

Title:

Self-managed exercise versus usual physiotherapy treatment for rotator cuff tendinopathy: a randomised controlled trial.

Aim:

Shoulder pain is the third most common reason for consultation with a physiotherapist and disorders of the rotator cuff are thought to be the commonest cause of this pain. Despite this commonality and burden, rotator cuff tendinopathy is a poorly understood condition with a dearth of high quality studies informing optimal management.

The aim of this study was to evaluate the clinical effectiveness of a self-managed exercise programme versus usual physiotherapy treatment for rotator cuff tendinopathy.

Methods:

Eighty-six patients with a clinical diagnosis of rotator cuff tendinopathy were recruited across three NHS centres. A multi-centre pragmatic unblinded parallel group randomised controlled trial was conducted. Participants were randomised to the self-managed exercise programme or usual physiotherapy treatment.

The self-managed exercise programme consisted of a single exercise, prescribed by the physiotherapist, in relation to the most symptomatic shoulder movement. Participants were encouraged to complete the exercise twice daily over three sets of 10 repetitions with the guidance that the exercise should produce shoulder pain that is no worse when the exercise is completed. Usual physiotherapy was prescribed at the discretion of the treating physiotherapist to reflect their usual practice and typically consisted of a range of exercises supplemented, in some cases, with manual therapy and/ or electrotherapy.

The primary outcome measure was the Shoulder Pain & Disability Index (SPADI).

Analysis of covariance was used to compare mean total SPADI scores between the groups at three, six and twelve months post-randomisation, adjusted for baseline SPADI score.

Results:

Between baseline and three months both groups improved by what would be regarded as a clinically significant amount according to the SPADI; 12.4 point change (95% CI -5.4 to -19.5; $p < 0.01$) for the self-managed exercise group, and 16.7 (95% CI -9.6 to -23.7; $p < 0.01$) for the usual physiotherapy treatment group.

However, between three and six months only the self-managed exercise group demonstrated statistical and clinically significant changes on the SPADI; 12.5 point change (95% CI -6.1 to -18.8; $p < 0.01$) compared to a 5.7 point change (95% CI -12.7 to +1.3; $p = 0.10$) for the usual physiotherapy treatment group.

Despite this, there were no statistically significant differences between the groups across all outcomes at three, six or twelve months ($p > 0.05$).

Clinical implications and relevance:

This is the first study that has evaluated the effectiveness of a single painful exercise, prescribed within a self-manage framework, for rotator cuff tendinopathy. The data suggests that, for those patients and physiotherapists with a preference for self-managed approaches, a programme of self-managed exercise appears to be a valid management strategy for rotator cuff tendinopathy. Furthermore, the study also challenges current opinion that a wide range of non-painful exercises supplemented by other treatment approaches are required to effect a clinically worthwhile change.