



Original article

Physiotherapy triage assessment of patients referred for orthopaedic consultation – Long-term follow-up of health-related quality of life, pain-related disability and sick leave

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ABSTRACT

Introduction: The literature indicates that physiotherapy triage assessment can be efficient for patients referred for orthopaedic consultation, however long-term follow up of patient reported outcome measures are not available.

Aim: To report a long-term evaluation of patient-reported health-related quality of life, pain-related disability, and sick leave after a physiotherapy triage assessment of patients referred for orthopaedic consultation compared with standard practice.

Methods: Patients referred for orthopaedic consultation ($n = 208$) were randomised to physiotherapy triage assessment or standard practice. The randomised cohort was analysed on an intention-to-treat (ITT) basis. The patient reported outcome measures EuroQol VAS (self-reported health-state), EuroQol 5D-3L (EQ-5D) and Pain Disability Index (PDI) were assessed at baseline and after 3, 6 and 12 months. EQ VAS was analysed using a repeated measure ANOVA. PDI and EQ-5D were analysed using a marginal logistic regression model. Sick leave was analysed for the 12 months following consultation using a Mann–Whitney U -test.

Results: The patients rated a significantly better health-state at 3 after physiotherapy triage assessment [mean difference -5.7 (95% CI -11.1 ; -0.2); $p = 0.04$]. There were no other statistically significant differences in perceived health-related quality of life or pain related disability between the groups at any of the follow-ups, or sick leave.

Conclusion: This study reports that the long-term follow up of the patient related outcome measures health-related quality of life, pain-related disability and sick leave after physiotherapy triage assessment did not differ from standard practice, indicating the possible benefits of implementation of this model of care.

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1. Introduction

Musculoskeletal pain often results in functional limitations in daily life (Bingefors and Isacson, 2004; Björnsdóttir et al., 2013) and many patients with persistent pain experience a high level of disability, affecting work capacity (Gureje et al., 2001; Gerdle et al., 2004; Landmark et al., 2013). Persistent pain has also been found to negatively influence quality of life (Kroenke et al., 2013; Landmark et al., 2013). Studies show that between 45% and 74% of the

population reports musculoskeletal pain over the course of a year (Picavet and Schouten, 2003; Bingefors and Isacson, 2004) and that patients with musculoskeletal pain represent up to half of the consultations in primary care (Picavet and Schouten, 2003; Jordan et al., 2010; Månsson et al., 2011). About 20% of patients with musculoskeletal pain are referred for consultation with an orthopaedic surgeon (Canizares et al., 2009; MacKay et al., 2010) but the proportion of patients found appropriate for orthopaedic surgery varies between studies, ranging from 30% to 68% (McHugh et al., 2011; Menzies and Young, 2012; Samsson and Larsson, 2015). To provide optimal care for patients with musculoskeletal disorder, the existing roles of health professionals, such as physiotherapists, has been extended (Department of Health, 2006) and internationally these specially trained physiotherapists are referred to as

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advanced physiotherapy practitioners (APP), or extended scope physiotherapists (ESP) (Desmeules et al., 2012; Stanhope et al., 2012). In order to reduce the load on orthopaedic surgeons, to minimise the number of patients inappropriate for surgery, as well as shorten waiting times, ESPs or APPs have been used to triage, diagnose, and determine management plans; to refer for investigations, orthopaedic surgery or conservative management (Maddison et al., 2004; Aiken and McColl, 2008; Bath and Janzen, 2012). Studies of this model of care have reported a high agreement on diagnoses [good to excellent ($\kappa = 0.69–1.00$) and treatment approach (fair to very good ($\kappa = 0.52–0.70$))] between physiotherapists and orthopaedic surgeons (Desmeules et al., 2012), as well as a decrease in referrals for orthopaedic consultation (Rabey et al., 2009). Furthermore, there are indications of decreased average waiting times for consultation (Blackburn et al., 2009; Morris et al., 2011) and for surgery (Aiken et al., 2007). Daker-White et al. (1999) reported in their randomised controlled trial that they found no differences in patient-centred measures of pain, functional disability or perceived handicap, and that this model resulted in lower direct hospital costs. Due to methodological quality however, scientific evidence is still scarce (Desmeules et al., 2012). Considering international differences in healthcare systems, studies of such a model need to be conducted in each respective country (Stanhope et al., 2012). Research evaluating APPs and ESPs has predominately been carried out in the UK, Australia and Canada. A formal recognition such as APP or ESP does not exist in Sweden, nor does the described model of care with physiotherapy triage. Moreover, to our knowledge, only one study has been conducted in a Swedish primary healthcare setting. Our previous paper (Samsson and Larsson, 2015) reports the main outcomes of this study; physiotherapy triage assessment of patients referred for orthopaedic consultation in primary healthcare resulted in significantly higher selection accuracy for appropriateness for orthopaedic surgery [30% (95% CI 11; 49), $p = 0.002$], as well as a significantly smaller proportion of referrals back to the referring general practitioners (GP) [−19% (95% CI −29; −9), $p < 0.001$] and a larger proportion to physiotherapy [26% (95% CI 13; 39), $p < 0.001$] when compared with standard practice. Also waiting time was significantly shorter in the triage group [mean score 19 days (SD = 12) versus 28 days (SD = 14)] ($p < 0.001$).

There are indications that this model of care could be effective and provide a more efficient use of resources; however, Patient Reported Outcome Measures (PROMs) for this model have not been evaluated. The aim of this paper was therefore to report a long-term follow-up of patient-reported health-related quality of life, pain-related disability, and sick leave after a physiotherapy triage assessment of patients referred for orthopaedic consultation compared with standard practice.

2. Methods

2.1. Study design

This paper is part of a larger clinical trial, and the full study design and method has been reported previously (Samsson and Larsson, 2015). The study design used was a randomised controlled trial.

2.2. Participants

The study took place at a primary healthcare centre in a Swedish municipality. Consecutive recruitment was performed between August 2009 and January 2011, including patients referred for orthopaedic consultation at the healthcare centre with the following inclusion criteria; working age (between 18 and 67 years of age),

subacute (four weeks to three months) or persistent (>three months) musculoskeletal pain, and the ability to understand written and spoken Swedish. The exclusion criteria were chosen together with the orthopaedic surgeon in the study, and patients were excluded if the stated diagnosis on the referral was hallux valgus, ganglion or trigger finger, since the GPs were entrusted to have high specificity of managing these specific diagnoses.

2.3. Procedure

Upon inclusion, patients ($n = 208$) gave verbal consent to participate, and were then randomised by the administrator drawing an opaque envelope containing notes marked 'physiotherapy triage assessment' or 'standard practice', from a box, where the envelopes were put in bundles of 20 (ten of each) in order to ensure an even distribution. Prior to the consultation, participants completed a written informed consent form.

2.3.1. Physiotherapy triage assessment

The physiotherapist, also the first author of this paper (KS), did not receive any training specific for this trial. She had specialist training in form of postgraduate qualifications that included a master's degree in Manipulative Therapy, one year of mentored clinical practice within the scope of orthopaedic manual therapy (OMT) and eight years of clinical experience in primary care, four of which were within the scope of OMT. The triage assessment was based on a 60-minute screening, with the main aims of diagnosis and the most appropriate management pathway. In conjunction with the triage, the patients also received brief treatment comprised of advice on ergonomics and/or exercises when appropriate, however only during the one visit. Management pathways consisted of one or more of the following; referral for further investigation, for orthopaedic surgeon consultation (i.e. appropriate candidate for surgery), back to the patient's GP, or if conservative management with ongoing support was needed, referral to physiotherapy or occupational therapy. If referral for orthopaedic surgeon consultation was found appropriate, the physiotherapist had the authority to make an appointment without consideration of the waiting list. Referrals for further investigations were requested and sent via the patient's GP and the images could be assessed together with the orthopaedic surgeon, if needed. One or two optional follow-up visits were offered when needed, for example follow-up after treatment or investigations.

2.3.2. Standard practice

The orthopaedic surgeon had 26 years of experience in orthopaedic medicine, 21 of which were as an orthopaedic specialist. The duration of the appointment was 15 min, with the same main aims of diagnosis and the most appropriate management pathway. The patients received advice, prescriptions or injections, when appropriate. Management pathways consisted of one or more of the following; further investigation, orthopaedic intervention (i.e. minor surgery at the present healthcare centre), referral to orthopaedic clinics for orthopaedic intervention (i.e. appropriate candidates for surgery), back to the patient's GP, or if conservative management with ongoing support was needed, referral to physiotherapy or occupational therapy. One or two optional follow-up visits were offered when needed, for example follow-up after investigations.

2.4. Patient related outcome measures

Demographic data were collected to describe the study population and to determine any differences between the groups at inclusion. PROMs were distributed to the patients at the healthcare

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