Supplementary Material

Supplementary Material 1: Origin of the selected studies

Date	Data bases:	Queries	Results
25/05/2023	PEDro (Physiotherapy Evidence Database)	*Advanced search:*	
		Therapy: strength training then electrotherapy heat, cold and at least stretching, mobilisation, manipulation, massage.	108
		Subdiscipline: gerontology	33
		Body part: foot or ankle	33
		Method: clinical trial	3
		Match all terms when searching	4
		Simple search: elder* calf balance	
25/05/2023	Elsevier-Masson via Sciencedirect	*Simple search:* Elderly AND (ankle OR "plantar flexor" OR "dorsi flexor") AND (mobilisation OR stretching OR rehabilation OR strength) AND "postural balance". Filters: *research articles*.	255
25/05/2023	Embase	aged AND (ankle OR 'plantar flexor' OR 'dorsiflexor muscle') AND (rehabilitation OR mobilization OR 'resistance training' OR 'muscle stretching') AND ('body equilibrium' OR balance)	291
		Results filters:	
		-age: Aged ((65 +years) and Very elderly (80+ years)	
		-publication years: 2021, 2020, 2019,2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011	
25/05/2023	Medline via Pubmed	(((((("aged"[Mesh] OR elder*)) AND (ankle OR "plantar flexion" OR "dorsi flexion" OR gastrocnemius OR calf OR "tibialis anterior")) AND (mobilization OR stretching OR strength OR "manual therapy" OR physiotherapy OR "physical therapy" OR rehabilitation)) AND "postural balance"[Mesh])	162
		Filters: Age (aged: 65+ years and 80 and over: 80+ year)	
		Article type: clinical trials	
25/05/2023	LILACS (Latin American and Caribbean Health Science Literature)	Elderly	22
		Ankle	
		Balance	

Supplementary Material 2: Excluded studies

Authors	Title	Reason
Son et al., 2013	Influence of isokinetic strength training of unilateral ankle on ipsilateral one-legged standing balance of adults.	Do not concern olders adults.
Nam et al., 2013	The relationship between muscle fatigue and balance in the elderly	Non RCT
El-kader et al., 2014	Ankle dorsiflexors strength improves balance performance in elderly: A correlationnal study.	Non RCT
Chevutschi et al., 2015	Immediate effects of talocrural and subtalar joint mobilization on balance in the elderly.	Non RCT
Langeard et al, 2020	Plantar flexor Strength Training With Home-Based Neuromuscular Electrical Stimulation Improves Limits of Postural Stability in Older Adults.	Non RCT
Divya et al., 2018	Influence of ankle exercise on balance among community dwelling older adults.	Not restrained to ankle.
Bohrer et al., 2019	Multicomponent training program with high-speed movement execution of ankle muscles reduces risk of falls in older adults.	Do not concern olders adults.
Belen Gamez et al., 2019	The effect of surface electromyography biofeedback on the activity of extensor and dorsiflexor muscles in elderly adults: a randomized trial	Do not concern healthy older adults.
Martinez-Jimenez et al., 2019	Acute effects of intermittent versus continuous bilateral ankle plantar flexor static stretching on postural sway and plantar pressures: a randomized clinical trial	Do not concern olders adults.
Rongsawad et al., 2019	Effect of Functional Electrical Stimulation of Ankle Muscles in Standing Positions on Postural Stability in Elderly Adults.	Article not available.
Hernandez-Guillen et al., 2020	Balance training versus balance training and foot and ankle mobilization: a pilot randomized trial in community-dwelling older adults.	Foot involved.
Allison et al., 2018	High and odd impact exercise training improved physical function and fall risk factors in community-dwelling older men.	Lower limb involved
Choi et al., 2021	Pilates exercise focused on ankle movements for improving gait ability in older women.	Lower limb involved
Marcon Alfieri et al., 2021	Comparison of multisensory and strength training for postural control in the elderly	Lower limb involved
Wang and Zao, 2021	Effects of a Modified Tap Dance Program on Ankle Function and Postural Control in Older Adults: A Randomized Controlled Trial.	Not enough description on the plantar flexor reinforcement

Supplementary Material 3: Studies found

Author/year	Title	Review
Studies related with ankle R.O.M:		
Gajdosik et al., 2005	Effects of an eight-week stretching program on the passive-elastic properties and function of the calf muscles of older women.	Clinical Biomechanics.
1		
Gong et al., 2011	The influence of ankle joint mobilization on ROM of the ankle joint and maintenance of equilibrium in elderly women.	Journal of Physical Therapy Science.
2		
Cho et al., 2012	Effect of ankle joint mobilization on range of motion and functional balance of elderly adults.	Journal of Physical Therapy Science.
3		
Pertille et al., 2012	Immediate effects of bilateral grade III mobilization of the talocrural joint on the balance of elderly women.	Journal of Manipulative and Physiological Therapeutics.
4		
Shafizadegan et al., 2019	Evaluating the short term effects of kinesiology taping and stretching of gastrocnemius on postural control: A randomized clinical trial.	Journal of Bodywork and Movement Therapies.
5		
Studies related with ankle muscular strength:		
Amiridis et al., 2005	Static balance improvement in elderly after dorsiflexors electrostimulation training.	European Journal of Applied Physiology.
6		
Kobayashi et al., 2016	Effects of 4 weeks of explosive-type strength training for the plantar flexors on the rate of torque development and postural stability in elderly individuals.	International Journal of Sports Medicine.
7		
Ema et al., 2017	Effect of calf-raise training on rapid force production and balance ability in elderly men.	Journal of Applied Physiology.
8		
Barbosa et al., 2020	Force stability training decreased force variability of plantar flexor muscles without reducing postural sway in female older adults.	Gait and posture.
9		
Studies related with both ankle R.O.M and ankle muscular strength:		
Gras et al., 2004	A comparison of hip versus ankle exercises in elders and the influence on balance and gait.	Journal of Geriatric Physical Therapy.
10		