



Physiotherapy for plantar fasciitis: a UK-wide survey of current practice

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Abstract

Objectives To identify how United Kingdom (UK) physiotherapists currently diagnose, assess and manage plantar fasciitis in routine practice.

Design Online questionnaire survey.

Participants Practising physiotherapists across the UK who treat patients with plantar fasciitis.

Methods Physiotherapists were approached via ‘interactive Chartered Society of Physiotherapy (CSP)’ online networks and an email database of clinical educators in South West England. An online questionnaire was developed by reviewing similar existing physiotherapy surveys and consultation with experienced musculoskeletal researchers/clinicians. Descriptive statistics were used to analyse the data.

Results 285 physiotherapists responded, with 257 complete survey responses. Pain on palpation and early morning pain were the most common diagnostic criteria, with some physiotherapists using no formal test criteria. Advice (237/257, 92%), plantar fasciitis pathology education (207/257, 81%) and general stretching exercises (189/257, 74%) were most routinely used. Prefabricated orthotics, custom made orthotics and night splints were seldom always used. For the manual therapy approach, the most frequently used modalities were massage, myofascial release, specific soft tissue mobilisations and myofascial trigger point therapy. Commonly used outcome measures were pain assessment, functional tests and range of movement.

Conclusions Physiotherapists appeared to follow most of the established diagnostic criteria for PF, but have not followed established outcome measure guidelines. Advice as well as education with an emphasis on self-management including calf/hamstring stretching was the most commonly reported treatment approach. There was uncertainty whether this approach accurately reflected clinical practice used throughout the UK, owing to potential response bias/unknown response rate and the low number of patients with PF treated by the respondents.

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Introduction

Plantar fasciitis (PF) is a common pain condition under the heel of the foot, affecting approximately 10% of the population during their lifetime [1]. Histological findings support the thesis that “plantar fasciitis” is in fact a degenerative fasciosis without inflammation [2]. The condition is therefore often referred to as ‘plantar fasciosis’ and the term ‘plantar heel pain’ is also used. This paper will use the most common term ‘plantar fasciitis’. The aetiology of PF is multi-factorial with evidence for risk factors such as increased body mass

index in a non-athletic population, increased age, reduced ankle dorsiflexion, reduced first metatarsophalangeal joint extension and prolonged standing [3]. Tightness of the posterior leg muscles (calf and hamstrings) and reduced ankle dorsiflexion have been found in patients with PF [4].

The Orthopaedic Section of the American Physical Therapy Association (APTA) guidelines [5] recommended that the following criteria should be used for the diagnosis of heel pain and PF: medial plantar heel pain noticeable with initial steps after inactivity; increased heel pain after increased weight bearing activity; pain on palpation of the proximal insertion of the plantar fascia; limited ankle dorsiflexion range of movement (ROM); abnormal foot posture index score; high BMI in a non-athletic population; positive windlass test; and

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negative tarsal tunnel tests. Differential diagnoses for PF include tarsal tunnel syndrome, entrapment of the first branch of the lateral plantar nerve, radiculopathy, calcaneal stress fracture, and central heel pain syndrome [6].

Various treatment approaches are used for this long-term condition, with different levels of evidence for effectiveness. In a clinical review of PF [7], consistent major categories of recommended treatment were identified: biomechanical (including orthotics, footwear modification and taping); stretching techniques (including night splints); extracorporeal shock wave therapy; cortisone (or other) injections; and surgical interventions. Other approaches investigated using randomised controlled trials (RCTs) but with less consistent evidence have included dry needling [8], myofascial trigger point therapy [9] and ankle and midfoot mobilisations [10].

A previous survey compared physiotherapists' and podiatrists' views on the effectiveness of common PF treatments in order to inform future RCTs [11]. Of the nine treatments most commonly used, taping was more strongly supported than calf stretching and was recommended for investigation in future RCTs [11]. Recently a modified version of the Brown [11] questionnaire survey was administered to compare the perceptions of physiotherapists and podiatrists working in the United Kingdom (UK) National Health Service (NHS) on the management of PF [12]. Physiotherapists and podiatrists had different perceptions on PF management that may reflect the lack of existing research evidence on treatment effectiveness [12]. Both professions considered custom foot orthoses to be a podiatrist only role, with more physiotherapists reporting difficulties in addressing foot/ankle biomechanics as a contributing factor compared to podiatrists [12].

A National Institute for Health and Care Excellence (NICE 2015) Clinical Knowledge Summary (CKS) [13] on the management of PF primarily recommended self-care advice including: education on complete recovery with conservative management within 6 months; rest; shoes with arch support and cushioned heels; insoles to correct foot pronation; analgesia or an ice pack for symptom relief; weight loss; and self-physiotherapy in the form of plantar fascia and Achilles tendon stretching.

It is recommended that clinicians use validated self-report questionnaires, such as the Foot Function Index, Foot Health Status Questionnaire, Foot and Ankle Ability Measure or the Lower Extremity Functional Scale before and after interventions intended to alleviate the physical impairments and functional limitations associated with PF [5,14]. Clinician-administered outcome measures for PF include goniometric ankle dorsiflexion ROM [4], algometric pressure pain threshold [9] and pain scales [10].

The observations and recommendations described above on diagnosis [5,6] and outcome measures [4,5,9,10,14] for PF have been made by an array of health professions and researchers. Reviewing the evidence suggests that there are no standardised methods for diagnosing PF or measuring treatment outcomes. Treatment options for PF are

controversial [10], and to date no evidence focussing specifically on UK physiotherapy practice is available. Due to the conflicting and different level of evidence, it is difficult to ascertain a recommended or preferred method of intervention for this challenging long-term condition. To address these questions a UK wide survey was undertaken to determine how physiotherapists currently assess, diagnose and manage PF. This knowledge will help to underpin future research, education and clinical practice in this area.

Methods

Design

An online questionnaire survey design was used. The project was approved by the Faculty of Health and Applied Sciences Ethics Sub-Committee, University of the West of England, Bristol (HLS/13/08/108).

Participants

Practicing physiotherapists (including private practice and NHS) across the UK, who treated patients with PF, were able to understand and communicate in English and who gave informed consent were included. Physiotherapists were recruited via response to a news item on 'interactive CSP' (iCSP), an online resource for UK physiotherapists provided by the Chartered Society of Physiotherapy (CSP) and via email to clinical educators in the South West of England.

Procedures

The survey was designed taking into account similar physiotherapy practice questionnaire surveys conducted on other musculoskeletal conditions, namely hip osteoarthritis [15], contracted (frozen shoulder) [16], total hip and knee hip replacement [17], and joint hypermobility syndrome in adults [18]. Existing systematic reviews, relevant PF literature and the expertise of colleagues active in research and clinical practice were used in designing the survey. A draft paper version of the survey, followed by an online version, was distributed to and commented on by five experienced musculoskeletal colleagues including an experienced podiatrist.

Following minor feedback amendments, the questionnaire survey containing 20 questions was finalised. The survey addressed the following main areas: participant characteristics; description of the physiotherapy service; diagnostic criteria; aims of physiotherapy; specific interventions and outcome measures.

The survey was transposed to the Bristol Online Survey (<http://www.survey.bris.ac.uk/>) and was disseminated entirely online. A news item was placed in the iCSP Orthopaedics, Musculoskeletal, Extended Scope Practitioner and Sports & Exercise Medicine networks. The iCSP news item also contained a link to the Bristol Online Survey on the

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