

# EMBIOPROMS

## Patient-Centered Approach Might Effectively Tackle Progression In Chronic Neurological Diseases: Results From the EmBioProMS Trial in Progressive Multiple Sclerosis

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### Background:

Despite significant breakthroughs in diagnosis and treatment, tackling the disease progression in Multiple Sclerosis (MS) remains a challenge. Detailed clinical examination and additional investigations, such as blood biomarkers and advanced magnetic resonance imaging, could provide valuable information, yet their application in the standard clinical practice is limited. PROMs might provide an economically efficient way to communicate the patient's perspectives of the progression.

### Objectives:

To determine if patient-reported outcomes (PROMs) can contribute to accurate characterization of progression in PMS.

### Design and methods:

Beck Depression Inventory-II (BDI-II), Multiple Sclerosis Impact Scale-29 (MSIS-29), and Fatigue Scale For Motor and Cognition (FSMC) were assessed at the baseline visit for patients with progressive multiple sclerosis (PMS) included in the EMerging blood BIOMarkers in PROgressive Multiple Sclerosis study (EmBioProMS). The results were evaluated in patients with and without evidence of disease progression in the last two years.

### Results:

We recruited 200 patients with primary (PPMS) or secondary progressive MS (SPMS). A total of 173 patients were included in the final analysis (SPMS, n=77; PPMS, n=96). The median age and disease duration were 55 years and 13 years, respectively. BDI-II and MSFS-29 scores were worse in patients with evidence of disability progression (n= 102, 59.0%) in the last two years after correction for age, sex, treatment and center effect, MS course and baseline EDSS (Figure 1)

Patients with any of the included PROMs above the 90<sup>th</sup> percentile had an odds ratio of 4.1 (95% CI: 1.5–11.4, P=0.007) for having disease progression in the last two years in a binomial regression model adjusted for age, sex, disease duration, treatment status, center effect, and Expanded Disability Status Scale. Similar results were observed in patients with PROMs scores over the 80<sup>th</sup> and 70<sup>th</sup> percentile (OR: 3.0 and 4.0, P=0.014 and 0.002, respectively) (Figure 2).

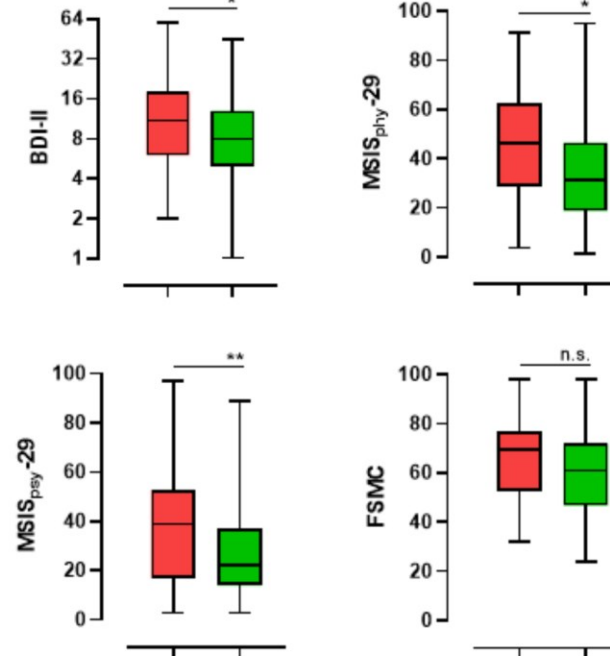


Figure 1

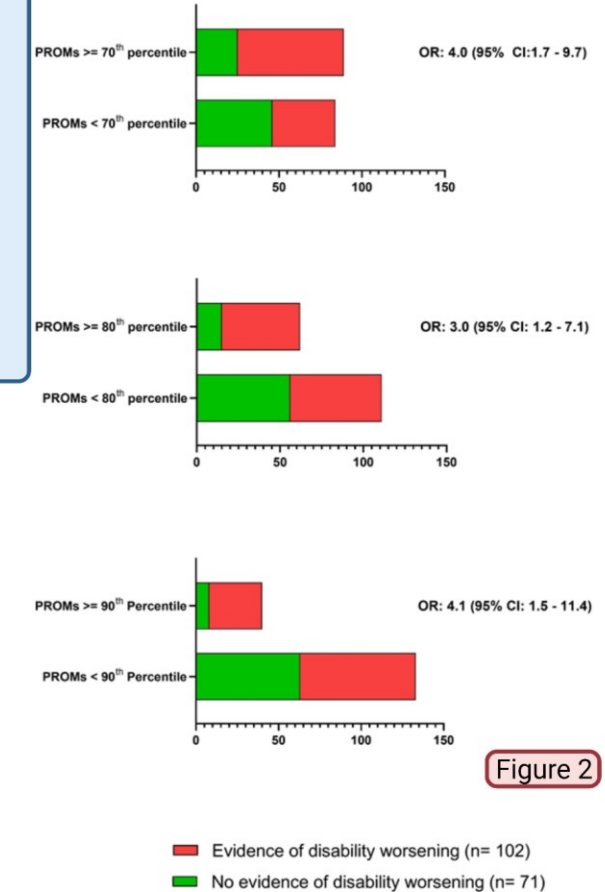


Figure 2

### Conclusions:

A “patient-centered” approach is a simple and effective way to detect disability worsening and may contribute to a better classification of the patients through objective and structural communication.