BENEFICAL EFFECTS OF ADAPTED PHYSICAL ACTIVITY ON PHYSICAL AND COGNITIVE ASPECTS OF MULTIPLE SCLEROSIS: RESULTS OF A PRELIMINARY STUDY CARRIED OUT IN COLLABORATION WITH THE ITALIAN MULTIPLE SCLEROSIS ASSOCIATION – PERUGIA SECTION.

Introduction: Multiple sclerosis (MS) is a chronic inflammatory demyelinating disease characterized by a immune infiltration within the central nervous system. The clinical manifestation of the disease is heterogeneous and it may include motor, sensitive, autonomous and cognitive impairments. Some of them, like fatigue (80% of the patients), do not properly respond to the standard pharmacological therapies, which often seems to not sufficiently influence the quality of patient's daily life. Non-pharmacological strategies, like adapted physical activity (APA), are more often proposed as a validated approach in order to control those symptoms and to maintain a good performance status of patients.
Aim: To determine if adapted physical activity may have a positive impact on: motor functionality, cognitive status, quality of life and mood alteration in MS patients.

Patients and methods: We performed a prospective study involving 20 MS patients. Each patient attended an APA 6-month course organized in collaboration with the Italian MS Association – Perugia section; the course consisted of 1 lesson of gym activity per week and 1 lesson of swimming pool activity per week (1 hour each). The patients were evaluated at T0 (beginning), T1 (after 3 month) and T2 (after 6 month). Several tests were administered: BICAMS, Beck Anxiety Index, Beck depression scale, MFIS, FSS, SF-36, BERG, TUG, T25FT, BENDING

Results: A general improvement was observed in all patients across the evaluations, except for one patient who remained stable. After three months we found a significant decrease in anxiety (BAI: -7.3 ±2.7, p=0.009) and a trend toward an improvement of the other outcome variables. After six months a significant reduction in anxiety (BAI: -8.9±2.8, p=0.003) and fatigue (FSS: -7.9±3.9, p=0.049) emerged, as well as a significant increase in endurance (T25FWT: -3.7±1.7, p=0.036) and verbal memory scores (BICAMS-CVTL-II z-score: +1.2±0.5, p=0.033).

Discussion and conclusions: Despite the limited sample size, our findings suggest a positive impact on key aspects of MS such as anxiety, fatigue, endurance and verbal memory. Based on these preliminary results, APA could be proposed as a useful non-pharmacological intervention for MS patients in order to emeliorate their clinical status and quality of daily life. Studies involving larger cohort of patients are needed to confirm our results.

References

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