

ANALYSIS OF A RANDOMISED CONTROL TRIAL INVESTIGATING THE EFFECTS OF PREFABRICATED ORTHOTICS, WITH AND WITHOUT A METATARSAL PAD, ON FOOT PAIN AND FEAR OF FALLING IN OLDER ADULTS.



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Background

One in four adults over the age of 45 experience frequent foot discomfort¹.

Foot pain in older adults may reduce physical activity. This can result in fear of falling, impaired balance and an increased risk of falls. Prefabricated orthotics may provide foot pain relief and improved stability, which may be further enhanced with the inclusion of a metatarsal pad.

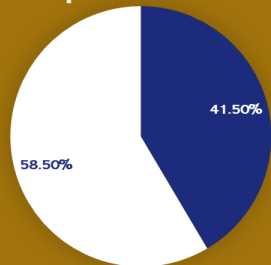
Whilst orthotics, both with and without a metatarsal pad, have been shown to reduce foot pain and improve balance in older adults, neither have been investigated in reducing fear of falling.

Objectives

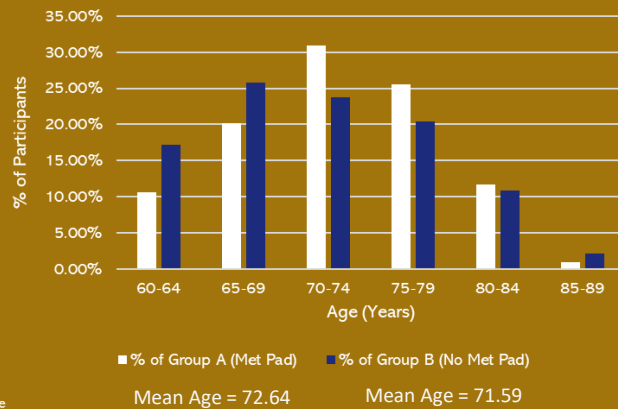
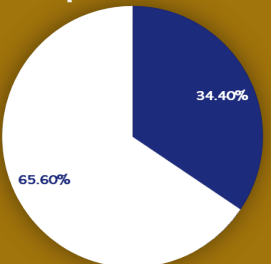
Compare Aetrex orthotics with and without metatarsal pad in decreasing foot pain and fear of falling in older adults

Demographics

Group A (Met Pad)



Group B (No Met Pad)



Conclusion

Results indicate that Aetrex orthotics, both with and without metatarsal pads, decrease pain and fear of falling in older adults. Reductions in foot pain and function, as well as fear of falling, were slightly greater in the intervention group, suggesting that orthotics with a metatarsal pad may be superior. However, as no statistically significant difference was found between groups, the results of this study indicate that prefabricated orthotics, both with and without a metatarsal pad, are similarly effective in improving foot pain, foot function, general musculoskeletal discomfort, and fear of falling in older adults. Hence, patients who are unable to tolerate metatarsal pads can obtain similar benefits by using orthotics without such padding.

Key Words: Prefabricated Orthotics, Metatarsal Pad, Foot Pain, Foot Function, Musculoskeletal Pain, Fear of Falling, Older Adults.

References

Thomas MJ, Roddy E, Zhang W, et al. The Population Prevalence of Foot and Ankle Pain in Middle and Old Age: A Systematic Review. Pain 2011; 152:2870-2880

Methods

206 participants aged 60 years and older were randomly allocated into either the intervention group (Group A), who received Aetrex L2305 Orthotics with a metatarsal pad, or the control group (Group B), who received Aetrex L2300 Orthotics without a metatarsal pad (Figure 1).

These two groups self-reported data at baseline and at a 6-week follow-up.

This data included musculoskeletal pain in various body parts, reported via 11-point Numerical Rating Scales (NRS), with 0 representing "no pain" and 10 representing "worst pain imaginable". Foot pain and functionality were assessed via the foot pain and foot function subscales of the Foot Health Status Questionnaire (FHSQ), with both subscales scored from 0 (worst foot health) to 100 (best foot health). Fear of falling was evaluated via the Short Falls Efficacy Scale International (Short FES-I), scored from 7 (no concern about falling) to 28 (severe concern about falling).

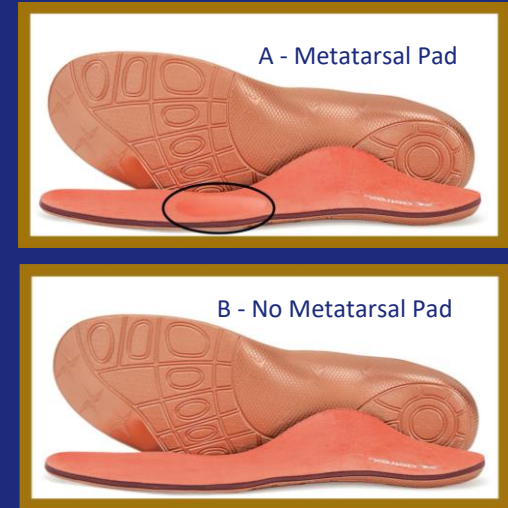


Figure 1: Aetrex L2305 Orthotics with metatarsal pad (A) and Aetrex L2300 Orthotics without metatarsal pad (B)

Results

187 participants completed follow-up. Both groups reported significant improvements in pain in the back, hips, knees, ankles, and feet using the NRS ($P < 0.05$) (Figure 2).

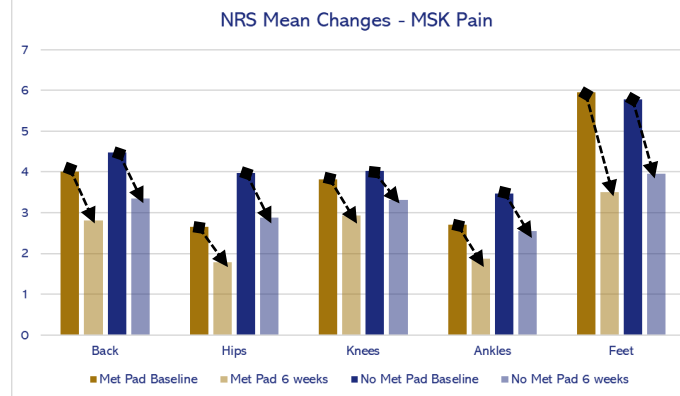


Figure 2: NRS Mean Change - MSK Pain (Lower Score = Less Pain)

Both groups reported significant improvements in foot pain via the FHSQ Pain subscale (Figure 3) and foot function via the FHSQ Function subscale (Figure 4) ($P < 0.05$).

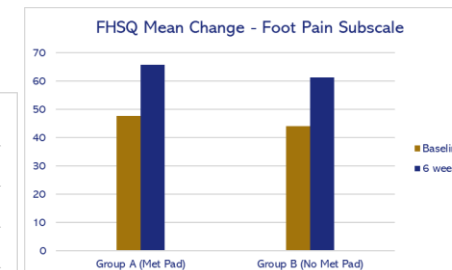


Figure 3: FHSQ Foot Pain Subscale Mean Change (Higher Score = Better Foot Health)

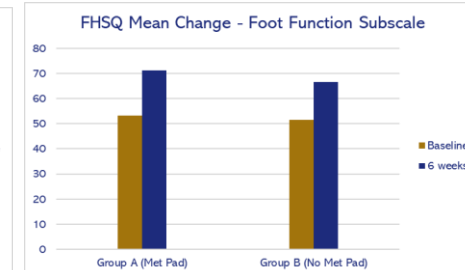


Figure 4: FHSQ Foot Function Subscale Mean Change (Higher Score = Better Foot Health)

Between-group differences were not significant for any of these outcomes ($P > 0.05$). However, Group A (Met Pad) did experience slightly greater improvements in foot pain and foot function via the FHSQ.

Both groups reported significant decreases in fear of falling via the Short FES-I ($P < 0.05$), with Group A (Met Pad) reporting greater reductions (Figure 5). However, the difference between groups was not statistically significant ($P > 0.05$).

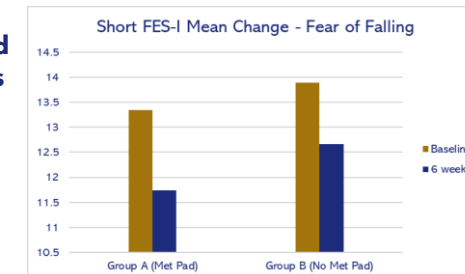


Figure 5: Short FES-I Mean Change - Fear of Falling (Lower Score = Less Concern About Falling)