Myofascial trigger point therapy for plantar fasciitis: a feasibility study
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Background: Recent evidence has identified tightness of the posterior leg muscles (calf and hamstring) and reduced ankle dorsiflexion as possible contributing factors in plantar fasciitis (PF). Stretching is routinely advocated, but myofascial trigger point (MTrP) therapy has also been found to relieve calf tightness and increase ankle dorsiflexion in non PF participants. A recently completed survey on usual physiotherapy practice for PF in adults found stretching exercises and self-management more commonly used than MTrP or manual therapy.

Purpose: This study was conducted to inform a definitive randomised controlled trial (RCT). The main aims were to evaluate the feasibility and acceptability of recruitment, randomisation, study procedures, treatment and outcome measures. Secondary aims were to ascertain if the addition of MTrP therapy to usual physiotherapy practice might be effective in PF management.

Methods: Participants who met the diagnostic criteria for PF were included. Exclusion criteria: conditions or systemic diseases affecting the foot; recent physiotherapy or MTrP therapy for PF. Participants were randomised to control (usual physiotherapy practice of advice and self-management) or intervention (usual physiotherapy practice plus MTrP therapy). All participants were issued an advice booklet. Outcome measures included pain (Pressure Pain Threshold (PPT) and verbal Numerical Rating Scale (NRS)); range of movement (ROM) (ankle dorsiflexion and knee extension); and function (Lower Extremity Functional Scale (LEFS)). Palpation was used to identify MTrP prevalence. Participants in the intervention group attended three sessions approximately one week apart (with MTrP treatment at each session and at home) and the control group attended two sessions approximately two weeks apart.

Results: Seven participants (6 men, 1 woman; mean age 42 years) with unilateral or bilateral PF were recruited. Mean pain NRS values improved by 4/10 for the intervention group (n=3) and 3/10 for the control group (n=4). Mean ankle dorsiflexion ROM for the gastrocnemius increased by 3° and 10° for the intervention and control groups respectively. For the soleus these figures were 5° and 2° respectively. Mean knee extension ROM (reflecting hamstring flexibility) was greater in the control group (-18°) than the intervention group (-25°) following treatment. The LEFS improved by 10/80 points in the intervention group and by 4/80 in the control group. Mean PPTs at all MTrP sites increased (representing reduced hyperalgesia) by 75kPa in the intervention group and by 37kPa in the control group. Both groups reported a mean score of 2/5 ('usually') for compliance with self-management stretching exercises and/or home MTrP therapy. All participants attended each session with no attrition and no adverse reactions reported.

Conclusion: Overall participant compliance and acceptability of the assessment, treatment and outcome measures was good. There was a trend towards improvements in pain, PPT and function in the intervention group, although changes in ROM were inconsistent between groups.

Implications: This feasibility study has indicated that a future RCT may be warranted to ascertain if MTrP therapy for PF would be a suitable adjunct to self-management.

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