INAHTA Briefs

Issue 2006/52

Title **Supplementation of a Home-Based Exercise Program with a Class-Based Program for People with Osteoarthritis of the Knees: A Randomized Controlled Trial and Health Economic Analysis**

Agency **NCCHTA, National Coordinating Centre for Health Technology Assessment**
Mailpoint 728, Boldrewood, University of Southampton, Southampton SO16 7PX, United Kingdom;
Tel: +44 2380 595586, Fax: +44 2380 595639

Reference Health Technol Assess 2004;8(46). Nov 2004. www.hta.ac.uk/execsumm/summ846.htm

Aim

To determine if a home exercise program with a class-based program results in greater improvement in walking pain and locomotor function 6 and 12 months after terminating contact with the physiotherapist.

Conclusions and results

At all followups, patients from the supplemented group demonstrated greater improvement in locomotor function and decrease in pain while walking. Pooled estimates of effect were –2.89 seconds (95% CI –1.82 to –3.96) for locomotor function and 14.9 mm (95% CI –11.7 to –18.1) for walking pain, representing between-group differences of 12% and 27% respectively. The supplemented group also demonstrated small, but significant, improvements in balance, strength, WOMAC score, and the physical function and pain dimensions of the SF-36 ($p<0.05$). However, not all of these improvements were maintained over the 12-month followup period. There was no evidence that adherence to the home exercise program differed between the groups, although the supplemented group noted an increase in their physical activity. There was no evidence that mean QALY gains differed significantly between the groups. However, costs were slightly lower and QALY gains slightly higher in the group with the supplementary class-based program. Thus, for most reasonable values of a decision maker's willingness-to-pay for an additional QALY, adding a class-based program is likely to be cost effective. There was considerable uncertainty around this estimate, with a probability of 30% to 35% that the intervention was not cost effective.

Recommendations

Supplementing a home-based exercise program with a class-based exercise program led to superior improvement in the supplemented group. These clinically important improvements were still evident at review 12 months after treatment had ceased. The additional cost of the supplemented group was offset by reductions in resource use elsewhere in the system. Adherence to the home exercise program did not differ between the groups at the 6- and 12-month assessments, despite considerable difference in the intensity of the two treatments.

Methods

The trial was a pragmatic, single-blind, randomized clinical trial accompanied by a health economic assessment. Patients were randomly allocated to either home or home supplemented with class exercise programs. Both groups were given a home exercise program aimed at increasing lower limb strength, endurance, and improving balance. The supplemented group also attended knee classes by a physiotherapist, twice weekly for 8 weeks. Classes represented typical knee class provision in the UK. Assessments of impairment, disability, and handicap were made pretreatment, posttreatment, and at 6 and 12 months posttreatment. Analysis involved the use of a longitudinal linear model, ANCOVA. The economic evaluation looked at utilization of health service resources and assessed cost effectiveness by relating differential costs to differences in quality-adjusted life-years (QALYs) based on patients' responses to the EQ-5D.

Further research/reviews required

Future research should investigate methods of increasing adherence with home exercise and evaluate the interventions in the primary care setting.

Written by Dr Christopher J McCarthy, Central Manchester Healthcare Trust, United Kingdom

ISSN 1654-501X