

Osteopathic manipulative treatment in multiple sclerosis: a proof of concept study

Cellerino M¹, Armezzani A², Veroni J², Pardini M¹, Sassos D^{1,2}, Infante MT^{1,2}, Tacchino A³, Lapucci C¹, Calabro' V¹, Ciullo L²,
Nourbakhsh B⁴, Uccelli A¹, Cordano C^{1,2,3,4}

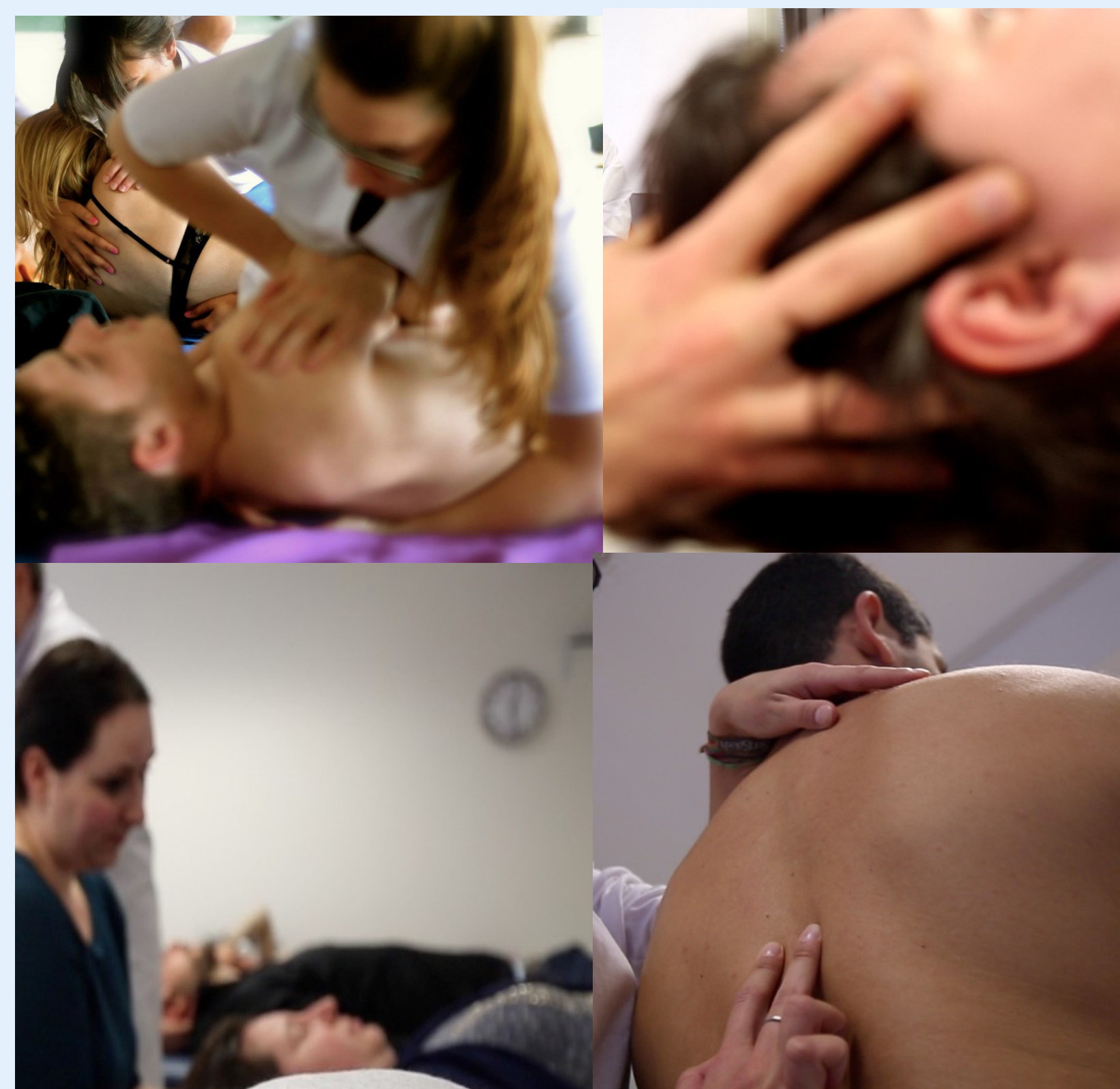
¹ Department of Neuroscience, Rehabilitation, Ophthalmology, Genetics, Maternal and Child Health (DINO GMI) - University of Genova, IRCCS AOU San Martino-IST - Genova;
² IEMO - European Institute for Osteopathic Medicine - Genova, Italy; ³ FISM - Italian MS Foundation, Scientific Research Area - Genova, Italy; ⁴ Department of Neurology - UCSF - San Francisco, CA, United States

BACKGROUND

Osteopathic medicine (OM) is a form of drug-free, safe and non invasive manual treatment, which uses a manual approach to diagnose and treat “somatic disfunctions”, with a demonstrated potential immune-modulatory effect.

METHODS

We evaluated the effects of OM on chronic symptoms of multiple sclerosis (MS). Twenty-three MS patients were randomly assigned in a 1:1 ratio to either an OM treatment (OMT) (N=13) or a sham treatment arm (N=10). All subjects at the same weekly time points underwent evaluation of clinical disability, quality of life, depression, fatigue and anxiety, using respectively Extended Disability Status Scale (EDSS), MS Quality of Life Instrument (MSQLI), Beck Depression Inventory (BDI), Modified Fatigue Impact Scale (MFIS) and Beck Anxiety Inventory (BAI). We used linear regression models to compare the change from the baseline value of each outcome between the intervention and control groups at different time points.



RESULTS

A statistically significant improvement of **MFIS** and **BDI scores** in the OMT group compared to the sham group ($p=0.002$ and $p<0.001$) was found, and MSQLI scores showed a trend towards improvement in the OMT group. After 6 months of follow-up, there was no statistically significant difference between OMT and sham groups.

CONCLUSIONS

We demonstrated OM should be considered in the treatment of MS patients' chronic symptoms

Bibliography

- Eagan TS1, Meltzer KR, Standley PR. Importance of strain direction in regulating human fibroblast proliferation and cytokine secretion: a useful in vitro model for soft tissue injury and manual medicine treatments. J Manipulative Physiol Ther. 2007 Oct;30(8):584-92
- Feinstein A, Freeman J, Lo AC. Treatment of progressive multiple sclerosis: what works, what does not, and what is needed. Lancet Neurol. 2015 Feb;14(2):194-207
- Kurtzke JF. Rating neurologic impairment in multiple sclerosis: an expanded disability status scale (EDSS). Neurology 1983;33(11):1444-52 .