

Older Adult Opinions Regarding Intrinsic Foot Muscle Strengthening Interventions



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Introduction

- Intrinsic foot muscles (IFM) provide sensory information and structure to the foot necessary for balance and walking.
- Two methods to enhance sensory ability and strengthen IFM include:
 1. Intrinsic foot muscle strengthening exercises (Exercise)
 2. Minimally cushioned footwear (Footwear)
- **To implement these interventions in the clinic, it is important to know if they are feasible and acceptable by the older adult patient.**

Purpose

To understand older adult opinions on experience and difficulty performing IFM strengthening interventions and effects on balance and foot awareness.

Methods

- Participants**
- N = 89
 - Mean age 75.53 ± 7.54 years
 - Inclusion Criteria
 - \geq age 65 years
 - Can ambulate 16 meters with or without device
 - Have fall risk based on:

“Yes” to any of the *Three Key Questions*:

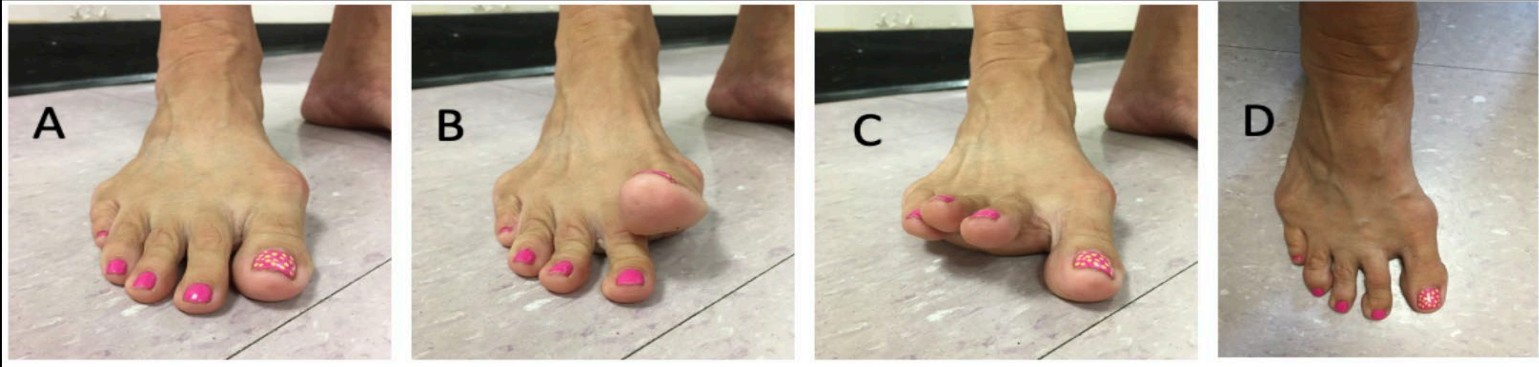
 1. Have you fallen in the past year?
 2. Do you feel unsteady when standing or walking?
 3. Do you worry about falling?

OR

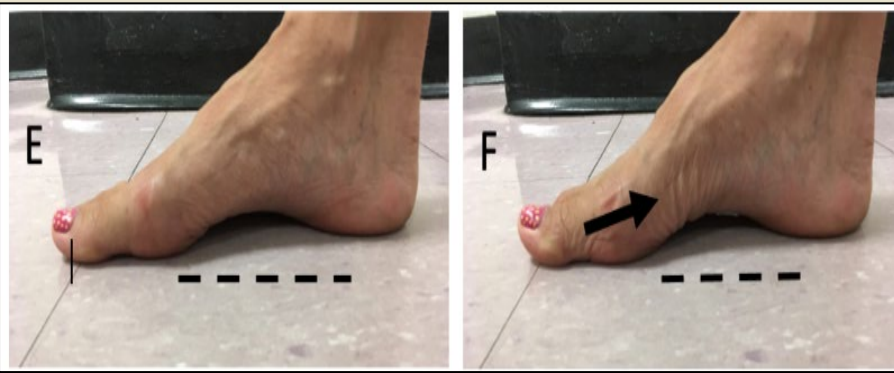
 1. Timed Up and Go score ≥ 12 seconds
 - Randomized to 3 groups based on age, sex, Mini-BESTest score

Interventions

Exercise (n = 30)



A. Rest, B. Great toe ext., C. Lesser toe ext., D. Toe abd/add



E. Rest, F. Doming

Footwear (n = 29)

30 minutes of intentional walking per day plus gradual increased use during ADLs

Xero Aptos



Control (n = 30) Sham exercise

Seated upper and lower extremity AROM and brochure for home fall-prevention tips.

Procedures

Opinion based interview at 16-weeks

1. Was overall experience with the intervention positive or negative?
2. How difficult was it to use the intervention? (5-point Likert scale)

0	1	2	3	4
No difficulty	Mild difficult	Moderate difficulty	Severe difficulty	Unable to perform

3. Did the intervention change balance and foot awareness? (*yes, no, or unsure*)

Opinion analysis

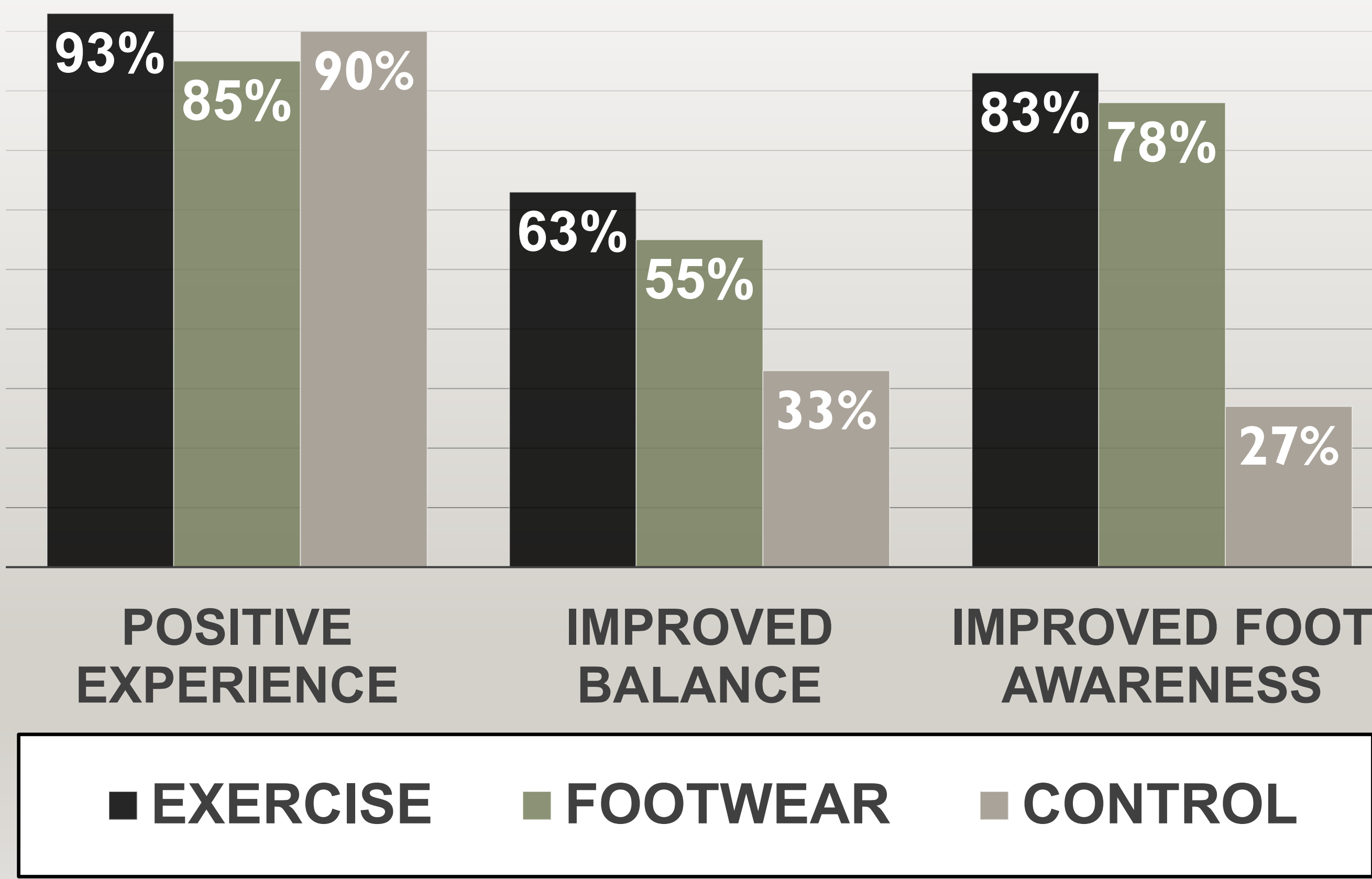
- Percentage calculated for participants with positive intervention experience and improvements in balance and foot awareness
- Mode calculated for level of difficulty with intervention.

Results

Intervention level of difficulty

Group	Mode Value
Exercise	1 (Mild difficulty)
Footwear	0 (No difficulty)
Control	0 (No difficulty)

Participant Opinions



Interpretation:

- Older adults thought highly of IFM strengthening interventions:
 - Positive intervention experience
 - Greater perceived improvement in balance and foot awareness than control
- Level of difficulty low and had minimal impact participant experience.

Conclusions

Older adults who performed either intrinsic foot exercise or used minimally cushioned footwear rated the interventions as easy to perform and felt they improved balance and foot awareness compared to a control group.

Clinical Relevance

- Positive feedback may support decision to implement IFM strengthening interventions in the older adult population.