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Type of research Original papers

Title of Abstract A randomized control trial on the effectiveness of osteopathic manipulative treatment in reducing pain and improving quality of life in elderly patients affected by osteoporosis

Text of ABSTRACT

Introduction: In the elderly population, a decrease in bone mineral density (osteoporosis) is often associated with a decrease in Quality of Life (QOL) and an increase in self reported bodily pain. This pain originates from the musculoskeletal system and potentially can affect different areas of the body.

Aim: The aim of this study was to investigate the effect of osteopathic manipulative treatment on self reported pain and quality of life in an elderly population.

Design: Randomized placebo controlled trial.

Methods: 72 patients were recruited from the Geriatric Department, Bassini Hospital (Milan, Italy). Patients were randomly assigned to either 6 sessions of osteopathic manipulative treatment (OMT; n = 37) or an equivalent number of sham manipulative treatment sessions (SMT; n = 35). The main outcome variables were QOL measured by QUALEFFO and overall bodily pain measured using a visual analog scale (VAS). Data were analysed using a two factor ANOVA (treatment x time) for repeated measures with an α level set at 0.05.

Results: Overall, OMT significantly decreased disability compared to SMT in this study. This effect was demonstrated by a significant interaction in the overall disability score ($p=0.000$) and the Mental wellbeing ($p=0.049$), Health perception ($p=0.005$) and Pain ($p=0.003$) QUALEFFO subscales. There was no significant difference (no interaction) for pain as measured by VAS ($p=0.454$) and for the Daily activities, Walking, Household cleaning and Leisure time activities QUALEFFO subscales ($p > 0.05$). No adverse events were recorded during the study.

Discussion: This study demonstrated that, in a group of elderly subjects affected by osteoporosis, OMT was able to increase self reported QOL while the effect on bodily pain perception is unclear. This overall improvement in QOL appears to be caused by an improvement in psychological factors (i.e Mental wellbeing and Health perception) rather than physical factors. In fact, all QUALEFFO subscales related to physical function demonstrated no significant interaction. The effect of OMT on Pain perception are less clear. In fact, there was no effect on pain as assessed by VAS while a significant improvement was observed

when the QUALEFFO subscale was used. This could be due to the metric properties of the two pain measurement methods; an alternative explanation could be that VAS measures mainly pain quantity while QUALEFFO subscales measures mainly pain quality. The lack of effect of OMT on physical function needs to be confirmed by more direct measures of this variable.

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