A clinical prediction rule predicted outcome in patients with low back pain having spinal manipulation and exercise treatment


Clinical impact ratings GP/FP/Primary care ★★★★★★ Rheumatology ★★★★★★

**Q** In patients with low back pain (LBP), does a clinical prediction rule predict outcome of spinal manipulation?

**MAIN RESULTS**

In patients who received spinal manipulation plus exercise, those who were positive on the rule (23 of 70 [33%]) had greater improvement in 1 week and 4 week disability than those who were negative on the rule (47 of 70 [67%]) (table). Positive status on the rule had a positive likelihood ratio of 13 (95% CI 3 to 52) for predicting treatment “success” at 1 week. In patients who received exercise alone, patients who were positive on the rule (24 of 61 [39%]) and those who were negative on the rule (37 of 61 [61%]) did not differ for 1 week or 4 week disability (table).

**CONCLUSION**

A clinical prediction rule predicted outcome in patients with low back pain receiving spinal manipulation and exercise treatment but not in patients with low back pain receiving exercise treatment alone.

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**METHODS**

**Design:** A randomised controlled trial to validate a previously developed clinical prediction rule for predicting outcome of spinal manipulation.

**Setting:** 8 physical therapy clinics in 2 academic medical centres and outpatient practice settings in the US.

**Patients:** 131 patients who were 18-60 years of age (mean age 34 y, 58% men), had a primary symptom of LBP, were referred to physical therapy, and had an Oswestry Disability Questionnaire (ODQ) score >30%. Exclusion criteria: serious spinal condition, nerve root compression, pregnancy, or previous surgery to the lumbosacral spine or pelvis. Patients were allocated to receive spinal manipulation plus exercise (n=70) or exercise alone (n=61) given by a physical therapist for 4 weeks.

**Description of prediction guide:** The clinical prediction rule criteria were (1) LBP symptom duration <16 days, (2) no symptoms distal to the knee, (3) Fear Avoidance Beliefs Questionnaire work subscale score >19 points, (4) ≥1 hypomobile segment in the lumbar spine, and (5) ≥1 hip with ≥35 degrees of internal rotation range of motion. Patients were classified as “positive” (likely to respond to spinal manipulation) if ≥4 of the 5 criteria were met. Patients were classified as “negative” if they had positive status on ≥3 of the 5 criteria.

**Outcomes:** Disability, measured by modified ODQ score (score range 0% to 100%), and treatment “success”, defined as ≥50% improvement in ODQ score, assessed at 1 week (100% follow up), 4 weeks (99% follow up), and 6 months (70% follow up).

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