

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) <sup>a,b,c,d</sup> Denmark, High income	7/10 27/26	<p><b>Recruitment setting:</b> Community</p> <p><b>Health status:</b> Healthy old men</p> <p><b>Soccer training group:</b> n=10 (randomised); 9 (analysed) <b>Age:</b> 68 (4.0) <b>% female:</b> 0% (100% male)</p> <p><b>B. Control group:</b> n= 8 (randomised and analysed) <b>Age:</b> 67.4 (2.7) <b>% female:</b> 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><b>Type of sport:</b> Soccer</p> <p><b>Duration of the intervention (weeks):</b> 16<sup>a</sup>, 52<sup>b,c,d</sup></p> <p><b>Frequency:</b> 2 sessions/week for 16 weeks<sup>a</sup>, and 3sessions/week for the following 36 weeks</p> <p><b>Session duration (min):</b> 60</p> <p><b>Delivered by:</b> Not specified</p> <p><b>Location:</b> University</p>	No intervention	<p><b>Fitness<sup>a</sup></b> measure by cycling test with breath-by-breath gas analysis (VO2 max)</p> <p><b>Body composition<sup>b</sup>:</b> whole body fat mass and lean mass were determined by whole body Dual energy X-ray absorptiometry (DXA) scanning.</p> <p><b>BMD<sup>c</sup>:</b> whole body measured by DXA.</p> <p><b>Strength<sup>d</sup></b> assessed by an isokinetic dynamometer.</p> <p><b>Balance<sup>d</sup></b> measured by a force platform.</p> <p><b>Functional function<sup>d</sup></b> measured by a sit-to-stand test.</p>	16 weeks <sup>a</sup> 52 weeks <sup>b,c</sup>

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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><b>Recruitment setting:</b> Danish urological departments.</p> <p><b>Health status:</b> Men diagnosed with prostate cancer</p> <p><b>Recreational soccer:</b> n= 109 (randomised and analysed) Age: 67.8 (6.2) % female: 0% (100% male)</p> <p><b>Usual care group:</b> n= 105 (randomised and analysed) Age: 69 (6.2) % female: 0% (100% male)</p>	<p><b>A.</b> 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><b>Type of sport:</b> Soccer</p> <p><b>Duration of the intervention (weeks):</b> 26</p> <p><b>Frequency:</b> 2 sessions/week</p> <p><b>Session duration (min):</b> 60</p> <p><b>Delivered by:</b> Local soccer coaches</p> <p><b>Location:</b> Local soccer club</p>	<b>B.</b> Usual care	<p><b>Self-reported physical activity</b> assessed by International Physical Activity Questionnaire (IPAQ).</p> <p><b>Physical function</b> assessed by the physical domain of the 12-Item Short Form Health Survey (SF-12).</p> <p><b>Body composition:</b> Whole-body fat mass and lean body mass assessed by DXA.</p> <p><b>Bone mineral density (BMD):</b> whole body BMD assessed by DXA.</p> <p><b>Mental health</b> assessed by mental health domain of SF-12.</p> <p><b>Quality of life</b> assessed by Functional Assessment of Cancer Therapy–Prostate (FACT-P) questionnaire.</p>	26 weeks

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De Sousa et al. (2019) <sup>e,f</sup> Brazil, Upper-Middle income	4/10 51/41	<b>Recruitment setting:</b> Community  <b>Health status:</b> Type-2 diabetes  <b>Age (total sample):</b> 61 (6)  <b>Soccer + nutrition group:</b> n= 19 (analysed) Age: not specified % female: 47%  <b>Nutrition group:</b> n= 22 (analysed) Age: not specified % female: 55%	Supervised recreational soccer training consisted of ordinary small-sided (3v3 to 7v7) plus nutritional intervention.  <b>Type of sport:</b> Soccer  <b>Duration of the intervention (weeks):</b> 12  <b>Frequency:</b> 3 sessions/week  <b>Session duration (min):</b> 40  <b>Delivered by:</b> not specified  <b>Location:</b> not specified	Nutritional intervention: nutritional counselling plus dietary plan	<b>Body composition<sup>c</sup>:</b> body fat mass measured by DXA.  <b>Body composition<sup>f</sup>:</b> Whole-body fat mass assessed using total-body DXA scanning.  <b>Fitness<sup>f</sup></b> measured by cycling test with breath-by-breath gas analysis (VO <sub>2</sub> max).	12 weeks
Pedersen et al. (2016) Denmark, High income	4/10 72/44	<b>Recruitment setting:</b> Seniors centres  <b>Health status:</b> healthy untrained participants  <b>Team sport training group:</b> n= 25 (randomised); 13 (analysed) Age: 79 (7) % female: 69%  <b>Control group:</b> 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.  <b>Type of sport:</b> floorball  <b>Duration of the intervention (weeks):</b> 12  <b>Frequency:</b> 2 sessions/week  <b>Session duration (min):</b> 60  <b>Delivered by:</b> not specified <b>Location:</b> Seniors centres	Control group not specified	<b>Physical activity<sup>*</sup></b> measured by accelerometer.  <b>Strength<sup>*</sup></b> assessed using maximal repetitions of bicep curls.  <b>Physical function<sup>*</sup></b> measured by time up and go.  <b>Quality of life<sup>*</sup></b> 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	<p><b>Recruitment setting:</b> Community</p> <p><b>Health status:</b> untrained postmenopausal women</p> <p><b>Age (total sample):</b> 68 (6)</p> <p><b>Team handball group:</b> n= 42 (randomised); 41 (analysed) <b>Age:</b> not specified <b>% female:</b> 100%</p> <p><b>Control group:</b> n= 29 (randomised); 26 (analysed) <b>Age:</b> not specified <b>% female:</b> 100%</p>	<p>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.</p> <p><b>Type of sport:</b> Handball</p> <p><b>Duration of the intervention (weeks):</b> 16</p> <p><b>Frequency:</b> 2 to 3 sessions/week</p> <p><b>Session duration (min):</b> 60 minutes</p> <p><b>Delivered by:</b> not specified</p> <p><b>Location:</b> not specified</p>	Control group not specified	<p><b>Physical activity</b> measured by IPAQ</p> <p><b>Fitness</b> measured by cycling test with breath-by-breath gas analysis (VO<sub>2</sub> peak).</p>	16 weeks
Shimada et al. (2017) Japan, High income	6/10 106/106	<p><b>Recruitment setting:</b> Community</p> <p><b>Health status:</b> Healthy</p>	<p>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.</p>	Health education	<p><b>Strength:</b> grip strength assessed by hand-held dynamometer.</p> <p><b>Mental health</b> measured by Geriatric Depression Scale (GDS).</p>	24 weeks

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

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Uth et al. (2014) <sup>1,j</sup> Denmark, High income	5/10 57/49	<p><b>Recruitment setting:</b> Outpatient clinic</p> <p><b>Health status:</b> Patients with prostate cancer undergoing androgen deprivation therapy</p> <p><b>Soccer training group:</b> n= 29 (randomised) and 26 (analysed) Age: 67 (7) % female: 0% (100% male)</p> <p><b>Control group:</b> 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><b>Type of sport:</b> Soccer</p> <p><b>Duration of the intervention (weeks):</b> 12</p> <p><b>Frequency:</b> 2 to 3 sessions/week</p> <p><b>Session duration (min):</b> 45 to 60</p> <p><b>Delivered by:</b> experienced instructor</p> <p><b>Location:</b> University</p>	Usual care	<p><b>Fitness<sup>i</sup></b> assessed by cycling test with breath-by-breath gas analysis (VO<sub>2</sub> max).</p> <p><b>Body composition<sup>i</sup>:</b> lean body mass and body fat mass were determined by DXA.</p> <p><b>Strength<sup>i</sup></b> measured by a knee-extensor resistance machine with the 1RM test.</p> <p><b>Physical function<sup>i</sup></b> assessed by sit to stand</p> <p><b>Balance<sup>j</sup></b> measured by a force platform.</p> <p><b>BMD<sup>j</sup>:</b> total-body measured by DXA scanning.</p>	12 weeks
Vorup et al. (2017) Denmark, High income	5/10 67/48	<p><b>Recruitment setting:</b> Community</p> <p><b>Health status:</b> Healthy untrained older people</p> <p><b>Floorball group:</b> 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><b>Strength</b> measured by maximal thigh strength (MVC) test.</p> <p><b>Physical function</b> measured by sit to stand test.</p> <p><b>Body composition:</b> lean mass and fat mass assessed by DXA.</p>	12 weeks

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		% female: 56%  <b>B. Control group:</b> n= 22 (randomised) and 17 (analysed) Age: 72 (7) % female: 53%	<b>Type of sport:</b> floorball  <b>Duration of the intervention (weeks):</b> 12  <b>Frequency:</b> 3 sessions/week  <b>Session duration (min):</b> 16 to 24  <b>Delivered by:</b> not specified  <b>Location:</b> not specified			
Same trials reporting different outcomes: <sup>a</sup> Andersen et al. 2014, <sup>b</sup> Andersen et al. 2016, <sup>c</sup> Helge et al. 2014, <sup>d</sup> Sundstrup et al. 2016, <sup>e</sup> De Sousa et al. 2019, <sup>f</sup> Vieira de Sousa et al. 2019, <sup>g</sup> Skoradal et al. 2018 (a), <sup>h</sup> Skoradal et al. 2018 (b), <sup>i</sup> Uth et al. 2014, <sup>j</sup> 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.						