

Evidence in practice — number 5: back pain

Clinical question — is routine NHS physiotherapy an effective treatment for back pain among patients in primary care?

THE EVIDENCE

Frost H, Lamb SE, Doll HA *et al.* Randomised controlled trial of physiotherapy compared with advice for low back pain. *BMJ* 2004; **329**: 708.

BACKGROUND

Some have argued that the continuing focus on routine NHS physiotherapy services for patients with low back pain has more to do with fear and inertia than with evidence. For most GPs faced with a patient with low back pain, initiating a physiotherapy referral is easy. However, in circumstances where health resources are limited it is important to be confident about the evidence underpinning any intervention, whether it is pharmacological or non-pharmacological.

Physiotherapy for back pain cost the NHS £251 million in 1998.

STUDY DESIGN

This was a pragmatic randomised controlled trial. The study involved 286 patients with low back pain referred to 76 physiotherapists within seven NHS physiotherapy departments in Oxfordshire and Berkshire by GPs or consultants.

To be included patients had to be over 18 years old and have a history of at least 6 weeks of low back pain. Patients who had received physical treatment in the preceding month, or who had had past spinal surgery, were excluded. However, patients were not excluded if they had leg pain or neurological signs unless these indicated serious underlying conditions, such as ankylosing spondylitis, tumours, or infection.

Patients were randomised to either simply receive physiotherapy assessment and advice, written and verbal, to remain active (the 'advice' group), or to receive such advice together with a standard

course of physiotherapy (the 'therapy' group). The trial was 'pragmatic' in that it sought to reflect routine NHS practices and physiotherapists were permitted to use their professional skills to tailor treatment to the individual within the therapy group. As a result of this, there was some variation in the treatments offered: 72% of patients underwent joint mobilisation using low velocity thrusts, 94% were given various exercises, and 9% heat/cold treatments. The median number of physiotherapy sessions received was five (range 1–12).

From the primary care perspective a key feature of the study was the pragmatic design and that 90% of the patients were referred by GPs. Moreover, these patients were representative of those one would expect to encounter in day-to-day practice: the mean age was 41 years and a third of patients were smokers.

OUTCOMES AND ANALYSIS

The primary outcome measure was scores on the Oswestry Disability Index¹ at 12 months: 0% (no disability) to 100% (total disability or confined to bed). A secondary outcome measure was the Roland and Morris disability questionnaire¹ at 2, 6 and 12 months. This questionnaire contains 24 items relating to a range of functions commonly affected by low back pain. General health status was measured with the SF-36. Patient perceived benefit of treatment was measured on a scale from 0 (no benefit) to 10 (maximum benefit), and on a dichotomous scale (perceived benefit or no perceived benefit).

RESULTS

At 1 year no significant differences were recorded in either disease-specific or generic outcome measures. The mean difference in change in Oswestry Disability Index scores at 12 months was -1.0% (95% confidence interval -3.7 to 1.6). However, patients in the therapy group reported significantly enhanced perceptions of benefit.

COMMENTARY

The *BMJ* study reflected real-world NHS practice. Furthermore the SF-36 scores in this trial population were similar to those of patients with back pain in the general population consulting physiotherapists.² In terms of outcomes, although the patients expressed satisfaction with the treatment, this needs to be considered in relation to the other measures of effectiveness.

Some concerns must be expressed about the possibility of bias due to non-response: 30% of patients failed to provide data for the primary outcome at 12 months. Patients lost to follow-up were slightly younger, more likely to smoke, and less likely to have a history of back pain. In order to seek to address this issue, missing data was replaced with the last value carried forward and, reassuringly, no variation in the estimate of effectiveness was noted.

The evidence base for both physiotherapy and some specific physical techniques has always been rather deficient. Chiropractic approaches are an obvious alternative to physiotherapy in patients with low back pain.³

BOTTOM LINE

In patients over the age of 18 years with mild to moderate low back pain, routine NHS physiotherapy is no more effective than a session with a physiotherapist that includes advice.

NICK SUMMERTON

REFERENCES

1. Fairbank JC, Roland M. The Roland-Morris disability Questionnaire and the Oswestry Disability Questionnaire. *Spine* 2000; **25**(24): 3115–3124.
2. Ong CK, Doll H, Bodeker G, Stewart-Brown S. Use of osteopathic or chiropractic services among people with back pain: a UK population survey. *Health Soc Care Community* 2004; **12**(3): 265–273.
3. Meade TW, Dyer S, Browne W *et al.* Low back pain of mechanical origin: randomised comparison of chiropractic and hospital outpatient treatment. *BMJ* 1990; **300**: 1431–1437.

© Nick Summerton