







Original research

Pressure and Traction Technique Improves Postural Control More Than Tactile Stimulation in Foot Plantar Fascia: A Randomized Single-Blind Trial

Eva María Martínez-Jiménez PhD, MsC, DP, PT^a, Ricardo Becerro-de-Bengoa-Vallejo RN, BSc, MLIS, DPM, PhD, DHL, FFPM RCPS^b, Marta Elena Losa-Iglesias RN, PhD, BSc, MsC, DP^c, José Ignacio Díaz-Velázquez PhD, MsC, DP^d, Patricia Palomo-López PhD, MsC, DP^e, David Rodríguez-Sanz PhD, MsC, PT, DP^b  , César Calvo-Lobo PhD, PT, MSc^b, Daniel López-López PhD, BSc, MsC, DP^f

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Abstract

Objective

To check the acute effects of manual pressure and traction technique on balance and plantar footprint variables.

Design

A single-blind clinical study with 2 groups.

Setting

Private practice.

Participants

Healthy participants (N=40; 28 female and 12 male) were recruited to carry out a single-blind study.

Interventions

Experimental group performed a bilateral plantar fascia manual pressure and traction technique. Control group performed a tactile stimulation. The position of the participant, the therapist, and the time of application of the techniques (5min) were the same for both interventions.

Main Outcome Measures

We measured stabilometry variables and static footprint. The footprint variables were divided in rear, middle, and front foot areas.

Results

Significant differences were found in stabilometry variables. There was an improvement in experimental group at X displacement with eyes open ($P=.014$) and surface eyes closed ($P=.046$) variables.

Conclusions

After technique the experimental group improved the stabilometry variables, specifically surface with eyes closed and X displacement with eyes open. The static footprint variables have not shown differences after the technique compared with the control group.

Section snippets

Participant characteristics

Forty healthy participants (28 female and 12 male) were recruited to carry out a single-blind clinical study.

The Ethics Committee of the University approved the study, number authorization 2111201814518, and all participants had to sign an informed consent. The protocol of this study was registered at [ClinicalTrials.gov](https://clinicaltrials.gov) ↗ (No.: [NCT03997955](https://clinicaltrials.gov/ct2/show/study/NCT03997955) ↗). The standards and guidelines recommended in the Council of Europe Convention on Human Rights and Biomedicine UNESCO Universal, the Declaration on the Human ...

Results

Subjects were 39.42 ± 10.41 years old, had height of 167.65 ± 8.39 cm, and weight of 67.72 ± 9.11 kg. Table 1 shows all demographic data. A total of 24 of the 38 variables did not follow a normal distribution. Parametric tests were used in these variables. No results were obtained with statistically significant differences between the experimental group and the control group at baseline before therapy (table 2).

There were statistically significant differences between the groups after therapy in the ...

Discussion

This study uses a pressure platform to measure the immediate effects of the manual pressure and traction technique of the plantar fascia on the static footprint and stabilometry compared with an active control group. After technique, the experimental group improved the stabilometry variables correctly, surface with eyes closed and X displacement with eyes open with significant differences. The static footprint variables have not shown differences after the technique compared with the control ...

Conclusions

Manual pressure and traction technique of the plantar fascia improved the stabilometry variables, surface with eyes closed and X displacement with eyes open. The static footprint variables have not shown differences after the technique compared with the control of tactile stimulation. ...

Suppliers

- a. G*Power 3.1.9.2; Heinrich Heine Universität Düsseldorf. ...
- b. Digital platform of pressure sensors, Podoprint; Medicapteurs. ...
- c. SPSS version 20.0; IBM. ...

...

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2024, Journal of Bodywork and Movement Therapies

Citation Excerpt :

...Scholars have investigated balance through tactile stimulation using stabilometry and plantar pressure (Martínez-Jiménez *et al.*, 2020). The results indicated improvements in balance by restoring normal tension to the plantar fascia, likely due to the morphological structure and proprioceptive functions contained within it, such as high innervation and a dense quantity of mechanoreceptors and sensory nerve

endings (Martínez-Jiménez et al., 2020). Therefore, the main purpose of MFR is to reduce fibrous adhesions in facial networks and subsequently reverse the energy caused by mechanical stress (Nordez et al., 2017)....

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2024, International Journal of Osteopathic Medicine

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[Immunopathogenesis, early Detection, current therapies and prevention of plantar Fasciitis: A concise review](#)

2022, International Immunopharmacology

Citation Excerpt :

...These conservative therapies mainly aim to improve the patients posture and decrease pain. Another study by Martinez-Jimenez et al. [52] aiming to evaluate the effect of manual pressure with traction compared to tactile stimulation on balance and plantar footprint variables reported that bilateral plantar fascia manual pressure combined with traction improves postural control more than tactile stimulation alone. Aside from the above conservative treatment options, minimally non-surgical treatment methods (Tables 2 and 3) are also available for addressing heel pain....

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[Effects of Myofascial Induction Therapy on Ankle Range of Motion and Pressure Pain Threshold in Trigger Points of the Gastrocnemius—A Clinical Trial](#)

2023, Biomedicines

[Impact of asthma on plantar pressures in a sample of adult patients: A case-control study](#)

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Disclosures: none.

Clinical Trial Registration No.: [NCT03997955 !\[\]\(d3e32d099174a7c248ec1f564ee4f69c_img.jpg\)](#).

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