

통증 및 근골격재활

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OP1-3-2

Efficacy Comparison of Exercises Based on Lumbar Extension versus Flexion in Chronic Low Back Pain

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Purpose

Although a variety of lumbar exercises are prescribed for chronic low back pain, the controversy over lumbar extension versus flexion exercise has not been solved yet. The purpose of this study was to investigate the efficacy of lumbar extension exercise (EE) compared to flexion exercise (FE) in patients with chronic low back pain.

Methods

Sixty-six patients with low back pain (pain intensity > 5 by numeric rating scale from 0 to 10) lasting longer than 6 months were recruited. Subjects were allocated either to the EE (n=34) or FE (n=32) group. Each group attended a 4-week exercise/education program supervised by physiotherapists. The efficacy was measured by the pain scores (mean, weakest, and strongest), brief pain inventory (BPI), Oswestry Disability Questionnaire (ODI), life-quality scale (EQ-5D), and physical activity scale for Elderly (K-PASE) at the baseline, 1-month, 3-month, and 6-month follow up.

Results

The mean ages of the EE and FE groups were 53.3±15.6 and 55.4±13.2 years, respectively (p=0.749). At the baseline, the mean pain scores were similar between the two groups (5.8±1.2 vs 6.0±1.0; p=0.244). During the 6-month follow up period, the mean pain score was more rapidly improved in the EE group than in the FE group (p for interaction=0.021), showing significantly lower score in the EE group than in the FE group at the 3-month visit (3.1±1.7 vs 4.7±1.9; p<0.01; Bonferroni analysis). The EE group also tended to show more improvements in the weakest pain score than in the FE group (p for interaction=0.073). Strongest pain score, BPI, ODI, EQ-5D, K-PASE, and compliance were comparable between the two groups throughout the study period.

Conclusion

Lumbar extension-based exercise was more effective for the treatment of chronic low back pain compared to flexion-based exercise in this 6-month prospective study.