

# BALNEOTHERAPY COMPARED TO ADDITIONAL THERMOTHERAPY IN THE TREATMENT OF CHRONIC NONSPECIFIC LOW BACK PAIN

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## Background and Aims

Balneotherapy is a commonly used conservative method for treating chronic non-specific low back pain (NSLBP), often combined with medical gymnastics (MG) and thermotherapy. The objective of this study was to compare the effectiveness of hydrogymnastics (HG) with MG and mineral-rich mud therapy (MB), versus the same kinesitherapy paired with paraffin thermotherapy.

## Methods

This prospective, randomized study included 61 patients over a three-week period. Thirty patients received daily MG and HG with paraffin, while 31 received MB three times per week instead of HG. Pre- and post-treatment assessments included finger-to-floor distance (Thomayer test), sagittal lumbar mobility (Schober test), bilateral lateral flexion, and patient-reported outcomes: the Roland-Morris Disability Questionnaire (RMDQ), ClinFit, DASS-21, EQ-5D-5L, and a visual analogue scale (VAS) for pain. Depending on data distribution, paired t- tests or Wilcoxon tests were used. Delta values were analyzed with ANOVA to assess the effects of treatment type, age, and sex. Significance was set at  $p < 0.05$ .

## Results

All outcome measures, except Schober's test, showed significant post-treatment improvement. Schober's measure was significantly associated with treatment type, with greater improvement observed in the MT group, and with age, showing better results in older patients. No other outcome was significantly associated with treatment type. Age was significantly related to RMDQ, EQ-5D pain and anxiety dimensions, DASS-21, and VAS, with younger patients showing greater improvements. Initially, age was also linked to EQ-5D activity, but this lost significance when adjusting for sex and treatment. DASS-21 results were significantly influenced by both age and sex, with women showing greater benefit. In univariate analysis, sex was associated with EQ-5D care, though this did not hold in multivariate analysis.

## Conclusion

MB therapy showed superior outcomes only in spinal mobility, while age had the greatest influence on treatment response. Both approaches are recommended, with the choice guided by comorbidities and patient preference.

**Keywords:** Balneotherapy, Thermotherapy, Nonspecific, Low, Back