

An 8-session exercise program was effective for subacute or chronic low-back pain

Moffett JK, Torgerson D, Bell-Syer S, et al. Randomised controlled trial of exercise for low back pain: clinical outcomes, costs, and preferences. *BMJ*. 1999 Jul 31;319:279-83.

QUESTION

In patients with subacute or chronic low-back pain, does a community exercise program help them return to normal activities?

DESIGN

Randomized {allocation concealed*}†, blinded {outcome assessors},*† controlled trial with 1-year follow-up.

SETTING

General practices in the York region of England.

PATIENTS

187 patients who were 18 to 60 years of age (mean age 42 y, 57% women), had mechanical low-back pain for ≥ 4 weeks but < 6 months, and were deemed medically fit for exercise by their general practitioners (GPs). Exclusion criteria included serious spinal pathologic findings, concurrent use of physiotherapy, or inability to attend exercise classes. Follow-up was 87% and 91% at 6 and 12 months, respectively.

INTERVENTION

Patients were allocated to an exercise program, 8 one-hour sessions over 4 weeks ($n = 89$) or to a control group ($n = 98$). The exercise program consisted of stretching, low-impact aerobic, and strengthening exercises aimed at all main muscle groups; cognitive behavioral principles were used in

these sessions to promote self-reliance. Patients in the control group received standard care from their GPs.

MAIN OUTCOME MEASURES

Functional limitation (24-point Roland back pain disability questionnaire), clinical status (Aberdeen back pain scale), quality of life (EuroQoL health index and the Fear-Avoidance Beliefs Questionnaire), use of health care services, and costs.

MAIN RESULTS

Patients in the exercise program had greater improvement in function than did those in the control group at 6 months and 12 months (difference in mean change from baseline scores on Roland questionnaire 1.35, 95% CI 0.13 to 2.57 at 6 mo; 1.42, CI 0.29 to 2.56 at 1 y) (Table). The exercise program also led to better clinical status at 12 months than did usual care (difference in mean change from baseline scores on Aberdeen questionnaire 4.44, CI 1.01 to 7.87). The EuroQoL health index did not differ between groups at 6 and 12 months.

Improvement on the Roland back pain disability questionnaire for a community exercise program vs usual care for low-back pain†

Outcomes	Exercise	Control	RBI (95% CI)	NNT (CI)
3-point improvement at 6 mo	60%	40%	51% (10 to 109)	5 (3 to 21)
3-point improvement at 12 mo	64%	35%	81% (32 to 154)	4 (3 to 8)

†Abbreviations defined in Glossary; RBI, NNT, and CI calculated from data in article.

The use of health care resources was greater in the control group than in the exercise group, but the difference in costs at 12 months was not statistically significant. Patients in the exercise group reported having a total of 378 days off work (4.2 d per patient), whereas those in the control group reported a total of 607 days off work (6.2 d per patient). Patient treatment preference did not influence the outcome.

CONCLUSION

In patients with subacute or chronic low-back pain, a community exercise program improved function and clinical status at 12 months.

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*See Glossary.

†Information supplied by author.

COMMENTARY

Convincing evidence shows that exercise of any kind is not useful for acute low-back pain. Instead, patients tend to do best when they continue their usual daily routines (1). Conversely, high-quality studies show exercise to be effective in low-back pain > 6 months in duration (2, 3).

The study by Moffett and colleagues evaluated the role of exercise in patients with subacute-to-chronic pain (lasting from 4 wk to 6 mo). This period was chosen because the rate of recovery tends to slow at 4 weeks. The exercises used by the authors are described in a previous article (2) and can be easily replicated.

The authors suggest that patients with low-back pain are afraid to move, which delays recovery. The goal of the self-reliance counseling included in their classes was to avoid the adoption of the

“sick role” by patients. This approach makes sense in light of the link between low-back pain, depression, and somatic illnesses. Using a cognitive behavioral model to promote early recovery (before the sick role is firmly entrenched) is a strategy that could help in this common cause of disability.

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References

- Malmivaara A, Hakkinen U, Aro T, et al. *N Engl J Med*. 1995;332:351-5.
- Frost H, Lamb SE, Klaber Moffett JA, Fairbank JC, Moser JS. *Pain*. 1998;75:273-9.
- van Tulder MW, Koes BW, Bouter LM. *Spine*. 1997;22:2128-56.