patients in whom nTMS was performed showing clear benefits in addition to standard EDSS evaluation. Ongoing clinical recommendations for MEP use in MS refer to the application of a magnetic stimulator connected to a standard EMG unit, and less to-line navigated TMS and electric-field navigated TMS implementations that could provide more precision in targeting and visualization of the primary motor cortices for single muscle representation.