

Effectiveness of a graded exercise therapy program for patients with chronic shoulder complaints

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Australian Journal of Physiotherapy 2005 Vol. 51

Introduction

Shoulder pain is a common musculoskeletal complaint. 21% of the Dutch population report shoulder pain (2003). Biological, psychological and social factors are hypothesised to be part of the course of shoulder pain. Those with shoulder complaints often report loss of functional ability due to the impact of daily activity. Shoulder symptoms often develop into chronic disorders. Geraets et al 2004 developed 'an operant behaviour and time contingent graded exercise therapy programme. This approach was chosen due to the proven effectiveness of this type of treatment in patients with low back pain. This program aimed at improving function despite pain.

Aim

To investigate the clinical effectiveness of graded exercise therapy in patients with chronic shoulder complaints. The objective of this study was to assess whether graded exercise therapy is more effective than usual care after 12 weeks of treatment in terms of restoring the ability to perform daily activities irrespective of pain experience in patients with chronic shoulder complaints.

Method

Graded exercise therapy was administered by 20 physiotherapists to compare against usual medical care by 32 general practitioners (GPs) in a randomised controlled trial.

Patients with a history of shoulder pain for longer than three months living in Province of Limburg in the Netherlands were invited to participate either by consultation with a GP or by advertisement in a local newspapers.

Inclusion criteria: over 18 years of age, history of shoulder pain in marked areas in diagram.

Exclusion criteria: recent medical intervention, RC tears, serious shoulder trauma, prior surgery of shoulder or neck and various medical pathologies.

Patients were randomised to graded exercise therapy or usual care. The graded exercise therapy is a behavioural treatment program focussed on improving function irrespective of pain.

Graded exercise therapy has been explained [in another paper](#).

Usual care- GP, wait and see for 2 weeks, analgesia/injection therapy/physiotherapy/orthopaedic surgeon.

There were initially 176 participants with a final 79 in exercise group and 71 in usual care group suitable for analysis.

Neither participants nor medical personnel were blinded in this study.

n=176	Graded therapy	Usual care
Pre treatment	87	89
Post treatment	81	77
Eligible for analysis	79	71

Blinding was not possible for patients and assessors.

Physical outcome measures used were:

Passive range of movement of exorotation

Active range of movement of abduction/elevation

Painful arc

Primary outcome measure used:

Main Complaints instrument:

3 daily activities most important in relation to shoulder complaint but not necessarily specific to pain. Rated ability to perform these activities in past week.

Shoulder disability questionnaire

Functional status measure- 16 statements regarding pain and limitations in past 24 hours.

Secondary outcome measures:

Perceived Recovery (8 point ordinal scale)

Shoulder Pain (shoulder pain score)

Generic health Related Quality of life (euroQol-5D)

Catastrophising (pain coping and cognition list)

Coping with pain (pain coping and cognition list)

Kinesophobic (Tampa scale for kinesophobia)

Fear avoidance beliefs (fear avoidance beliefs questionnaire)

SPSS statistics programme used. P value <0.05 considered statistical significance.

The programme used the following tests:

Students t tests, 95% confidence intervals, Mann tests, chi squared tests, risk differences, effect sizes.

Results

Primary outcome measures:

The only statistical significance was found in an improvement between the main complaints for graded and usual therapy (p=0.05)

Secondary outcome measures:

The only statistical significance was found in an improvement between catastrophising thoughts for graded and usual therapy

Improvements on all primary and secondary outcome measures favoured graded exercise therapy.

Discussion

The results suggest that operant behavioural graded exercise program is more effective than usual care in the management of chronic shoulder conditions.

However the exercise program seemed less effective on patients who had a painful arc on shoulder movement.

Limitations

Did not consider shoulder trauma, tears or previous surgery which may cause chronic problems

No copy of graded exercise programme- Go find it!!

No explanation of painful arc/PROM/AROM method

No copies of outcome measure questionnaires and several outcome measures used without explanation or ? their validity.

Poor explanation of usual care. Did not state how many had injections, consultant referral etc.

Lack of blinding

Pedro 8/11