was considered. A mixed model assessed the combined effect of CBT + interferon compared to interferon alone. A univariate mediation model was assessed the mediating effect of the therapy on QoL. The effect of illness progression on QoL was assessed in modelling the effect of EDSS for each visit on QoL at later visits, the opposite effect of QoL on illness progression assessed in modelling QoL at every visit on EDSS at time t + 1.

**Results** 19 patients were recruited in the tested centre and matched to 51 patients of the control centres. Improvements of 1.10 (95% CI [0.31–1.89], \( p = 0.009 \)) and 1.43*** (1.72, 2.15) were observed in the CBT group compared with placebo on QoL and coping scale. The effect of CBT on QoL can be essentially explained by a mediating effect of coping of 81% [57, 100]. Finally, QoL is negatively affected by illness progression measured on earlier visits (-0.95***[-1.21,0.63]), whereas EDDS is influenced by previous QoL values (-0.10***[0.14, -0.06]).

**Discussion/conclusion** QoL remains the key objective in MS treatment. We provide evidence:

- of a clinically important beneficial sustained effect of a cognitive therapy on QoL;
- that the beneficial effect of CBT is essentially explained by increase of positive coping;
- while confirming an negative effect of progression illness on QoL on illness progression.

As a consequence, QoL is together the most important target for patients and a factor of slowing illness progression. **Keywords** MS; CBT; QoL

**Disclosure of interest** The authors have not supplied their declaration of competing interest.

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**C00306**

**Efficacy of exercise training on multiple sclerosis patients with cognitive impairments**

Amandine Chenet1, 2, Alexandra Gosseaume3, Sandrine Wiertlewski2, Brigitte Perrouin-Verbe1

1 CHU de Nantes, hôpital Saint-Jacques, médecine physique et réadaptation neurologique, Nantes, France
2 CHU de Nantes, service de neurologie, Nantes, France
3 Centre hospitalier de Vendée, service de neurologie, La Roche-sur-Yon, France

* Corresponding author.

**E-mail address:** amandine.chenet@chu-nantes.fr (A. Chenet)

**Objective** Cognitive impairment in multiple sclerosis (MS) is common, present in 40 to 60% of patients, and is under diagnosed. Currently, there is no effective drug and non-pharmacological treatments that are developed. We propose to evaluate the effectiveness of exercise training (ET) on cognitive impairment.

**Materials/patients and methods** The study included patients from University Hospital of Nantes with an EDSS of between 3 and 4.5. They followed an exercise therapy program during 8 weeks, in groups, including aerobic physical activity (Nordic walking, gymnastics and exercise of balance) and recreational activities (billiards and boccia). Each patient was evaluated before and after a need psychological assessment, physical tests, and scales: HADS, TLS-coping 10. The results were compared to a control group. The primary objective was to improve the information processing speed (IPS) and attention, the secondary objectives were to improve executive functions (EF), working memory (WM) and psychological factors (depression, anxiety and coping). The factorial Anova was used for statistics.

**Results** Nineteen patients were included, 9 in the ET group and 10 in the control group. A patient was lost to view. There is an ET’s effect on attention and IPS (T score STROOP color \( p = 0.045 \)) and anxiety (HADS-A score \( p = 0.028 \)) and coping (TLS-coping score 10 \( p = 0.011 \)). No significant results on other cognitive functions (WM and EF) and depression were found.

**Discussion/conclusion** The ET seems to have an effect on cognitive disorders, with improved attention and SIP, but the data must be completed. We have also shown an effect on anxiety and coping.

**Keywords** Multiple Sclerosis; Cognitive disorders; Exercise training

**P00147**

**Study of communication in relapsing–remitting multiple sclerosis (RRMS): Disorders of the pragmatics of language, theory of mind and facial emotion processing**

Florian Chaplain1, 2, Virginie Dardier2, Philippe Allain2, Bastien Fraudet1, Benoît Nicolas1, Gilles Edan4, Philippe Gallien1

1 Pôle MPR St-Helier, MPR, Rennes, France
2 Centre de recherche en psychologie, cognition, communication, université Rennes 2, Rennes, France
3 CHU d’Angers, neuropsychologie, Angers, France
4 CHU de Rennes, neurologie, Rennes, France

* Corresponding author.

**E-mail address:** florian.chaplain@pole-sthelier.com (F. Chaplain)

**Objective** Along with the development of knowledge about cognitive abnormalities in MS, various clinical observations report neurobehavioral changes in this disease [1]. However, there is a lack of research on social behavior regulation skills. The few studies conducted in this field investigated emotional processing and theory of mind skills. Results suggest impairment in both aspects for part of the MS population and they closely follow the results achieved in others conditions.

**Observations** Our aim is to report communication profile of two single cases. Various pragmatic tests, based on previous research in brain-damaged patients [2] are proposed (conversation, comprehension and metapragmatic knowledge). Mentalizing abilities and facial emotion processing are assessed using a multidimensional and ecological approach.

**Discussion/conclusion** The observations have enabled us to identify several performance patterns according to the different situations of language in context but also according to the results achieved with other social cognition tests. Although it is an essential component for our interaction regulation, the issue of social analysis of language in MS has not yet been deeply explored on a wide range of pragmatic skills. Thus, the research project COGNISEP aims to evaluate communication skills of MS patients with relapsing–remitting form of the disease, from the assessment of pragmatic abilities in situations of language production and comprehension, but also from the evaluation of mentalizing skills and facial emotion processing.

**Keywords** Multiple sclerosis; Pragmatics; Theory of mind; Emotions

**Disclosure of interest** The authors declare that they have no competing interest.

**Further readings**


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