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Physiotherapy

Physiotherapy 97 (2011) 107–114

Primary contact physiotherapy in emergency departments can reduce length of stay for patients with peripheral musculoskeletal injuries compared with secondary contact physiotherapy: a prospective non-randomised controlled trial☆

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Abstract

Objective To evaluate if direct physiotherapy assessment and management of patients presenting to emergency departments with musculoskeletal injuries (primary contact physiotherapy) results in reduced length of stay without any increase in adverse effects compared with secondary contact physiotherapy, where patients are seen by a physiotherapist after initial assessment by a doctor.
Design Prospective non-randomised controlled trial.
Setting Three metropolitan emergency departments.
Participants Adults ($n = 315$) presenting to emergency departments with peripheral musculoskeletal injuries were allocated to primary or secondary contact physiotherapy; 306 participants completed the study. Patients with serious pathology, open fractures and spinal pain were excluded.
Intervention A single episode of physiotherapy.
Main outcome measures Primary outcome measures were patient length of stay, waiting time and treatment time. Secondary outcome measures were re-presentations to the emergency department, imaging referrals, patient satisfaction and emergency department staff acceptance.
Results Primary contact physiotherapy resulted in a reduction in length of stay of 59.5 minutes [95% confidence interval (CI) 38.4 to 80.6] compared with secondary contact physiotherapy, with a reduced waiting time of 25.0 minutes (95%CI 12.1 to 38.0) and a reduced treatment time of 34.9 minutes (95%CI 16.2 to 53.6). There were no differences between the groups in imaging referrals or re-presentations. Patients strongly agreed (≥82%) that they were satisfied with their management, and 96% of emergency department staff agreed that primary contact physiotherapists had appropriate skills and knowledge to provide emergency care.
Conclusion Experienced musculoskeletal physiotherapists working in emergency departments can be the first point of contact for patients with simple, semi-urgent and non-urgent peripheral musculoskeletal injuries, resulting in decreased waiting times and length of stay for patients without any adverse effects.

Keywords: Physical therapy; Emergency medicine; Musculoskeletal system; Injuries

Introduction

Physiotherapy services are being utilised to a greater extent in emergency departments [1], with physiotherapists practising as primary or secondary contact practitioners (PCPs/SCPs). A PCP directly assesses and manages their patient after referral from triage. An SCP treats their patient in the emergency department after the patient has been

☆ Trial registration: Australian and New Zealand Clinical Trials Registry 12607000607471.

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doi:10.1016/j.physio.2010.08.011

assessed by a doctor, who then refers the patient to physiotherapy.

It has been suggested that physiotherapist management of musculoskeletal injuries in emergency departments may reduce waiting times and reduce the workloads of other emergency department staff [2]. Improving patient flow and reducing waiting times is an important objective of health providers to help cope with the increasing number of presentations to emergency departments [3]. However, the role of physiotherapists in the emergency department is relatively new and has been little evaluated [1]. There is some evidence suggesting that management of musculoskeletal injuries by physiotherapists in emergency departments results in high levels of patient satisfaction [4–6] and reduced pain levels in people presenting with back pain [4]. However, there have been no evaluations comparing PCP services with SCP services in the emergency department.

A key concern is whether physiotherapists have the knowledge and skills to operate safely and effectively as PCPs in emergency departments. In an acute setting such as the emergency department, there may be concerns that PCPs may miss important diagnoses that would be reflected in an increased re-presentation rate. Also, patients may expect to be seen by a doctor when presenting to an emergency department, so patient satisfaction may be affected in the PCP model. Finally, there may be concerns about how doctors and nurses in emergency departments accept PCPs as part of the team.

Therefore, the research questions were:

1. Does PCP management of patients presenting to the emergency department with peripheral musculoskeletal injuries result in a reduced length of stay compared with patients managed by a physiotherapist after referral from a doctor (SCP management)?
2. Do the two models of care result in different rates of re-presentation to the emergency department and referral to radiology?
3. Do the two models of care result in different levels of patient and staff satisfaction?

Methods

Research design

The study received health service and university ethics approval, and all participants signed an informed consent form. The study was a prospective non-randomised controlled trial, undertaken in three emergency departments in a large metropolitan health network in Melbourne, Australia. Allocation to PCP or SCP services was based on the day of the week. Patients presenting to Site 1 on Mondays, Thursdays or Fridays had an equal chance of receiving either PCP or SCP services. However, only SCP services were offered on Tuesdays and no physiotherapy services were offered on Wednesdays. At Site 2, PCP services were offered on Mondays, Wednesdays and Thursdays, and SCP services were offered on Tuesdays and Fridays. Site 3 only offered PCP services. Prior to the trial, only SCP services were available at Sites 1 and 2; PCP services were introduced at these sites for the purposes of the trial by re-allocating existing physiotherapy hours in the emergency departments. Therefore, the trial did not utilise extra hours of physiotherapy; rather, existing hours of physiotherapy in the emergency department were allocated to PCP or SCP services. Only more senior physiotherapists with either postgraduate qualifications in musculoskeletal injury or experience of PCP services in either emergency or private practice provided PCP services. Physiotherapists in the PCP group did not receive specific further training before the trial, but all had prior experience of working in their emergency departments. A mixture of experienced and more junior clinicians provided SCP services.

Participants

Inclusion criteria were: age 18 years or more and presented with a peripheral musculoskeletal injury. Patients who presented with red flags such as unexplained weight loss, disabling or progressing focal neurological deficit, infection and severe night pain were excluded. Participants were also excluded if the injury resulted from significant trauma such as a motor vehicle accident, or if they presented with open fractures, unreduced dislocations, open wounds, loss of consciousness, or low back or neck pain. Finally, participants were excluded if they were admitted to hospital directly from presentation to the emergency department. These inclusion/exclusion criteria were designed to include semi-urgent and non-urgent cases, classified as Categories 4 and 5 in the Australasian Triage Scale, although some peripheral musculoskeletal cases requiring urgent analgesia were included [7].

Intervention

After presenting to the nurse at the emergency department, patients received routine management for their peripheral injury, with PCP or SCP services depending on which were being provided on that day. If the PCP considered that imaging or prescription of medication was necessary, the emergency consultant was approached, under whose name the request was ordered or prescription arranged. The results of imaging were discussed between the PCP and the emergency consultant. Under the SCP model, any requests for imaging or prescriptions for medication were organised by the managing doctor before referral to physiotherapy. Patients were asked to complete a satisfaction survey at the end of their treatment. Emergency clinicians, apart from physiotherapists, were asked to complete a survey on their knowledge and attitudes about the role of physiotherapy in the emergency department at the end of the trial.