

Supplementary Table 1 Description of included trials

Author name (year) Country, World Bank classification	PEDro score Randomised/analysed	Participants (Setting, health status; n, age mean (SD), % female by group)	Intervention	Control	Outcomes	Follow up
Andersen et al. (2016) ^{a,b,c,d} Denmark, High income	7/10 27/26	<p>Recruitment setting: Community</p> <p>Health status: Healthy old men</p> <p>Soccer training group: n=10 (randomised); 9 (analysed) Age: 68 (4.0) % female: 0% (100% male)</p> <p>B. Control group: n= 8 (randomised and analysed) Age: 67.4 (2.7) % female: 0% (100% male)</p>	<p>The training consisted of small-sided games (three, four or five-a-side). For the first 12 weeks, each training session was initiated with a 15-min low-intensity warm-up, including stretching, and the training was organised as 3x15-min exercise periods with 2-min rest periods. From 13–52 weeks, the players perform an individual 5-min warm-up prior to the football training followed by 4x15-min exercise periods with 2-min rest periods.</p> <p>Type of sport: Soccer</p> <p>Duration of the intervention (weeks): 16^a, 52^{b,c,d}</p> <p>Frequency: 2 sessions/week for 16 weeks^a, and 3sessions/week for the following 36 weeks</p> <p>Session duration (min): 60</p> <p>Delivered by: Not specified</p> <p>Location: University</p>	No intervention	<p>Fitness^a measure by cycling test with breath-by-breath gas analysis (VO2 max)</p> <p>Body composition^b: whole body fat mass and lean mass were determined by whole body Dual energy X-ray absorptiometry (DXA) scanning.</p> <p>BMD^c: whole body measured by DXA.</p> <p>Strength^d assessed by an isokinetic dynamometer.</p> <p>Balance^d measured by a force platform.</p> <p>Functional function^d measured by a sit-to-stand test.</p>	16 weeks ^a 52 weeks ^{b,c}

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Country, World Bank classification	Randomised/analysed	(Setting, health status; n, age mean (SD), % female by group)				
Bjerre et al (2019) Denmark, High income	8/10 214/214 (Intention to treat analysis)	<p>Recruitment setting: Danish urological departments.</p> <p>Health status: Men diagnosed with prostate cancer</p> <p>Recreational soccer: n= 109 (randomised and analysed) Age: 67.8 (6.2) % female: 0% (100% male)</p> <p>Usual care group: n= 105 (randomised and analysed) Age: 69 (6.2) % female: 0% (100% male)</p>	<p>A. The training consisted of a 20-minute warm-up based on the FIFA 11+ program, with modified exercises for the upper body, followed by a 20-minute period with drills and lastly a 20-minute period of match play.</p> <p>Type of sport: Soccer</p> <p>Duration of the intervention (weeks): 26</p> <p>Frequency: 2 sessions/week</p> <p>Session duration (min): 60</p> <p>Delivered by: Local soccer coaches</p> <p>Location: Local soccer club</p>	B. Usual care	<p>Self-reported physical activity assessed by International Physical Activity Questionnaire (IPAQ).</p> <p>Physical function assessed by the physical domain of the 12-Item Short Form Health Survey (SF-12).</p> <p>Body composition: Whole-body fat mass and lean body mass assessed by DXA.</p> <p>Bone mineral density (BMD): whole body BMD assessed by DXA.</p> <p>Mental health assessed by mental health domain of SF-12.</p> <p>Quality of life assessed by Functional Assessment of Cancer Therapy–Prostate (FACT-P) questionnaire.</p>	26 weeks

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De Sousa et al. (2019) ^{e,f} Brazil, Upper-Middle income	4/10 51/41	Recruitment setting: Community Health status: Type-2 diabetes Age (total sample): 61 (6) Soccer + nutrition group: n= 19 (analysed) Age: not specified % female: 47% Nutrition group: n= 22 (analysed) Age: not specified % female: 55%	Supervised recreational soccer training consisted of ordinary small-sided (3v3 to 7v7) plus nutritional intervention. Type of sport: Soccer Duration of the intervention (weeks): 12 Frequency: 3 sessions/week Session duration (min): 40 Delivered by: not specified Location: not specified	Nutritional intervention: nutritional counselling plus dietary plan	Body composition^c: body fat mass measured by DXA. Body composition^f: Whole-body fat mass assessed using total-body DXA scanning. Fitness^f measured by cycling test with breath-by-breath gas analysis (VO ₂ max).	12 weeks
Pedersen et al. (2016) Denmark, High income	4/10 72/44	Recruitment setting: Seniors centres Health status: healthy untrained participants Team sport training group: n= 25 (randomised); 13 (analysed) Age: 79 (7) % female: 69% Control group: n= 21 (randomised); 12 (analysed) Age: 81 (5) % female: 50%	The team training group consisted of small-sided floorball, “cone ball,” “hula goal”. All team sport games were played 3 vs 3 or 4 vs 4 inside on a plastic floor sized ≈10 × 10 m, and no physical contact was allowed. Type of sport: floorball Duration of the intervention (weeks): 12 Frequency: 2 sessions/week Session duration (min): 60 Delivered by: not specified Location: Seniors centres	Control group not specified	Physical activity[*] measured by accelerometer. Strength[*] assessed using maximal repetitions of bicep curls. Physical function[*] measured by time up and go. Quality of life[*] measured using SF-12 and the Danish version of the Older People’s Quality of Life questionnaire (OPQOL).	12 weeks

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Pereira et al. (2020) Portugal, High income	5/10 71/67	Recruitment setting: Community Health status: untrained postmenopausal women Age (total sample): 68 (6) Team handball group: n= 42 (randomised); 41 (analysed) Age: not specified % female: 100% Control group: n= 29 (randomised); 26 (analysed) Age: not specified % female: 100%	The training involved standardised warm-up (comprising running, coordination, strength, flexibility, and balance exercises) and three 15-min period of recreational team handball played as small-sided games (mainly 5v5 and 6v6) and performed on an indoor court. No hard tackles were allowed, and the balls used during the training sessions were light and made of a soft material to avoid injuries. Type of sport: Handball Duration of the intervention (weeks): 16 Frequency: 2 to 3 sessions/week Session duration (min): 60 minutes Delivered by: not specified Location: not specified	Control group not specified	Physical activity measured by IPAQ Fitness measured by cycling test with breath-by-breath gas analysis (VO ₂ peak).	16 weeks
Shimada et al. (2017) Japan, High income	6/10 106/106	Recruitment setting: Community Health status: Healthy	The golf training involved 10 min warm-up period and stretching exercises, followed by a half-round of golf (100 min) and a 10 min cool-down period.	Health education	Strength: grip strength assessed by hand-held dynamometer. Mental health measured by Geriatric Depression Scale (GDS).	24 weeks

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		<p>Golf training group: n= 53 (randomised and analysed) Age: 70 (4) % female: 47%</p> <p>Control group: n= 53 (randomised and analysed) Age: 70 (5) % female: 45%</p>	<p>Type of sport: Golf</p> <p>Duration of the intervention (weeks): 24</p> <p>Frequency: not specified</p> <p>Session duration (min): 90 to 120</p> <p>Delivered by: professional golfer and staff members</p> <p>Location: Local golf club</p>			
Skoradal et al. (2018) ^{g,h} Faroe Islands, High income	5/10 55/50	<p>Recruitment setting: population register</p> <p>Health status: prediabetes</p> <p>Age (total sample): 61 (9)</p> <p>Soccer training group: n= 27 (analysed) Age: not specified % female: 52%</p> <p>Control group: n= 23 (analysed) Age: not specified % female: 48%</p>	<p>All sessions were organised as small-sided games (4v4-6v6) and were preceded by a 10-minute warm-up period plus dietary advice.</p> <p>Type of sport: Soccer</p> <p>Duration of the intervention (weeks): 16</p> <p>Frequency: mean of 2 sessions weekly</p> <p>Session duration (min): 30 to 60</p> <p>Delivered by: not specified</p> <p>Location: not specified</p>	Dietary advice	<p>BMD^g: total body measured by DXA scanning.</p> <p>Body composition^h: body mass; body fat; fat mass; lean body mass; waist circumference (DXA)</p> <p>Fitness^h assessed by cycling test with breath-by-breath gas analysis (VO₂ max).</p>	16 weeks

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Uth et al. (2014) ^{1,j} Denmark, High income	5/10 57/49	<p>Recruitment setting: Outpatient clinic</p> <p>Health status: Patients with prostate cancer undergoing androgen deprivation therapy</p> <p>Soccer training group: n= 29 (randomised) and 26 (analysed) Age: 67 (7) % female: 0% (100% male)</p> <p>Control group: n= 28 (randomised) and 23 (analysed) Age: 67 (5) % female: 0% (100% male)</p>	<p>The soccer training consisted of 15 min of warm-up exercises (running, dribbling, passing, shooting, balance, and muscle strength exercises) followed 5 to 7 a-side small-sided games.</p> <p>Type of sport: Soccer</p> <p>Duration of the intervention (weeks): 12</p> <p>Frequency: 2 to 3 sessions/week</p> <p>Session duration (min): 45 to 60</p> <p>Delivered by: experienced instructor</p> <p>Location: University</p>	Usual care	<p>Fitnessⁱ assessed by cycling test with breath-by-breath gas analysis (VO₂ max).</p> <p>Body compositionⁱ: lean body mass and body fat mass were determined by DXA.</p> <p>Strengthⁱ measured by a knee-extensor resistance machine with the 1RM test.</p> <p>Physical functionⁱ assessed by sit to stand</p> <p>Balance^j measured by a force platform.</p> <p>BMD^j: total-body measured by DXA scanning.</p>	12 weeks
Vorup et al. (2017) Denmark, High income	5/10 67/48	<p>Recruitment setting: Community</p> <p>Health status: Healthy untrained older people</p> <p>Floorball group: n= 22 (randomised) and 18 (analysed) Age: 74 (6)</p>	<p>Customised and supervised small-sided floorball and 'cone ball' performed indoor on a wooden surface. During the first 4 weeks, participants performed 4x4 min separated by 4 min of rest, and this was progressively increased to 5x4 and 6x4 min in weeks 5 to 8 and 9 to 12, respectively.</p>	No intervention	<p>Strength measured by maximal thigh strength (MVC) test.</p> <p>Physical function measured by sit to stand test.</p> <p>Body composition: lean mass and fat mass assessed by DXA.</p>	12 weeks

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Country, World Bank classification	Randomised/analysed	(Setting, health status; n, age mean (SD), % female by group)				
		% female: 56% B. Control group: n= 22 (randomised) and 17 (analysed) Age: 72 (7) % female: 53%	Type of sport: floorball Duration of the intervention (weeks): 12 Frequency: 3 sessions/week Session duration (min): 16 to 24 Delivered by: not specified Location: not specified			
Same trials reporting different outcomes: ^a Andersen et al. 2014, ^b Andersen et al. 2016, ^c Helge et al. 2014, ^d Sundstrup et al. 2016, ^e De Sousa et al. 2019, ^f Vieira de Sousa et al. 2019, ^g Skoradal et al. 2018 (a), ^h Skoradal et al. 2018 (b), ⁱ Uth et al. 2014, ^j Uth et al. 2016. *Data for these outcomes were not included in the meta-analysis, as the authors only reported pooled sport intervention and resistance training results. DXA: Dual energy X-ray absorptiometry; IPAQ: International Physical Activity Questionnaire; SF-12: 12-Item Short Form Health Survey; BMD: bone mineral density; FACT-P: Functional Assessment of Cancer Therapy–Prostate; OPQOL: Older People’s Quality of Life questionnaire; GDS: Geriatric Depression Scale; MVC: maximal thigh strength.						