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*The figures and tables below present the results of the data extraction, primary analyses and component network meta-analyses excluding post-hoc analyses. For results including post-hoc analyses, please contact the corresponding author.

Supplementary Appendix S1. Characteristics of the 220 included studies

Supplementary Table S1. Characteristics of the 220 included studies with community-dwelling participants

First author, year[a]	Country	Comparison(s)[b]	Outcome(s)[c]	Sample size	Mean age (years)	Female (%)	Duration of treatment (weeks)	Duration of follow-up (weeks)	Fallers[d] (%)
Aloia, 2019[1]	United States	Med; ph_pbo	FALL, FX	184	68.2	100	144	144	14
Ansai, 2016[2]	Brazil	Exerc; exerc; uc	FALL	69	82.4	68	16	16	44;30;35*
Arantes, 2015[3]	Brazil	Exerc; non-ph_pbo	FALL	28	73.9;72.2*	100	12	52	100
Arkkukangas, 2019[4]	Sweden	Exerc+qualt; uc	FALL, FRATE	107	83	70	12	12	42
Ashari, 2016[5]	Malaysia	Exerc; uc	FALL	68	63.7	57	16	16	21
Ballard, 2004[6]	United States	Exerc; non-ph_pbo	FALL, FRATE	39	73.4; 72.4*	100	15	52	100
Barker, 2016[7]	Australia	Exerc+brisk; brisk	FALL, FRATE	49	69.3	88	12	24	65;52*
Barnett, 2003[8]	Australia	Exerc+qualt; qualt	FALL, RFALL	163	74.9	67	52	52	43;41*
Barr, 2005[9]	United Kingdom	Brisk; uc	FALL, FX, HIP, FRATE	2686	77.1	100	111	103	26;29*
Beck, 2010[10]	Australia	Vibr; uc	FALL, FRATE	47	71.5	100	35	35	NR
Beck 2016[11]	Denmark	Exerc+nutr+qualt; qualt	FALL, FRATE	95	86.6	75	11	11	NR
Beling, 2009[12]	United States	Exerc; uc	FRATE	19	79; 87*	36; 50*	12	12	36;65*
Bernardelli, 2019[13]	Italy	Exerc; uc	FALL	149	75.6	80	16	16	NR
Bernocchi, 2019[14]	Italy	Exerc+qualt; qualt	FALL	283	79	59	24	26	73;65*
Bischoff-Ferrari, 2006[15]	United States	Med; ph_pbo	FALL	445	70.8	55	156	156	NR
Blalock, 2010[16]	United States	Brisk+qualt; qualt	FALL, FRATE	186	74.8	71	NR	42;47*	43;48*
Boongird, 2017[17]	Thailand	Exerc+qualt; qualt	FALL, FRATE	427	74.1; 73.9*	84; 81*	52	52	NR
Boyé, 2016[18]	The Netherlands	Brisk; uc	FALL	580	76	62	NA	52	100
Brown, 2002[19]	Australia	Social; exerc+qualte; uc	FALL	149	80.7	NR	16	32	49;38;44*
Buchner, 1997[20]	United States	Exerc; uc	FALL, FRATE	105	75	52;50*	24	24	22
Bunout, 2005[21]	Chile	Exerc; uc	FALL, FRATE	298	75	71	52	52	NR
Cameron, 2003[22]	Australia	Assist+qualt; uc	FX, RFALL, HIP, FXRATE, FRATE	600	NR	100	104	104	100
Cameron, 2011[23]	Australia	Assist+qualt; assist; qualt	FALL, FX, FRATE, FXRATE	171	83;84;82*	72;78; 72*	26	26	NR
Carpenter, 1990[24]	United Kingdom	Social; uc	FRATE	539	NR	65	156	72	NR
Chapuy, 2002[25]	France	Med; ph_pbo	FALL, FX, HIP	583	85.2	100	104	104	NR
Choi, 2005[26]	South Korea	Exerc; uc	FALL	68	77.9	75	12	12	66;57*

Chu, 2017[27]	China	Envir+assist+brisk+qualt; non-ph_pbo	FALL, RFALL	204	78.3	71	<1	52	NR
Ciaschini, 2009[28]	Canada	Exerc+envir+qualt+hypot +brisk; uc	FALL	201	71.9	94	NR	52	43;40*
Clemson, 2004[29]	Australia	Exerc+brisk+qualt; social	FALL, RFALL, FRATE	310	78.4	74	20	60	65;65*
Clemson, 2010[30]	Australia	Exerc+qualt; uc	FALL, RFALL, FRATE	34	81.5	47	26	26	100
Clemson, 2012[31]	Australia	Exerc; non-ph_pbo	FALL, FX, RFALL, FRATE	317	83.4	55	52	52	100
Close, 1999[32]	United Kingdom	Assist+envir+qualt+hypot +brisk; uc	FALL, FRATE	397	78.2	68	NR	52	100
Cohen, 2015[33]	United States	Qualt+brisk; qualt	FALL	5310	81	59	52	52	NR
Coleman, 1999[34]	United States	Qualt+brisk; uc	FALL	169	77.3	49	104	104	NR
Conroy, 2010[35]	United Kingdom	Exerc+envir+assist+hypot +brisk; qualt	FALL, FRATE	364	79	60	NR	52	59;56*
Cornillon, 2002[36]	France	Exerc+qualt+hypot+brisk; uc	FALL, FRATE	298	71.3;70.9*	83	12	52	75; 76*
Cumming, 1999[37]	Australia	Envir; uc	FALL, FRATE	530	76.8	57	2	52	39;39*
Cumming, 2007[38]	Australia	Envir+assist; uc	FALL, FX, HIP, FRATE	616	80.6	68	<1	52	54;55*
Dadgari, 2016[39]	Iran	Exerc; uc	FALL, RFALL	317	70.3	NR	26	26	NR
Dangour, 2011[40]	Chile	Exerc+nutr; exerc; nutr; uc	FALL, FX	2002	66.2	68	104	104	NR
Dapp, 2011[41]	Switzerland	Qualt+brisk; uc	RFALL	1963	71.9;71.8*	62;63*	52	52	NR
Davison, 2005[42]	United Kingdom	Exerc+envir+assist+hypot +brisk; uc	FALL, FX, FRATE	313	77	72	NR	52	100
Day, 2015[43]	Australia	Exerc+qualt; non-ph_pbo	FALL, RFALL, FRATE	503	77.7	70	48	48	29;30*
De Vries, 2010[44]	The Netherlands	Exerc+med+envir+assist+ hypot+brisk; uc	FALL, RFALL, FX	217	79.8	71	NR	52	100
Dhesi, 2004[45]	United Kingdom	Med; ph_pbo	FALL, FRATE	139	76.8	78	26	26	100
Dorresteijn, 2016[46]	The Netherlands	Psych+qualt; uc	FALL, RFALL, FRATE	389	78.3	70	17	52	NR
Dukas, 2004[47]	Switzerland	Med; ph_pbo	FALL, FRATE	378	75.0	52	36	36	5;13*
Dyer, 2004[48]	United Kingdom	Exerc+assist+envir+qualt +brisk; uc	FALL, FX, FRATE	196	87.3	78	13	13	NR
Ebrahim, 1997[49]	United Kingdom	Exerc+qualt; qualt	FALL, FX, FRATE	165	67.2	100	104	104	59;56*
El-Khoury, 2015[50]	France	Exerc+qualt; qualt	FALL, FRATE	706	79.7	100	104	104	39;45*

Elley, 2008[51]	New Zealand	Exerc+envir+assist+brisk; qualt	FALL, RFALL, FRATE	312	80.8	69	52	52	100
Fabacher, 1994[52]	United States	Envir+qualt+hypot+brisk; uc	FALL	195	73.5;71.8*	2	52	52	17;14*
Fairhall, 2014[53]	Australia	Exerc+incont+nutr+psych +envir+qualt+brisk; uc	FALL, FX, FRATE	241	83.3	68	52	52	NR
Ferrer, 2014[54]	Spain	Exerc+nutr+envir+assist+ brisk; uc	FALL, FX, FRATE	328	85	62	104	104	30;27*
Fitzharris, 2010[55]	Australia	Exerc+envir+assist; envir+assist; exerc+envir; exerc+assist; envir; assist; exerc; uc	FALL, RFALL, FRATE	1107	76.1	60	15	76	6
Fox, 2010[56]	United States	Exerc+incont+envir+assis t+qualt+brisk; brisk	FALL	552	76.8	67	NR	52	58;42*
Freiberger, 2012[57]	Germany	Exerc+psych+qualt; exerc; exerc; uc	FRATE	280	76.1	44	16	104	NR
Gallagher, 2001[58]	United States	Med; uc	FX	489	72	100	156	156	NR
Gawler, 2016[59]	United Kingdom	Exerc; uc	FALL, FRATE	791	73	62	24	104	22
Giangregorio, 2018[60]	Canada, Australia	Exerc; non-ph_pbo	FALL	141	76;77*	100	52	52	37;30*
Gianoudis, 2014[61]	Australia	Exerc+qualt; qualt	FALL, RFALL, FX, FRATE	162	67.5	73	52	52	100
Gill, 2016[62]	United States	Exerc; exerc+qualt	HIP, FXRATE	1635	78.9	67	104 - 183	180	50;49*
Giusti, 2013[63]	Italy	Vibr; non-ph_pbo	FALL	41	85.2	93	<1	4	NR
Glendenning, 2012[64]	Australia	Med+qualt; qualt	FALL, RFALL, FX	686	76.7	100	36	36	33;25*
Grahn Kronhed, 2009[65]	Sweden	Exerc; uc	FALL	65	71.4	100	17	52	23;44*
Grant, 2005[66]	United Kingdom	Med; ph_pbo	FALL	5292	NR	85	194	268	NR
Gschwind, 2015[67]	Germany, Spain, Australia	Exerc+qualt; qualt	FALL, FRATE	153	74.7	61	16	16	33; 36*
Guse, 2015[68]	United States	Exerc+qualt; uc	FALL, FRATE	516	79.2;78.8*	87;79*	104	104	13;18*
Haines, 2009[69]	Australia	Exerc+qualt; uc	FALL, FX, FRATE	53	80.6	60	8	26	NR
Halvarsson, 2013[70]	Sweden	Exerc; uc	FALL	59	77	71	12	64	90
Harper, 2017[71]	Australia	Qualt; uc	FALL, FRATE	378	79.3;79.1*	64;66*	1	24	45;40*
Harwood, 2004[72]	United Kingdom	Med; uc	FALL	150	81.2	100	<1	52	NR
Hendriks, 2008[73]	The Netherlands	Envir+assist+qualt+brisk; uc	FALL, RFALL	333	74.9	68	15	52	100
Hill, 2013[74]	Australia	Qualt; uc	FALL, FX, HIP, FRATE	50	78.3	66	2	4	NR

Hill, 2019[75]	Australia	Qualt; non-ph_pbo	FALL, RFALL, FX, FRATE	382	77.4;78.1	60;63	1	24	73; 69*
Hin, 2017[76]	England	Med; ph_pbo	FALL	305	72	49	52	52	NR
Hogan, 2001[77]	Canada	Exerc+envir+assist+hypot +brisk; social	FALL, FX, HIP, FRATE	163	77.7	72	NR	52	100
Holt, 2016[78]	New Zealand	Chiro; uc	FALL	60	72	60	12	12	18
Hornbrook, 1994[79]	United States	Exerc+envir+qualt; qualt	FALL, FX	3182	73.4	62	4	104	14;15*
Houston, 2015[80]	United States	Med; ph_pbo	FALL, FRATE	68	77.9	72	22	20	63;59*
Huang, 1998[81]	Taiwan	Envir+qualt+brisk; qualt	FALL	120	72.4;71.6*	38;53*	16	8	17;15*
Huang, 2010[82]	Taiwan	Qualt; exerc; exerc+qualt; uc	FALL	163	71.5	49	20	52	24;13;38;17
Huang, 2011[83]	Taiwan	Exerc+psych+qualt; psych+qualt; qualt	FALL	186	NR	59	8	20	NR
Imhof, 2012[84]	Switzerland	Qualt+brisk; uc	FALL	461	85	73	39	40	34;44
Iwamoto, 2009[85]	Japan	Exerc; uc	FALL	68	76.4	90	22	22	NR
Kamei, 2015[86]	Japan	Exerc+envir+qualt+brisk; exerc+qualt+brisk	FALL	130	75.7;75.8*	84;86*	4	52	28;29*
Kamide, 2009[87]	Japan	Exerc+qualt; uc	FALL	57	71	100	26	52	NR
Karinkanta, 2015[88]	Finland	Exerc; exerc; exerc; uc	FX, HIP, FXRATE	149	NR	100	52	52	NR
Kärkkäinen, 2010[89]	Finland	Med; uc	FALL, RFALL	750	67.4	100	156	156	NR
Kemmler, 2010[90]	Germany	Exerc+med; med	FX, FRATE	246	NR	100	77	77	NR
Kerse, 2005[91]	New Zealand	Exerc+qualt; uc	FALL	270	71.6	63	52	52	NR
Kerse, 2008[92]	New Zealand	Exerc+qualt; non-ph_pbo	FALL	682	84.3	74	26	52	NR
Khaw, 2017[93]	New Zealand	Med; ph_pbo	FALL, RFALL	5056	65.9	42	177	NR	NR
Kim, 2014[94]	Japan	Exerc; qualt	FALL, RFALL, FX	105	77.8	100	13	52	100
Kingston, 2001[95]	United Kingdom	Qualt+brisk; uc	FALL	193	71.9	100	52	52	100
Korpelainen, 2006[96]	Finland	Exerc; uc	FX, HIP, FRATE, FXRATE	160	NR	100	129	128	NR
Kovacs, 2013[97]	Hungary	Exerc; uc	FALL	72	68.5;68.3	100	25	26	NR
Lamb, 2018[98]	United Kingdom	Exerc; qualt	FALL, FX, FRATE, FXRATE	418	78.4;76.9*	36;41*	16	52	32
Lee, 2007[99]	Canada	Assist+qualt; uc	FALL	86	79.7	72	9	9	100
Lee, 2013[100]	Taiwan	Exerc+envir+assist+qualt +brisk; qualt+brisk	FALL, FRATE	616	75.7	55	13	52	41;29*
Lehtola, 2000[101]	Finland	Exerc; uc	FALL, FRATE	131	72.3;72.4*	80	26	42	10;9*
Leung, 2014[102]	China	Vibr; uc	FALL, RFALL, FX, FRATE	710	72.9	100	78	78	NR
Li, 2005[103]	United States	Exerc; non-ph_pbo	FALL, RFALL	256	77.5	70	26	26	NR

Li, 2018[104]	United States	Exerc; exerc; non-ph_pbo	FALL, RFALL, FRATE	670	77.7	65	24	24	72
Lightbody, 2002[105]	United Kingdom	Exerc+envir+assist+qualt +hypot+brisk; uc	FALL, FRATE	348	75	74	4	26	42
Lips, 1996[106]	The Netherlands	Med; ph_pbo	FX, HIP	2578	NR	74	208	208	NR
Liu-Ambrose, 2005[107]	Canada	Exerc; exerc; non-ph_pbo	FALL, RFALL, FRATE	97	79.6; 78.9; 79.5*	100	25	52	16;18;19*
Liu-Ambrose, 2008[108]	Canada	Exerc+qualt+brisk; brisk	FALL, RFALL, FRATE	59	82.2	69	52	52	100
Logan, 2010[109]	United Kingdom	Exerc+envir+qualt+brisk; uc	FALL, FRATE	204	82.5	65	6	52	NR
Logghe, 2009[110]	The Netherlands	Exerc+qualt; qualt	FALL, FRATE	269	77.2	71	13	52	64;60*
Lord, 1995[111]	Australia	Exerc; uc	FALL, RFALL	197	71.6	100	52	52	28;29*
Lord, 2003[112]	Australia	Exerc; non-ph_pbo, uc	FALL, FRATE	551	79.5	86	52	52	35;33;34*
Lord, 2005[113]	Australia	Exerc+surg+assist+qualt; uc	FALL, RFALL, FRATE	403	80.4	66	52	52	NR
Lurie, 2013[114]	United States	Exerc; exerc	FALL	64	80.0	59	12	12	NR
Luukinen, 2007[115]	Finland	Exerc+qualt+brisk; uc	FALL, FRATE	437	88	79	69	68	NR
MacRae, 1994[116]	United States	Exerc+qualt; qualt	FALL	59	72.4;70.0*	100	52	52	32;26*
Madureira, 2010[117]	Brazil	Exerc; qualt	FALL, FRATE	66	74.0	100	52	52	NR
Mahoney, 2007[118]	United States	Exerc+psych+envir+assist +qualt+brisk; envir	FRATE	282	79.6;80.3*	79;78	NA	52	100
Markle-Reid, 2010[119]	Canada	Qualt+brisk; qualt	FRATE	109	NR	72	26	26	NR
Matchar, 2017[120]	Singapore	Exerc+envir+assist+qualt +brisk; qualt	FALL	354	77.8	77	13	36	46;37*
McKiernan, 2005[121]	United States	Assist+qualt; qualt	FALL, FRATE	109	74.2	60	NR	14	100
McMurdo, 1997[122]	United Kingdom	Exerc; uc	FALL, FX	118	65	100	104	104	NR
McMurdo, 2000[123]	United Kingdom	Exerc+envir+assist+hypot +brisk; social	FALL, FX, FRATE	133	84	81	26	52	NR
McMurdo, 2009[124]	United Kingdom	Nutr; ph_pbo	FALL	253	81.8	61	16	16	NR
Means, 2005[125]	United States	Exerc; social	FALL	338	73.5	57	6	26	NR
Merom, 2016[126]	Australia	Exerc+qualt; qualt	FALL, FRATE	530	78	85	52	52	27;28*
Miko, 2018[127]	Hungary	Exerc; uc	FALL, FRATE	97	69.3;69.1*	100	52	52	NR
Mikolaizak, 2017[128]	Australia	Exerc+envir+assist+qualt +brisk; brisk	FRATE	163	83.3	64	52	52	70;64*
Möller, 2014[129]	Sweden	Exerc+envir+qualt+brisk; uc	FALL, RFALL, FRATE, FXRATE	153	77.8	67	52	52	NR
Morgan, 2004[130]	United States	Exerc; uc	FALL	229	80.6	71	8	52	39;33*

Morris, 2008[131]	United States	Exerc; exerc; qualt	FALL, RFALL	18	73.5;74.8; 81.4*	100	8	25	50
Mott, 2016[132]	United States	Brisk; qualt	FALL, RFALL	80	74.9;76.3*	77;81*	NA	26	NR
Newbury, 2001[133]	Australia	Brisk; uc	FALL	100	79.3	63	<1	52	27; 39*
Ng, 2015[134]	Singapore	Exerc+psych+nutr; exerc; nutr; psych; ph_pbo	FALL	246	70	61	24	52	NR
Nikolaus, 2003[135]	Germany	Envir+assist+brisk; brisk	RFALL, FX, HIP, FRATE	360	NR	73	52	52	NR
Nowalk, 2001[136]	United States	Exerc+psych+qualt; exerc+qualt; exerc+qualt	FALL	110	84.7	87	89	104	61
Ohtake, 2013[137]	Japan	Exerc+qualt; qualt	FALL	182	83.6	84	8	9	27; 22*
Okubo, 2016[138]	Japan	Exerc+social+qualt; exerc+social+qualt	FRATE	75	70.1	60;65*	12	61	30;18*
Oliveira, 2019[139]	Australia	Qualt+brisk; qualt	FALL, FX, FRATE	114	71;72*	43;50	24	52	17;30*
Olsen, 2014[140]	Norway	Exerc+qualt; uc	FALL	89	71.1	100	13	52	62;38*
Pai, 2014[141]	United States	Exerc; non-ph_pbo	FALL, RFALL, FX	212	73.3	28	NR	52	NR
Palvanen, 2014[142]	Finland	Exerc+med+surg+nutr+envir+assist+qualt+brisk; qualt	FALL, FX, FRATE, FXRATE	1314	77.5; 77.7*	86	52	52	NR
Pardessus, 2002[143]	France	Envir+qualt; qualt	FALL, FRATE	60	83.2	78	52	52	NR
Park, 2008[144]	Korea	Exerc; uc	FALL	50	68.4	100	48	48	20;18*
Parry, 2016[145]	United Kingdom	Psych+qualt; uc	FALL, FRATE	415	75.5	NR	26	26	NR
Patil, 2015[146]	Finland	Exerc; uc	FALL, RFALL, FX, FRATE	409	74.4;74.0*	100	104	104	100
Peel, 2000[147]	Australia	Envir; non-ph_pbo	FRATE	195	69	79	52	52	34
Pekkarinen, 2013[148]	Finland	Exerc+mde+qualt; uc	HIP	2178	65.3	100	1	520	NR
Perry, 2008[149]	Canada	Assist; uc	FALL	40	69	48	12	12	NR
Pérula, 2012[150]	Spain	Exerc+envir+qualt; qualt	FALL, FX	404	76.4	53	52	52	33;30*
Pighills, 2011[151]	United Kingdom	Envir; uc	FALL, FRATE	238	79	67	52	52	100
Pit, 2007[152]	Australia	Qualt+brisk; uc	FALL	849	NR	60	NR	52	22;29*
Porthouse, 2005[153]	United Kingdom	Med; qualt	FALL	2838	77.0;76.7*	100	100	100	34
Rantz, 2017[154]	United States	Assist; uc	FALL	171	83.6;86.0*	74;73*	55;50*	52	NR
Reinsch, 1992[155]	United States	Exerc+psych; exerc; psych; qualt	FALL, RFALL	230	74.4	80	52	52	19;37;26;36*
Robertson, 2001[156]	New Zealand	Exerc+qualt; uc	FALL, FRATE	240	80.9	100	52	52	36;38*
Robson, 2003[157]	Canada	Exerc+qualt+brisk; uc	FALL	660	73	81	17	46;44*	32;26*
Rubenstein, 2000[158]	United States	Exerc; uc	FALL	59	75.5	0	12	12	NR

Rubenstein, 2007[159]	United States	Incont+psych+assist+qualt; uc	FALL	673	74.6;74.3*	4;3*	NA	156	40;39*
Russell, 2010[160]	Australia	Exerc+nutr+envir+assist+qualt+brisk; qualt+brisk	FALL, FRATE	712	75.4	70	NR	52	100
Ryan, 1996[161]	United States	Qualt; uc	FALL, FRATE	30	78	100	1	12	NR
Sakamoto, 2013[162]	Japan	Exerc; uc	FALL, FX	1788	80.4	81	26	26	35;31*
Sales, 2017[163]	Australia	Exerc; social	FALL	48	71.4	70	18	52	62;63*
Salminen, 2009[164]	Finland	Exerc+psych+envir+assist+qualt+brisk; qualt	FALL, FX, HIP, FRATE	591	72.8	84	52	52	100
Sambrook, 2012[165]	Australia	Med; qualt	FALL, FX, FRATE, FXRATE	602	86.4	71	52	52	42;40*
Sanders, 2010[166]	Australia	Med; ph_pbo	FALL, RFALL, FX, HIP, FRATE, FXRATE	2256	76.1	100	205	154	NR
Sattin, 2005[167]	United States	Exerc; qualt	FALL, RFALL	311	80.9	94	48	48	100
Schoene, 2015[168]	Australia	Exerc+qualt; qualt	FALL	90	81.5	67	16	16	38;28*
Schoon, 2018[169]	The Netherlands	Exerc; uc	FALL, FRATE	78	80.3	65	24	24	NR
Serra-Prat, 2017[170]	Spain	Exerc+nutr; uc	FALL	133	77.9;78.8*	57	NR	52	NR
Sherrington, 2014[171]	Australia	Exerc+qualt; qualt	FALL, RFALL, FX FRATE, FXRATE	340	81.2	74	52	52	72;69*
Shigematsu, 2008[172]	Japan	Exerc; exerc	FALL, FRATE	68	69.1	63	12	32	26;15*
Shigematsu, 2008[173]	Japan	Exerc; exerc	FALL, FRATE	39	69	46	12	60	NR
Shimada, 2004[174]	Japan	Exerc; exerc	FALL, FRATE	32	82.4	78	26	26	11;10*
Shumway-Cook, 2007[175]	United States	Exerc+qualt+brisk; qualt	FALL, RFALL, FRATE	453	75.6	77	52	52	NR
Siegrist, 2016[176]	Germany	Exerc+qualt; uc	FALL, FRATE	378	78.1	75	16	52	54;51*
Sihvonen, 2004[177]	Finland	Exerc; uc	FALL, RFALL, FRATE	27	81.3	100	4	52	35;29*
Skelton, 2005[178]	United Kingdom	Exerc+assist; non-ph_pbo	FALL, FRATE	81	72.8	100	36	50	100
Smith, 2007[179]	United Kingdom	Med; ph_pbo	FALL, FX, HIP FRATE, FXRATE	9440	79.1	54	156	156	NR
Smulders, 2010[180]	The Netherlands	Exerc+qualt; uc	FALL, FX, FRATE	96	71	94	6	52	100
Spice, 2009[181]	United Kingdom	Exerc+med+envir+assist+qualt+hypot+brisk; uc	FALL, FX	505	82.2	74	NR	52	100
Stam, 2018[182]	The Netherlands	Exerc+psych+brisk; uc	FALL	150	78.8	69	52	52	52;54*
Stanmore, 2019[183]	United Kingdom	Exerc; qualt	FALL, RFALL, FRATE	92	77.9;77.8 *	80;76*	12	12	43;58*
Steadman, 2003[184]	United Kingdom	Exerc+qualt; exerc+qualt	FALL	198	82.7	80	6	26	NR

Stevens, 2001[185]	Australia	Envir+assist+qualt; non-ph_pbo	FALL, FRATE	1615	76	54;52*	NA	52	26;27*
Suttanon, 2013[186]	Australia	Exerc+social+qualt; qualt	FALL, FRATE	40	81.9	63	26	26	53;19*
Suttanon, 2018[187]	Thailand	Exerc+envir+assist; uc	FALL, FRATE	277	72.2;72.9*	74;73	12	52	20;19*
Suzuki, 2004[188]	Japan	Exerc; qualt	FALL, FRATE	52	78.0	100	26	84	14;17*
Tan, 2018[189]	Malaysia	Exerc+surg+envir+assist+qualt+hypot+brisk; uc	FALL, FRATE	268	75.3	67	52	52	100
Taylor, 2012[190]	New Zealand	Exerc; non-ph_pbo	FALL, RFALL, FRATE	684	74.5	73	20	20	60;61*
Tchalla, 2013[191]	France	Assist+brisk; brisk	FALL, RFALL	96	86.6	77	52	52	74
Thomas, 2018[192]	United States	Nutr; uc	FALL	265	77.3;75.7*	NR	15	15	NR
Tinetti, 1994[193]	United States	Exerc+envir+hypot+brisk; social	FALL, FRATE	301	77.9	69	26	52	41;44*
Tousignant, 2013[194]	Canada	Exerc+nutr+envir+brisk; exerc+nutr+envir	FALL, FRATE	152	79.9	73	15	52	NR
Trombetti, 2011[195]	Switzerland	Exerc; uc	FALL, RFALL, FRATE	134	75.5	96	25	52	56;54*
Ueda, 2017[196]	Japan	Exerc+envir+qualt; exerc	FALL	60	75.9	68	4	4	100
Uusi-Rasi, 2015[197]	Finland	Med+exerc; ph_pbo+exerc; Med; ph_pbo;	FRATE, FXRATE	370	74.1;74.8; 74.1;73.8*	100	104	104	100
van der Meer, 2018[198]	The Netherlands	Brisk; uc	FALL	136	75.7;76.6*	69;72*	>1	12	NR
van Haastregt, 2000[199]	The Netherlands	Psych+envir+brisk; uc	FALL, RFALL	316	77.2	66	52	78	61;52*
Verrusio, 2017[200]	Italy	Exerc+assist; exerc	FALL	150	64.8	47	52	52	NR
Vetter, 1992[201]	United Kingdom	Exerc+nutr+envir+qualt+brisk; qualt	FALL, FX	674	NR	NR	208	208	NR
Villar, 1998[202]	United Kingdom	Assist; uc	FALL	141	NR	100	12	12	NR
Vind, 2010[203]	Denmark	Exerc+assist+qualt+brisk; uc	FALL, FX, HIP	392	74.4	74	13	52	100
Vogler, 2009[204]	Australia	Exerc; exerc; social	FALL	180	80	79	12	12	68;67;75*
von Stengel, 2011[205]	Germany	Exerc+vibr; exerc; non-ph_pbo	FRATE	141	68.5	100	78	78	NR
Voukelatos, 2007[206]	Australia	Exerc+qualt; uc	FALL, RFALL, FRATE	702	69	84	16	26	31;36*
Voukelatos, 2015[207]	Australia	Exerc+qualt; uc	FALL, RFALL, FRATE	386	73.2	74	48	48	23
Wagner, 1994[208]	United States	Exerc+envir+assist+qualt+brisk; qualt; uc	FALL	924	72.5;72.6; 72.5*	60;57; 59*	NA	104	35;31;33*

Weber, 2008[209]	United States	Qualt+brisk; uc	FALL	620	76.9	79	NR	64	NR
Weerdesteyn, 2006[210]	The Netherlands	Exerc; uc	FALL, FRATE	106	73.7;73.2; 74.9*	82;77; 68*	5	24	57;60;32*
Wesson, 2013[211]	Australia	Exerc+envir+social+qualt; qualt	FALL, FRATE	22	79.8	41	12	12	64;82*
Whitehead, 2003[212]	Australia	Exerc+envir+qualt+brisk; uc	FALL	140	77.8	71	26	22	100
Whitehead, 2016[213]	United Kingdom	Envir; uc	FALL	22	82.9;82.0*	73;40*	24	24	NR
Whitehead, 2018[214]	United Kingdom	Envir; uc	FALL, FRATE	54	77	58	7-19	12	58;55*
Wolf, 2003[215]	United States	Exerc; qualt	FALL, RFALL	311	80.9	94	48	48	NR
Woo, 2007[216]	China	Exerc; exerc; uc	FALL	180	68.9	50	52	52	NR
Yokoi, 2015[217]	Japan	Exerc; uc	FALL	105	80.2;78.5*	65;56*	26	52	NR
Zieschang, 2017[218]	Germany	Exerc; non-ph_pbo	FALL, RFALL, FRATE	96	82.1;82.2*	73;75*	12	52	58;64*
Zijlstra, 2009[219]	The Netherlands	Exerc+psych+qualt; uc	FALL, RFALL, FRATE	540	77.9	72	8	60	56;55*
Zijlstra, 2012[220]	The Netherlands	Psych; uc	FALL, RFALL, FRATE	540	77.9;77.8*	73;71*	8	54	54;56*

[a] Citations correspond to the references of included studies

[b] Abbreviations: **exerc**, exercise; **med**, medication; **surg**, surgery; **incont**, management of urinary incontinence; **nutr**, fluid or nutrition therapy; **psych**, psychological interventions; **envir**, environmental assessment and modifications; **assist**, assistive technology; **social**, social engagement; **qualt**, quality improvement strategies; **hypot**, management of orthostatic hypotension; **brisk**, basic falls risk assessment; **vibr**, whole-body vibration; **chiro**, chiropractic care; **uc**, usual care; **ph_pbo**, pharmacological placebo; **non-ph_pbo**, non-pharmacological placebo.

[c] Outcomes abbreviations:

FALL = Number of fallers, FX = Number of fractures, RFALL = Number of repeated fallers, HIP = Number of hip fractures

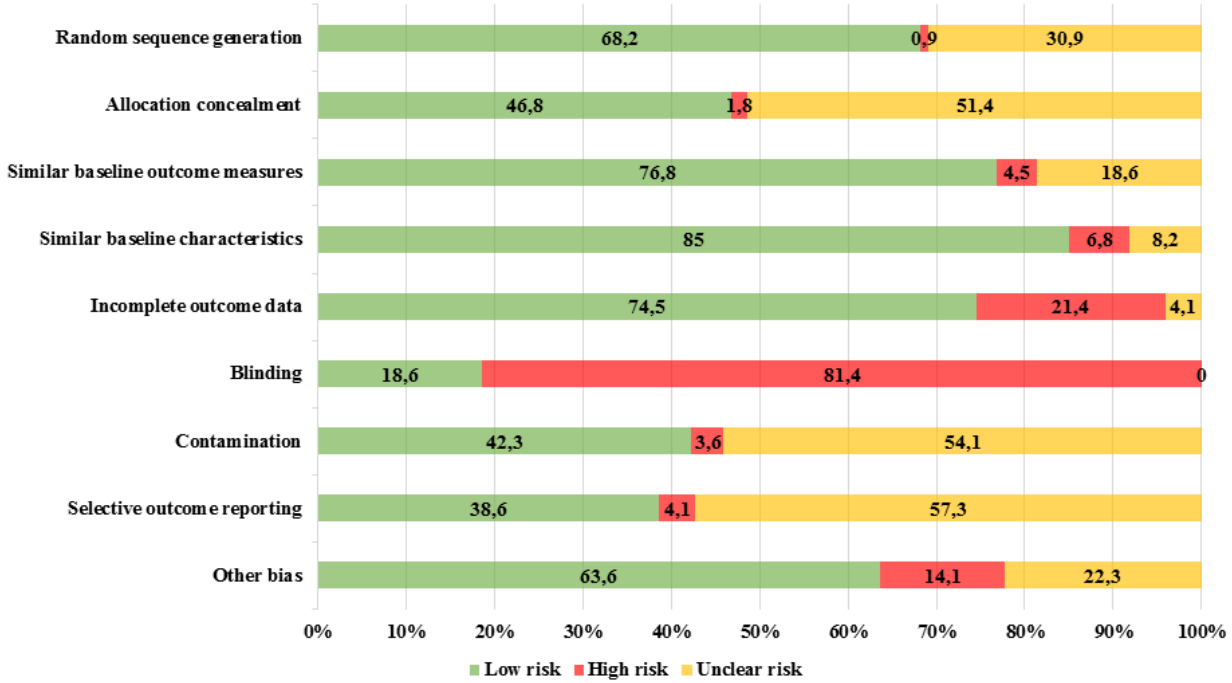
FRATE = Falls rate, FXRATE = Fracture rate

[d] Percentage of participants who suffered a fall in the preceding 12 months

* Data reported per study arm

NR = not reported, NA = not applicable

Supplementary Appendix S2. Aggregate and individual risk of bias results



Supplementary Figure S1. Aggregate risk of bias results according to the Effective Practice and Organisation of Care (EPOC) version of Cochrane's Risk of Bias tool (n = 220 studies)

Supplementary Table S2. Risk of bias assessment of the 220 included studies

First author, year[a]	Random sequence generation	Allocation concealment	Similar baseline outcome measures	Similar baseline characteristics	Incomplete outcome data	Blinding	Contamination	Selective outcome reporting	Other bias
Aloia, 2019[1]	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	Low risk	Unclear risk
Ansai, 2016[2]	Low risk	Low risk	High risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Unclear risk
Arantes, 2015[3]	Low risk	Unclear risk	High risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk
Arkkukangas, 2019[4]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	High risk	Low risk
Ashari, 2016[5]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	Low risk
Ballard, 2004[6]	Low risk	Unclear risk	Low risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Low risk
Barker, 2016[7]	Low risk	Low risk	Low risk	Low risk	High risk	High risk	High risk	Low risk	Low risk
Barnett, 2003[8]	Unclear risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Low risk
Barr, 2005[9]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Unclear risk
Beck, 2010[10]	Low risk	Unclear risk	Unclear risk	Unclear risk	Low risk	High risk	Unclear risk	Unclear risk	High risk
Beck 2016[11]	Unclear risk	Low risk	Unclear risk	High risk	Unclear risk	High risk	Low risk	Unclear risk	Low risk
Beling, 2009[12]	Unclear risk	Unclear risk	High risk	Low risk	High risk	High risk	Low risk	Unclear risk	Low risk
Bernardelli, 2019[13]	Low risk	Low risk	Unclear risk	Low risk	High risk	High risk	Low risk	Unclear risk	Low risk
Bernocchi, 2019[14]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Bischoff-Ferrari, 2006[15]	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	Low risk
Blalock, 2010[16]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	High risk	Low risk
Boongird, 2017[17]	Low risk	Low risk	Unclear risk	Low risk	Unclear risk	High risk	Low risk	Low risk	Low risk
Boyé, 2016[18]	low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	Low risk
Brown, 2002[19]	Low risk	Unclear risk	Low risk	Unclear risk	Low risk	High risk	Unclear risk	Unclear risk	Unclear risk

Buchner, 1997[20]	Unclear risk	Unclear risk	Low risk	Low risk	High risk	High risk	Low risk	Unclear risk	Low risk
Bunout, 2005[21]	Low risk	Unclear risk	Unclear risk	Unclear risk	High risk	High risk	Unclear risk	Unclear risk	Unclear risk
Cameron, 2003[22]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Unclear risk
Cameron, 2011[23]	Low risk	Low risk	Unclear risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Carpenter, 1990[24]	Low risk	Unclear risk	Low risk	Low risk	High risk	High risk	Unclear risk	Unclear risk	Low risk
Chapuy, 2002[25]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	Unclear risk
Choi, 2005[26]	Low risk	Unclear risk	Unclear risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Unclear risk
Chu, 2017[27]	Low risk	Low risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	Low risk
Ciaschini, 2009[28]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Unclear risk
Clemson, 2004[29]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Unclear risk
Clemson, 2010[30]	Low risk	Unclear risk	Low risk	Low risk	High risk	High risk	Unclear risk	Unclear risk	High risk
Clemson, 2012[31]	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	Unclear risk	Low risk	Low risk
Close, 1999[32]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Cohen, 2015[33]	Unclear risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Coleman, 1999[34]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Low risk
Conroy, 2010[35]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Unclear risk
Cornillon, 2002[36]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Low risk
Cumming, 1999[37]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Cumming, 2007[38]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	High risk	High risk	Unclear risk	Low risk
Dadgari, 2016[39]	Low risk	Low risk	Low risk	Low risk	High risk	High risk	Low risk	Low risk	Low risk

Dangour, 2011[40]	Unclear risk	Low risk	Unclear risk	Low risk	Low risk	High risk	Low risk	Low risk	Low risk
Dapp, 2011[41]	Unclear risk	Low risk	Unclear risk	Low risk	Low risk	High risk	High risk	Low risk	Unclear risk
Davison, 2005[42]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	High risk	Unclear risk	Low risk
Day, 2015[43]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	Low risk
De Vries, 2010[44]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Unclear risk
Dhesi, 2004[45]	Low risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	Low risk
Dorresteijn, 2016[46]	Low risk	High risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	Low risk
Dukas, 2004[47]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	Low risk
Dyer, 2004[48]	Low risk	Low risk	Low risk	Unclear risk	Low risk	High risk	Low risk	Unclear risk	Low risk
Ebrahim, 1997[49]	Low risk	Low risk	Low risk	Low risk	High risk	High risk	Unclear risk	Unclear risk	Low risk
El-Khoury, 2015[50]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Elley, 2008[51]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	Low risk
Fabacher, 1994[52]	Low risk	Low risk	Low risk	Low risk	High risk	High risk	Low risk	Unclear risk	Low risk
Fairhall, 2014[53]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Ferrer, 2014[54]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Fitzharris, 2010[55]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Fox, 2010[56]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Unclear risk
Freiberger, 2012[57]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Gallagher, 2001[58]	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Unclear risk
Gawler, 2016[59]	Low risk	Low risk	Low risk	Low risk	High risk	High risk	Low risk	Low risk	Low risk
Giangregorio, 2018[60]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk

Gianoudis, 2014[61]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Gill, 2016[62]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Giusti, 2013[63]	Low risk	Low risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	High risk
Glendenning, 2012[64]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	Low risk
Grahn Kronhed, 2009[65]	Unclear risk	Unclear risk	High risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Unclear risk
Grant, 2005[66]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Gschwind, 2015[67]	Low risk	Unclear risk	Low risk	High risk	Low risk	High risk	Unclear risk	Low risk	Unclear risk
Guse, 2015[68]	Unclear risk	Unclear risk	High risk	Low risk	Low risk	High risk	Low risk	Low risk	Unclear risk
Haines, 2009[69]	Low risk	Low risk	High risk	High risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Halvarsson, 2013[70]	Unclear risk	Unclear risk	Low risk	High risk	High risk	High risk	Unclear risk	Unclear risk	Low risk
Harper, 2017[71]	Low risk	High risk	Low risk	Low risk	Low risk	High risk	High risk	Low risk	High risk
Harwood, 2004[72]	Low risk	Low risk	Low risk	Low risk	High risk	High risk	Unclear risk	Unclear risk	Unclear risk
Hendriks, 2008[73]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Low risk
Hill, 2013[74]	Low risk	Low risk	Low risk	Unclear risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Hill, 2019[75]	Low risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk
Hin, 2017[76]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Hogan, 2001[77]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Holt, 2016[78]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	High risk	Low risk
Hornbrook, 1994[79]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Low risk
Houston, 2015[80]	Low risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Huang, 1998[81]	Unclear risk	Unclear risk	Low risk	Low risk	Unclear risk	High risk	Low risk	Unclear risk	Unclear risk
Huang, 2010[82]	Unclear risk	Unclear risk	High risk	High risk	High risk	High risk	Low risk	Unclear risk	Unclear risk
Huang, 2011[83]	Low risk	Low risk	Low risk	High risk	Low risk	High risk	Unclear risk	Unclear risk	Unclear risk

Imhof, 2012[84]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Iwamoto, 2009[85]	Unclear risk	Unclear risk	Low risk	High risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Kamei, 2015[86]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Low risk
Kamide, 2009[87]	Low risk	Unclear risk	Low risk	Low risk	High risk	High risk	Unclear risk	Unclear risk	Low risk
Karinkanta, 2015[88]	Low risk	Unclear risk	Unclear risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Kärkkäinen, 2010[89]	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Kemmler, 2010[90]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Unclear risk
Kerse, 2005[91]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Low risk
Kerse, 2008[92]	Low risk	Unclear risk	Low risk	Low risk	High risk	Low risk	Low risk	Low risk	Low risk
Khaw, 2017[93]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Kim, 2014[94]	Low risk	Unclear risk	Low risk	Unclear risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Kingston, 2001[95]	Unclear risk	Unclear risk	Unclear risk	Unclear risk	High risk	High risk	Unclear risk	Unclear risk	Unclear risk
Korpelainen, 2006[96]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Kovacs, 2013[97]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Unclear risk
Lamb, 2018[98]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	Unclear risk
Lee, 2007[99]	Low risk	Unclear risk	Low risk	Low risk	High risk	High risk	Unclear risk	Unclear risk	Unclear risk
Lee, 2013[100]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Lehtola, 2000[101]	Unclear risk	Unclear risk	Low risk	Unclear risk	Low risk	High risk	Unclear risk	Unclear risk	Unclear risk
Leung, 2014[102]	Unclear risk	Low risk	Unclear risk	Low risk	Low risk	High risk	Low risk	High risk	Low risk
Li, 2005[103]	Low risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	Unclear risk
Li, 2018[104]	Low risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk

Lightbody, 2002[105]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Lips, 1996[106]	Low risk	Low risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	Unclear risk
Liu-Ambrose, 2005[107]	Unclear risk	Unclear risk	High risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	Low risk
Liu-Ambrose, 2008[108]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Logan, 2010[109]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Logghe, 2009[110]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Lord, 1995[111]	Unclear risk	Unclear risk	Low risk	Low risk	High risk	High risk	Unclear risk	Unclear risk	Low risk
Lord, 2003[112]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Unclear risk
Lord, 2005[113]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Unclear risk
Lurie, 2013[114]	Unclear risk	Low risk	Unclear risk	High risk	High risk	Low risk	Unclear risk	Low risk	High risk
Luukinen, 2007[115]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Unclear risk
MacRae, 1994[116]	Unclear risk	Unclear risk	Unclear risk	Unclear risk	Unclear risk	High risk	Low risk	Unclear risk	Low risk
Madureira, 2010[117]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Mahoney, 2007[118]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Low risk
Markle-Reid, 2010[119]	Low risk	Low risk	Low risk	Low risk	High risk	High risk	Unclear risk	Low risk	Unclear risk
Matchar, 2017[120]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	Low risk
McKiernan, 2005[121]	Unclear risk	Unclear risk	Unclear risk	Unclear risk	Low risk	High risk	Unclear risk	Unclear risk	Unclear risk
McMurdo, 1997[122]	Unclear risk	Unclear risk	Low risk	Low risk	High risk	High risk	Unclear risk	Unclear risk	High risk
McMurdo, 2000[123]	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	High risk	Low risk	Unclear risk	High risk
McMurdo, 2009[124]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	Low risk

Means, 2005[125]	Low risk	Unclear risk	Low risk	Low risk	High risk	High risk	Unclear risk	Unclear risk	Unclear risk
Merom, 2016[126]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	Low risk
Miko, 2018[127]	Unclear risk	Unclear risk	Unclear risk	Unclear risk	Low risk	High risk	Low risk	Unclear risk	Low risk
Mikolaizak, 2017[128]	Low risk	Low risk	Low risk	Low risk	High risk	High risk	Low risk	Low risk	Low risk
Möller, 2014[129]	Unclear risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	High risk
Morgan, 2004[130]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	High risk
Morris, 2008[131]	Unclear risk	Unclear risk	Unclear risk	Unclear risk	High risk	High risk	Unclear risk	Unclear risk	High risk
Mott, 2016[132]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	High risk
Newbury, 2001[133]	Low risk	Unclear risk	Unclear risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Ng, 2015[134]	Low risk	Low risk	Unclear risk	High risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Nikolaus, 2003[135]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Unclear risk
Nowalk, 2001[136]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	Low risk
Ohtake, 2013[137]	Unclear risk	Unclear risk	Low risk	Low risk	High risk	High risk	Low risk	Unclear risk	Low risk
Okubo, 2016[138]	Low risk	Unclear risk	High risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	Low risk
Oliveira, 2019[139]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	Low risk
Olsen, 2014[140]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Pai, 2014[141]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	High risk	Unclear risk
Palvanen, 2014[142]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Pardessus, 2002[143]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Unclear risk
Park, 2008[144]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Unclear risk
Parry, 2016[145]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk

Patil, 2015[146]	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Peel, 2000[147]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	Low risk
Pekkarinen, 2013[148]	Unclear risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Unclear risk
Perry, 2008[149]	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	High risk
Pérula, 2012[150]	Low risk	Low risk	Low risk	High risk	Low risk	High risk	Low risk	Low risk	High risk
Pighills, 2011[151]	Low risk	Low risk	Low risk	High risk	Low risk	High risk	Unclear risk	Low risk	High risk
Pit, 2007[152]	Low risk	Unclear risk	Low risk	Low risk	High risk	High risk	Low risk	Low risk	Low risk
Porthouse, 2005[153]	Low risk	Low risk	Low risk	Low risk	Unclear risk	High risk	Low risk	Unclear risk	High risk
Rantz, 2017[154]	Unclear risk	Unclear risk	Unclear risk	Unclear risk	Unclear risk	High risk	Low risk	Unclear risk	High risk
Reinsch, 1992[155]	Unclear risk	Unclear risk	Low risk	Low risk	High risk	High risk	Low risk	Unclear risk	High risk
Robertson, 2001[156]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Low risk
Robson, 2003[157]	Unclear risk	Unclear risk	Low risk	Low risk	High risk	High risk	Low risk	Unclear risk	Unclear risk
Rubenstein, 2000[158]	Low risk	Unclear risk	Low risk	Low risk	Unclear risk	High risk	Unclear risk	Unclear risk	Low risk
Rubenstein, 2007[159]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	High risk
Russell, 2010[160]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	High risk	Low risk	Low risk
Ryan, 1996[161]	Unclear risk	Unclear risk	High risk	Unclear risk	Low risk	High risk	Unclear risk	Unclear risk	High risk
Sakamoto, 2013[162]	Low risk	Low risk	Low risk	Low risk	High risk	High risk	Low risk	Unclear risk	High risk
Sales, 2017[163]	Low risk	High risk	Low risk	High risk	High risk	High risk	Low risk	Low risk	Low risk
Salminen, 2009[164]	Unclear risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Sambrook, 2012[165]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	Low risk
Sanders, 2010[166]	Low risk	Low risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	Low risk
Sattin, 2005[167]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Low risk

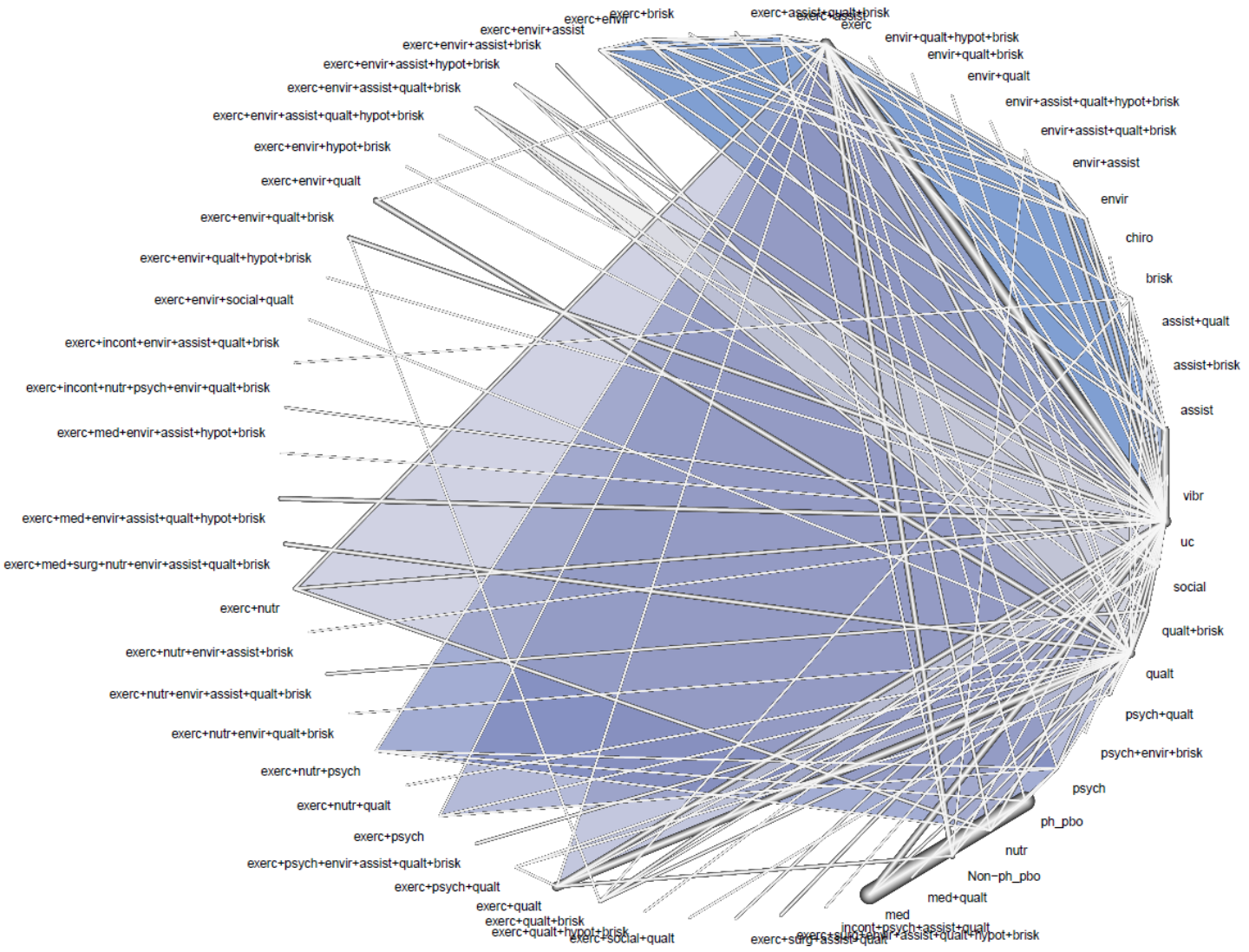
Schoene, 2015[168]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	High risk	Low risk
Schoon, 2018[169]	Low risk	Low risk	Unclear risk	Low risk	High risk	High risk	Low risk	Low risk	High risk
Serra-Prat, 2017[170]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	High risk	Low risk	Low risk
Sherrington, 2014[171]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Shigematsu, 2008[172]	Low risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	Unclear risk
Shigematsu, 2008[173]	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	High risk
Shimada, 2004[174]	Unclear risk	Unclear risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Unclear risk	High risk
Shumway-Cook, 2007[175]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Siegrist, 2016[176]	Low risk	Low risk	Low risk	High risk	High risk	High risk	Low risk	Low risk	Low risk
Sihvonen, 2004[177]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	High risk
Skelton, 2005[178]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	Low risk
Smith, 2007[179]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	Unclear risk
Smulders, 2010[180]	Unclear risk	Low risk	Unclear risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Spice, 2009[181]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	Low risk
Stam, 2018[182]	Low risk	Low risk	Low risk	Low risk	High risk	High risk	Low risk	Low risk	Low risk
Stanmore, 2019[183]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	Low risk
Steadman, 2003[184]	Low risk	High risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	Low risk
Stevens, 2001[185]	High risk	Low risk	Low risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	High risk
Suttanon, 2013[186]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	High risk
Suttanon, 2018[187]	Low risk	Low risk	Low risk	Low risk	High risk	High risk	Low risk	Unclear risk	Low risk
Suzuki, 2004[188]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk

Tan, 2018[189]	Low risk	Low risk	Low risk	Low risk	High risk	High risk	Low risk	Low risk	Low risk
Taylor, 2012[190]	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Low risk	Low risk
Tchalla, 2013[191]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Thomas, 2018[192]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	Low risk
Tinetti, 1994[193]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	High risk
Tousignant, 2013[194]	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Low risk	Low risk
Trombetti, 2011[195]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Ueda, 2017[196]	Low risk	Low risk	Unclear risk	Low risk	High risk	High risk	Low risk	Unclear risk	Unclear risk
Uusi-Rasi, 2015[197]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
van der Meer, 2018[198]	Low risk	Low risk	Unclear risk	Low risk	Low risk	High risk	High risk	Low risk	Low risk
van Haastregt, 2000[199]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Verrusio, 2017[200]	Low risk	Unclear risk	Unclear risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Unclear risk
Vetter, 1992[201]	Low risk	Unclear risk	Low risk	Unclear risk	Low risk	High risk	Low risk	Unclear risk	Unclear risk
Villar, 1998[202]	Unclear risk	Unclear risk	Unclear risk	Unclear risk	High risk	High risk	Unclear risk	Unclear risk	Unclear risk
Vind, 2010[203]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Vogler, 2009[204]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	High risk	Low risk
von Stengel, 2011[205]	Low risk	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	Low risk
Voukelatos, 2007[206]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Voukelatos, 2015[207]	Low risk	Low risk	Low risk	Low risk	High risk	High risk	Unclear risk	Low risk	Low risk
Wagner, 1994[208]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	High risk
Weber, 2008[209]	Unclear risk	Unclear risk	Low risk	Low risk	Unclear risk	High risk	Low risk	Unclear risk	High risk
Weerdesteyn, 2006[210]	High risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Low risk

Wesson, 2013[211]	Low risk	Low risk	Unclear risk	Low risk	Low risk	High risk	Unclear risk	Low risk	High
Whitehead, 2003[212]	Unclear risk	Low risk	Low risk	Low risk	High risk	High risk	Unclear risk	Unclear risk	Low risk
Whitehead, 2016[213]	Low risk	Low risk	Unclear risk	High risk	High risk	High risk	Low risk	Low risk	Low risk
Whitehead, 2018[214]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	High risk
Wolf, 2003[215]	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Low risk
Woo, 2007[216]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Low risk
Yokoi, 2015[217]	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Unclear risk	Low risk
Zieschang, 2017[218]	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	Low risk	Low risk
Zijlstra, 2009[219]	Low risk	Unclear risk	Low risk	Low risk	Low risk	High risk	Unclear risk	Low risk	Low risk
Zijlstra, 2012[220]	Unclear risk	Unclear risk	Low risk	Low risk	High risk	High risk	Low risk	High risk	Low risk

[a] Citations correspond to the references of included studies

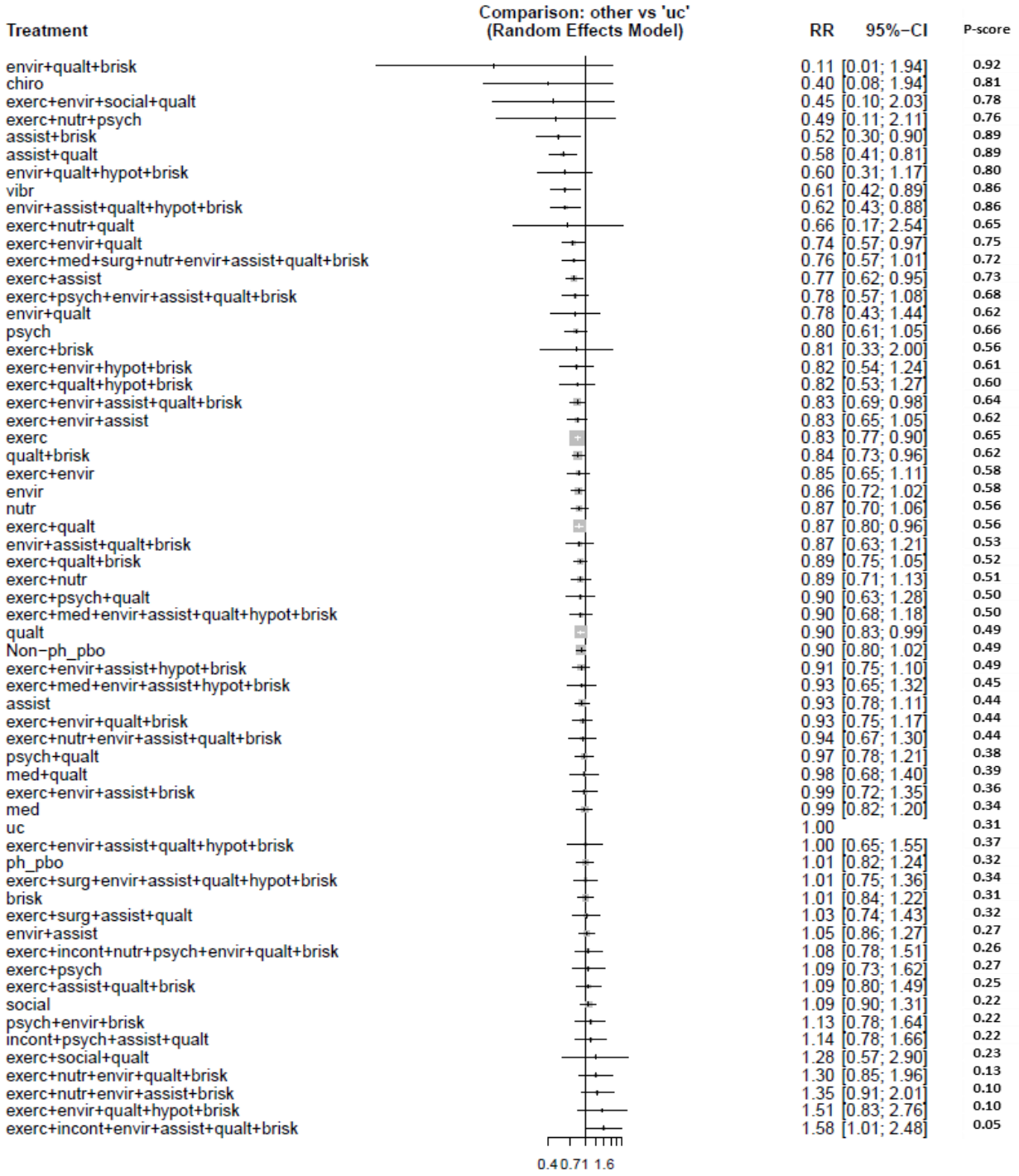
Supplementary Appendix S3. Additional results for number of fallers



Supplementary Figure S2. Connected network plot for number of fallers including 189 studies and 61 interventions

Abbreviations: **exerc**, exercise; **med**, medication; **surg**, surgery; **incont**, management of urinary incontinence; **nutr**, fluid or nutrition therapy; **psych**, psychological interventions; **envir**, environmental assessment and modifications; **assist**, assistive technology; **social**, social engagement; **qualt**, quality improvement strategies; **hypot**, management of orthostatic hypotension; **brisk**, basic falls risk assessment; **vibr**, whole-body vibration; **chiro**, chiropractic care; **uc**, usual care; **ph_pbo**, pharmacological placebo; **non-ph_pbo**, non-pharmacological placebo.

A network plot provides an overview of the interventions investigated in all included randomized control trials. Interventions connected by a line were directly compared in one or more studies (direct evidence), e.g. exercise + nutrition versus usual care. Each node represents an intervention addressed in the included studies. The nodes are sized according to the number of participants who have received this intervention. The thickness of the line is according to the number of studies addressing this comparison.



Abbreviations: **exerc**, exercise; **med**, medication; **surg**, surgery; **incont**, management of urinary incontinence; **nutr**, fluid or nutrition therapy; **psych**, psychological interventions; **envir**, environmental assessment and modifications; **assist**, assistive technology; **social**, social engagement; **qualt**, quality improvement strategies; **hypot**, management of orthostatic hypotension; **brisk**, basic falls risk assessment; **vibr**, whole-body vibration; **chiro**, chiropractic care; **uc**, usual care; **ph_pbo**, pharmacological placebo; **non-ph_pbo**, non-pharmacological placebo.

The boxes and error bars represent the risk ratios and its 95% confidence interval.

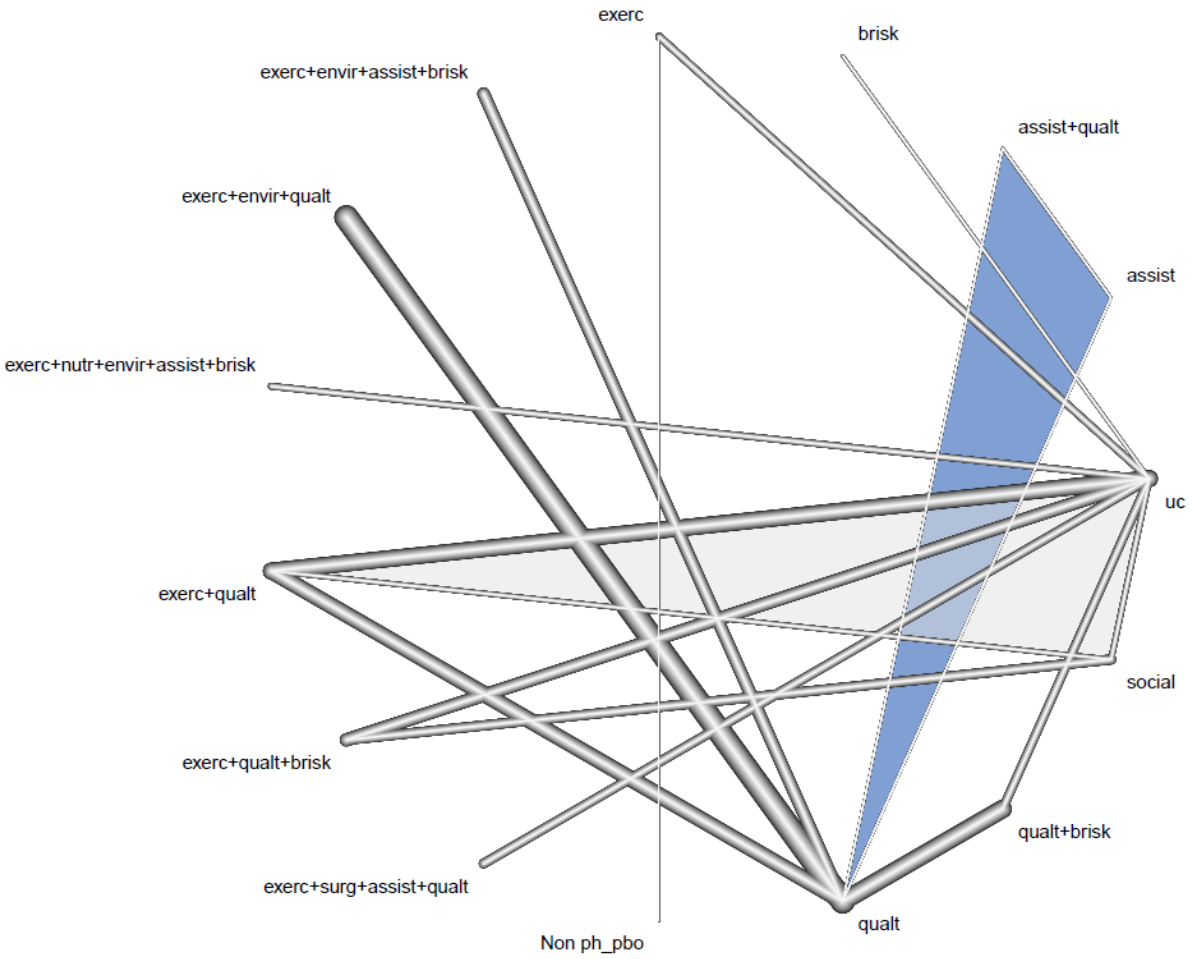
Supplementary Figure S3. Summary risk ratios (RR) with 95% confidence intervals (95%-CI) and P-scores resulting from the network meta-analysis for every intervention consisting of one or more components versus usual care for the outcome number of fallers

Supplementary Table S3. Risk ratios with 95% confidence intervals (95% CI) resulting from the component network meta-analysis for every intervention component versus usual care for the outcome number of fallers

Component	Risk ratio	95% CI
assist	0.98	0.90-1.06
brisk	1.03	0.94-1.12
chiro	0.40	0.08-1.95
envir	1.01	0.92-1.11
vibr	0.61	0.42-0.90
exerc	0.92	0.88-0.97
nutr	1.02	0.90-1.16
med	1.00	0.88-1.15
hypot	0.97	0.84-1.12
incont	1.39	1.08-1.79
non_ph_pbo	0.98	0.87-1.11
ph_pbo	1.03	0.88-1.22
psych	0.96	0.84-1.09
qualt	0.94	0.89-1.01
social	1.14	0.97-1.34
surg	1.06	0.86-1.31

Abbreviations: **exerc**, exercise; **med**, medication; **surg**, surgery; **incont**, management of urinary incontinence; **nutr**, fluid or nutrition therapy; **psych**, psychological interventions; **envir**, environmental assessment and modifications; **assist**, assistive technology; **social**, social engagement; **qualt**, quality improvement strategies; **hypot**, management of orthostatic hypotension; **brisk**, basic falls risk assessment; **vibr**, whole-body vibration; **chiro**, chiropractic care; **ph_pbo**, pharmacological placebo; **non-ph_pbo**, non-pharmacological placebo.

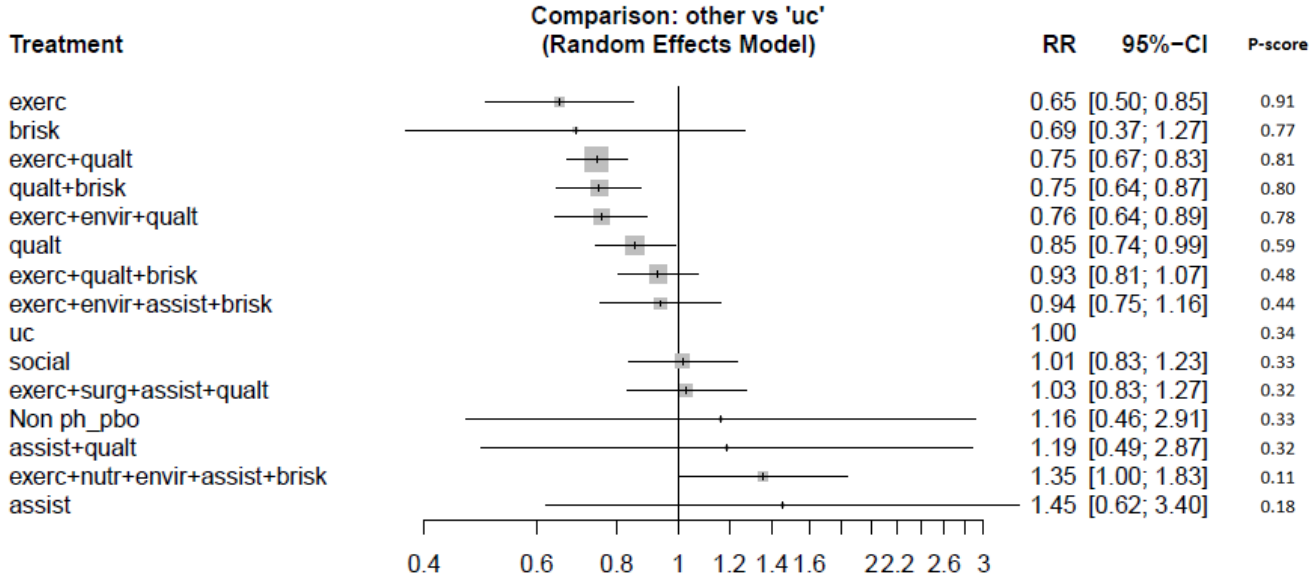
Supplementary Appendix S4. Additional results for number of fallers, subgroup age 75+



Abbreviations: **exerc**, exercise; **surg**, surgery; **nutr**, fluid or nutrition therapy; **envir**, environmental assessment and modifications; **assist**, assistive technology; **social**, social engagement; **qualt**, quality improvement strategies; **brisk**, basic falls risk assessment; **uc**, usual care; **non-ph_pbo**, non-pharmacological placebo.

A network plot provides an overview of the interventions investigated in all included randomized control trials. Interventions connected by a line were directly compared in one or more studies (direct evidence), e.g. exercise + nutrition versus usual care. Each node represents an intervention addressed in the included studies. The nodes are sized according to the number of participants who have received this intervention. The thickness of the line is according to the number of studies addressing this comparison.

Supplementary Figure S4. Network plot for number of fallers, subgroup age 75+



Abbreviations: **exerc**, exercise; **surg**, surgery; **nutr**, fluid or nutrition therapy; **envir**, environmental assessment and modifications; **assist**, assistive technology; **social**, social engagement; **qualt**, quality improvement strategies; **brisk**, basic falls risk assessment; **uc**, usual care; **non-ph_pbo**, non-pharmacological placebo.

The boxes and error bars represent the risk ratios and its 95% confidence interval.

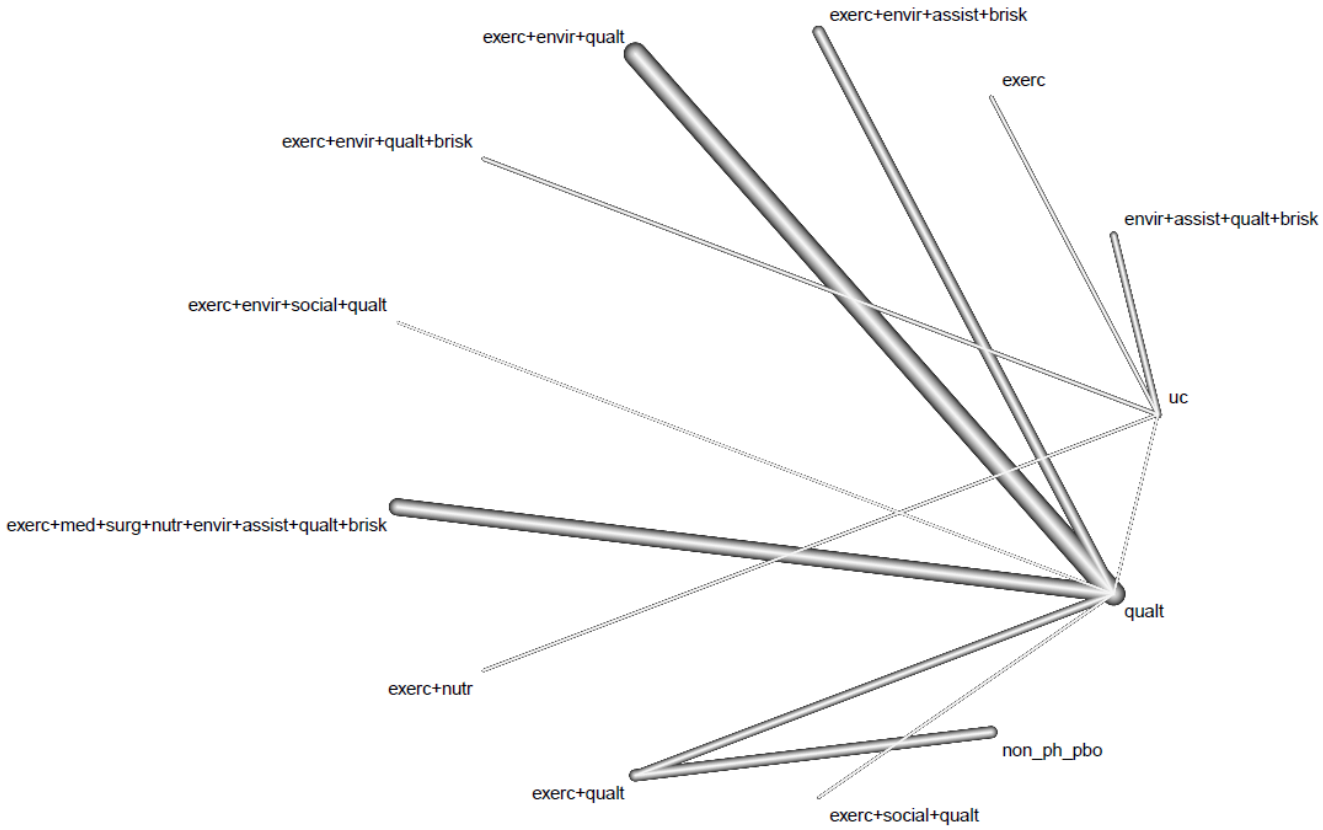
Supplementary Figure S5. Summary risk ratios (RR) with 95% confidence intervals (95%-CI) and P-scores resulting from the network meta-analysis for every intervention consisting of one or more components versus usual care for the outcome number of fallers, subgroup age 75+

Supplementary Table S4. Risk ratios with 95% confidence intervals (95% CI) resulting from the component network meta-analysis for every intervention component versus usual care for the outcome number of fallers, subgroup age 75+

Component	Risk ratio	95% CI
assist	1.31	0.86-1.99
brisk	0.93	0.79-1.09
envir	1.04	0.79-1.36
exerc	0.85	0.72-1.00
nutr	1.27	0.78-2.06
med	1.00	0.92-1.08
non_ph_pbo	1.51	0.60-3.78
ph_pbo	1.00	0.93-1.09
qualt	0.96	0.78-1.17
social	0.90	0.70-1.16
surg	0.97	0.54-1.75

Abbreviations: **exerc**, exercise; **med**, medication; **surg**, surgery; **nutr**, fluid or nutrition therapy; **envir**, environmental assessment and modifications; **assist**, assistive technology; **social**, social engagement; **qualt**, quality improvement strategies; **brisk**, basic falls risk assessment; **uc**, usual care; **ph_pbo**, pharmacological placebo**; non-ph_pbo**, non-pharmacological placebo

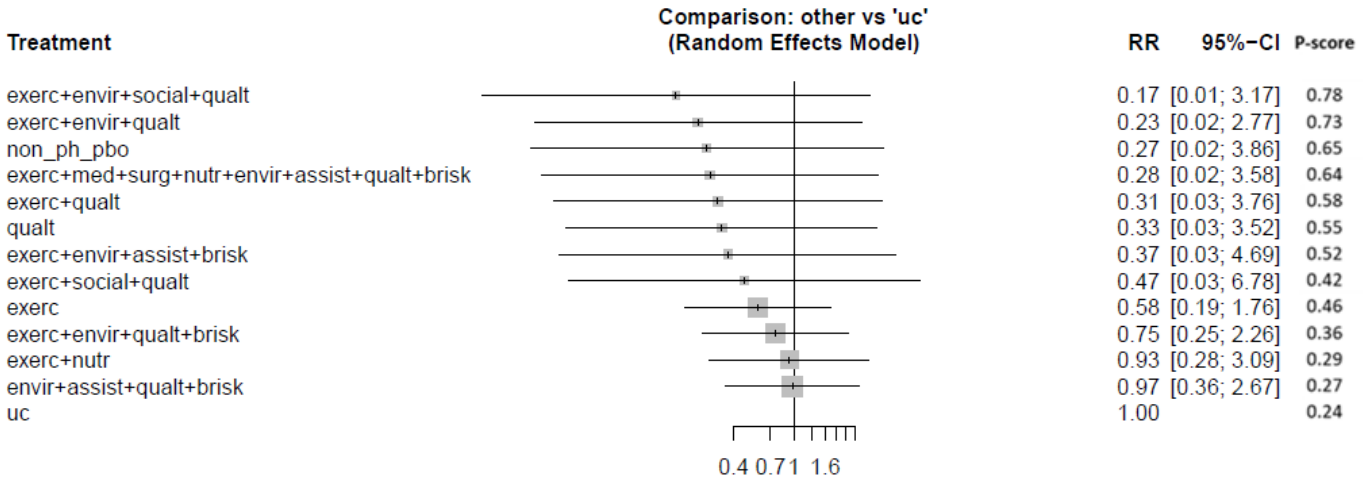
Supplementary Appendix S5. Additional results for number of fallers, subgroup multimorbidity



Abbreviations: **exerc**, exercise; **med**, medication; **surg**, surgery; **nutr**, fluid or nutrition therapy; **envir**, environmental assessment and modifications; **assist**, assistive technology; **social**, social engagement; **qualt**, quality improvement strategies; **brisk**, basic falls risk assessment; **uc**, usual care; **non-ph_pbo**, non-pharmacological placebo.

A network plot provides an overview of the interventions investigated in all included randomized control trials. Interventions connected by a line were directly compared in one or more studies (direct evidence), e.g. exercise + nutrition versus usual care. Each node represents an intervention addressed in the included studies. The nodes are sized according to the number of participants who have received this intervention. The thickness of the line is according to the number of studies addressing this comparison.

Supplementary Figure S6. Network plot for number of fallers, subgroup multimorbidity



Abbreviations: **exerc**, exercise; **med**, medication; **surg**, surgery; **nutr**, fluid or nutrition therapy; **envir**, environmental assessment and modifications; **assist**, assistive technology; **social**, social engagement; **qualt**, quality improvement strategies; **brisk**, basic falls risk assessment; **uc**, usual care; **non-ph_pbo**, non-pharmacological placebo.

The boxes and error bars represent the risk ratios and its 95% confidence interval.

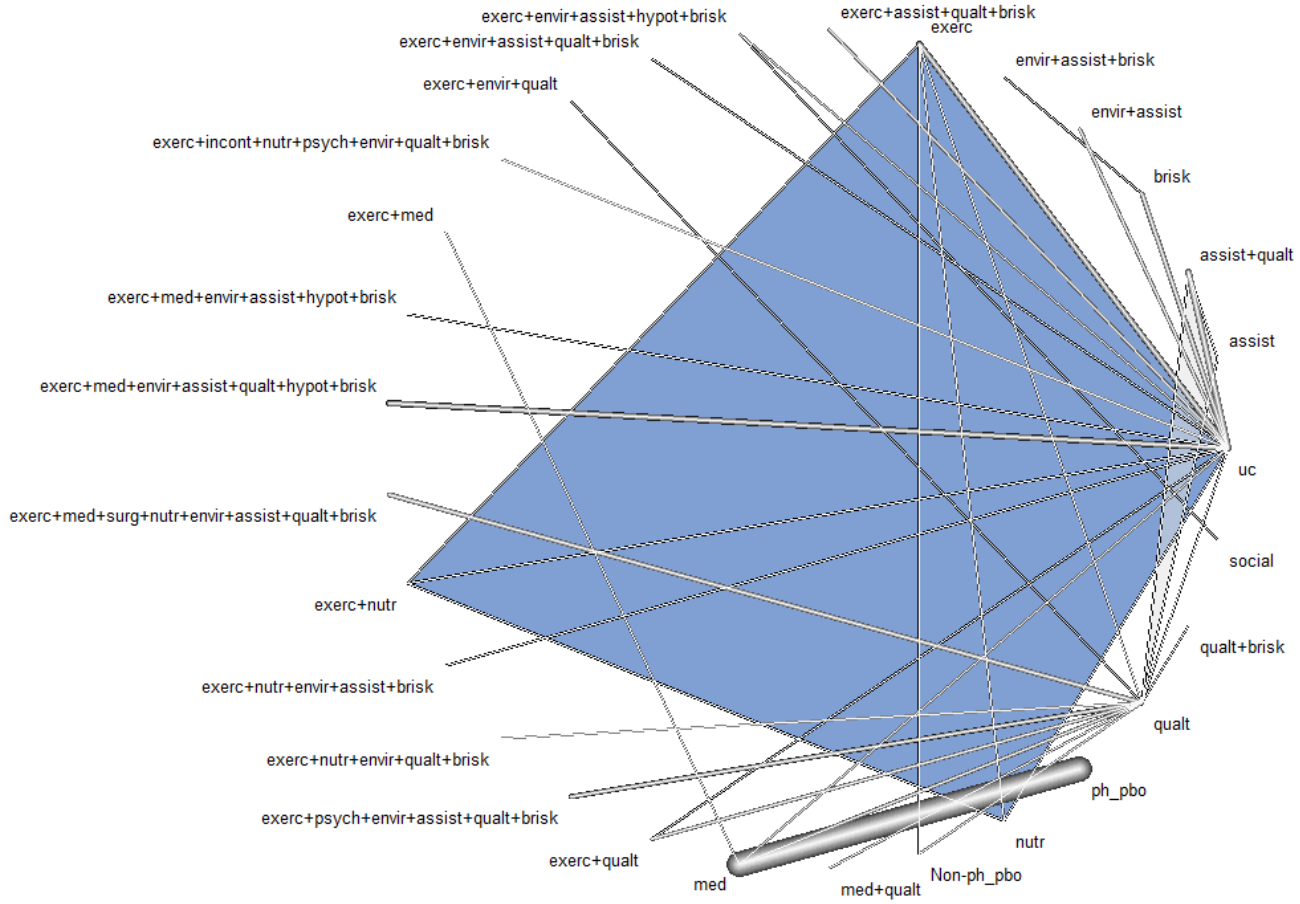
Supplementary Figure S7. Summary risk ratios (RR) with 95% confidence intervals (95%-CI) and P-scores resulting from the network meta-analysis for every intervention consisting of one or more components versus usual care for the outcome number of fallers, subgroup multimorbidity

Supplementary Table S5. Risk ratios with 95% confidence intervals (95% CI) resulting from the component network meta-analysis for every intervention component versus usual care for the outcome number of fallers, subgroup multimorbidity

Component	Risk ratio	95% CI
assist	1.00	0.21-4.74
brisk	1.48	0.33-6.55
envir	0.76	0.32-1.85
exerc	0.83	0.46-1.52
nutr	1.11	0.29-4.19
med	0.89	0.38-2.09
non_ph_pbo	0.57	0.13-2.43
qualt	0.80	0.39-1.63
social	1.32	0.44-4.02
incont	0.89	0.38-2.09

Abbreviations: **exerc**, exercise; **med**, medication; **incont**, management of urinary incontinence; **nutr**, fluid or nutrition therapy; **envir**, environmental assessment and modifications; **assist**, assistive technology; **social**, social engagement; **qualt**, quality improvement strategies; **brisk**, basic falls risk assessment; **non-ph_pbo**, non-pharmacological placebo.

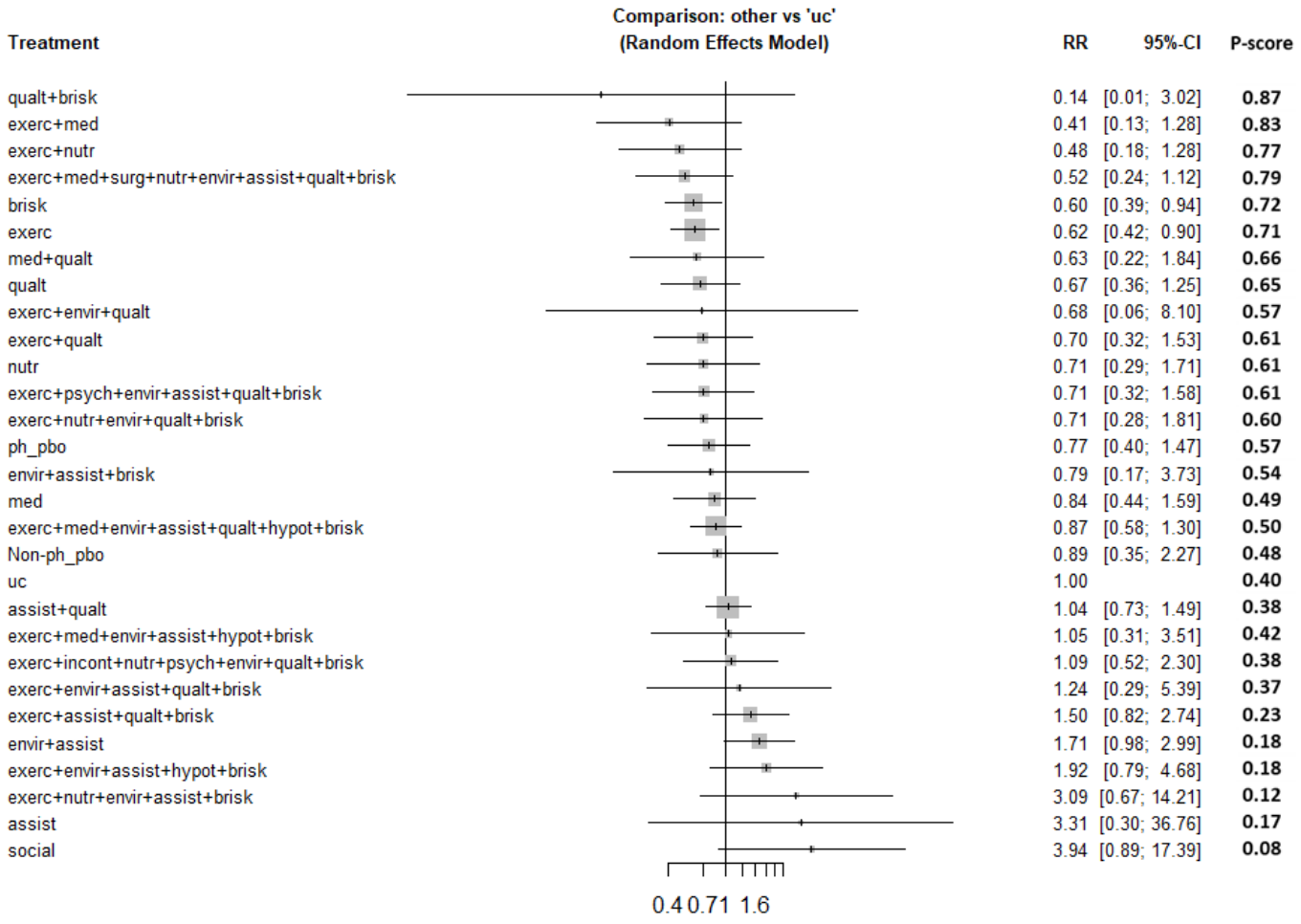
Supplementary Appendix S6. Additional results for number of fall-related fractures



Abbreviations: **exerc**, exercise; **med**, medication; **surg**, surgery; **incont**, management of urinary incontinence; **nutr**, fluid or nutrition therapy; **psych**, psychological interventions; **envir**, environmental assessment and modifications; **assist**, assistive technology; **social**, social engagement; **qualt**, quality improvement strategies; **hypot**, management of orthostatic hypotension; **brisk**, basic falls risk assessment; **uc**, usual care; **ph_pbo**, pharmacological placebo; **non-ph_pbo**, non-pharmacological placebo.

A network plot provides an overview of the interventions investigated in all included randomized control trials. Interventions connected by a line were directly compared in one or more studies (direct evidence), e.g. exercise + nutrition versus usual care. Each node represents an intervention addressed in the included studies. The nodes are sized according to the number of participants who have received this intervention. The thickness of the line is according to the number of studies addressing this comparison.

Supplementary Figure S8. Connected network plot for number of fall-related fractures



Abbreviations: **exerc**, exercise; **med**, medication; **surg**, surgery; **incont**, management of urinary incontinence; **nutr**, fluid or nutrition therapy; **psych**, psychological interventions; **envir**, environmental assessment and modifications; **assist**, assistive technology; **social**, social engagement; **qualt**, quality improvement strategies; **hypot**, management of orthostatic hypotension; **brisk**, basic falls risk assessment; **uc**, usual care; **ph_pbo**, pharmacological placebo; **non-ph_pbo**, non-pharmacological placebo.

The boxes and error bars represent the risk ratios and its 95% confidence interval.

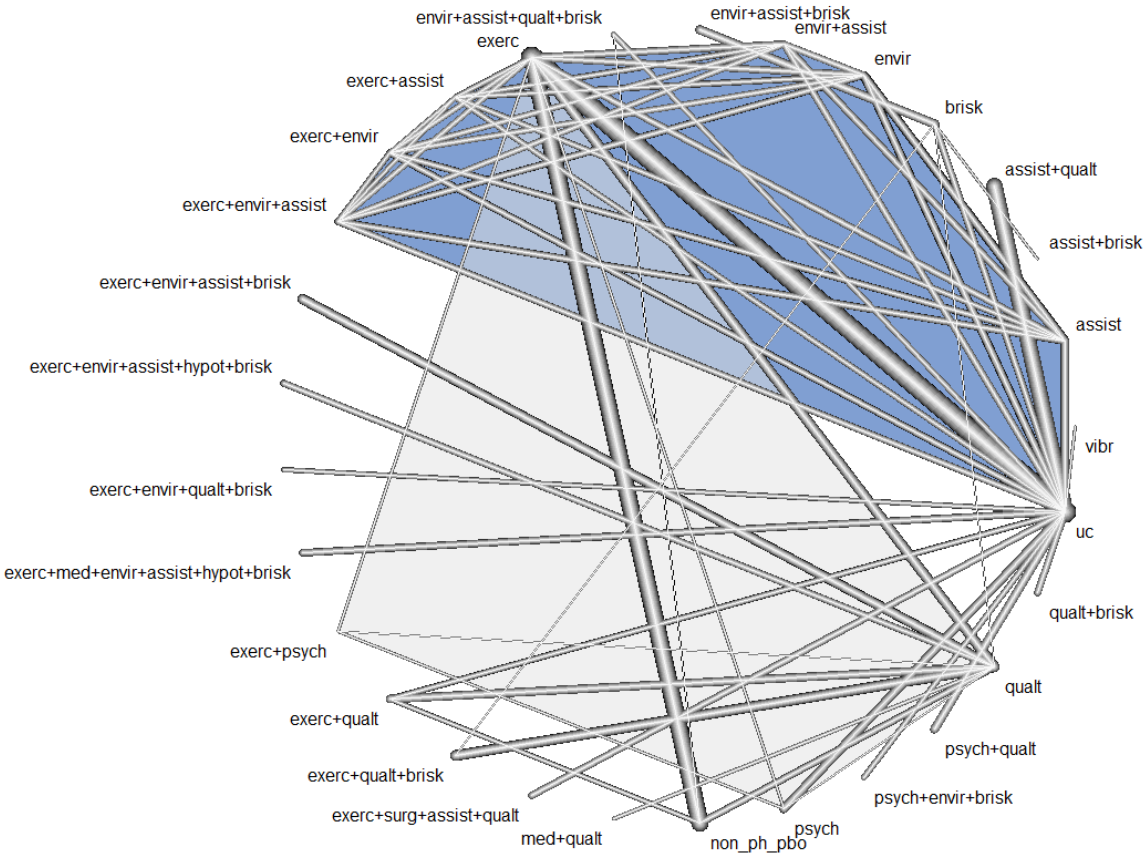
Supplementary Figure S9. Summary risk ratios (RR) with 95% confidence intervals (95%-CI) and P-scores resulting from the network meta-analysis for every intervention consisting of one or more components versus usual care for the outcome number of fall-related fractures

Supplementary Table S6. Risk ratios with 95% confidence intervals (95% CI) resulting from the component network meta-analysis for every intervention component versus usual care for the outcome number of fall-related fractures

Component	Risk ratio	95% CI
assist	1.66	1.07-2.59
brisk	0.88	0.61-1.26
envir	1.19	0.68-2.07
exerc	0.83	0.64-1.07
nutr	1.07	0.60-1.90
med	0.85	0.56-1.27
hypot	1.01	0.48-2.10
incont	2.20	0.64-7.57
non_ph_pbo	1.00	0.44-2.30
ph_pbo	0.77	0.51-1.17
psych	0.73	0.36-1.50
qualt	0.73	0.50-1.07
social	2.98	0.79-11.31
surg	0.60	0.26-1.34

Abbreviations: **exerc**, exercise; **med**, medication; **surg**, surgery; **incont**, management of urinary incontinence; **nutr**, fluid or nutrition therapy; **psych**, psychological interventions; **envir**, environmental assessment and modifications; **assist**, assistive technology; **social**, social engagement; **qualt**, quality improvement strategies; **hypot**, management of orthostatic hypotension; **brisk**, basic falls risk assessment; **uc**, usual care; **ph_pbo**, pharmacological placebo; **non-ph_pbo**, non-pharmacological placebo.

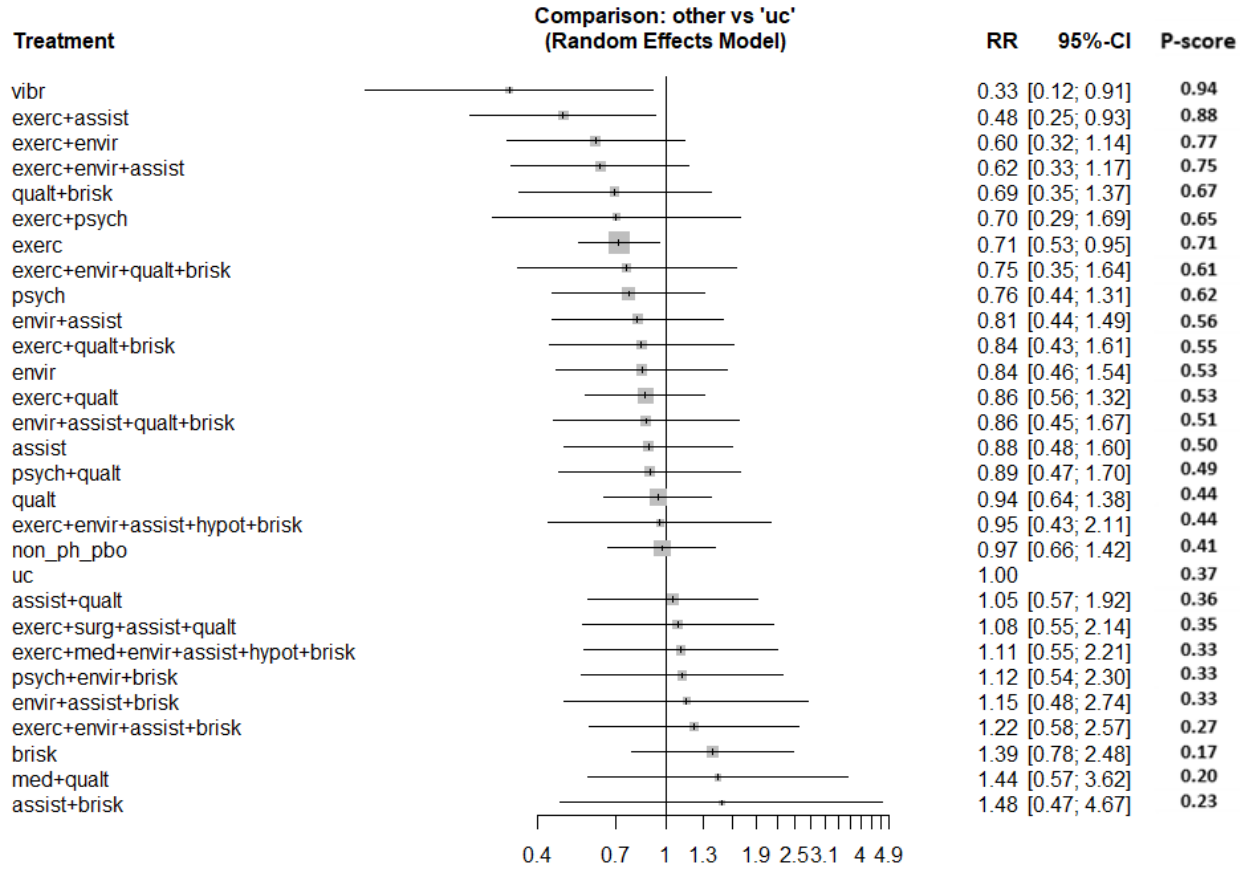
Supplementary Appendix S7. Additional results for number of repeated fallers



Abbreviations: **exerc**, exercise; **med**, medication; **surg**, surgery; **psych**, psychological interventions; **envir**, environmental assessment and modifications; **assist**, assistive technology; **qualt**, quality improvement strategies; **hypot**, management of orthostatic hypotension; **brisk**, basic falls risk assessment; **vibr**, whole-body vibration; **uc**, usual care; **non-ph_pbo**, non-pharmacological placebo.

A network plot provides an overview of the interventions investigated in all included randomized control trials. Interventions connected by a line were directly compared in one or more studies (direct evidence), e.g. exercise + nutrition versus usual care. Each node represents an intervention addressed in the included studies. The nodes are sized according to the number of participants who have received this intervention. The thickness of the line is according to the number of studies addressing this comparison.

Supplementary Figure S10. Network plot for number of repeated fallers



Abbreviations: **exerc**, exercise; **med**, medication; **surg**, surgery; **psych**, psychological interventions; **envir**, environmental assessment and modifications; **assist**, assistive technology; **qualt**, quality improvement strategies; **hypot**, management of orthostatic hypotension; **brisk**, basic falls risk assessment; **vibr**, whole-body vibration; **uc**, usual care; **non-ph_pbo**, non-pharmacological placebo.

The boxes and error bars represent the risk ratios and its 95% confidence interval.

Supplementary Figure S11. Summary risk ratios (RR) with 95% confidence intervals (95%-CI) and P-scores resulting from the network meta-analysis for every intervention consisting of one or more components versus usual care for the outcome number of repeated fallers

Supplementary Table S7. Risk ratios with 95% confidence intervals (95% CI) resulting from the component network meta-analysis for every intervention component versus usual care for the outcome number of repeated fallers

Component	Risk ratio	95% CI
assist	0.99	0.82-1.18
brisk	1.17	0.93-1.47
envir	0.97	0.79-1.19
vibr	0.33	0.13-0.81
exerc	0.79	0.69-0.90
med	1.36	0.82-2.26
hypot	0.99	0.59-1.66
non_ph_pbo	1.01	0.80-1.29
ph_pbo	1.33	0.75-2.34
psych	0.87	0.67-1.14
qualt	0.92	0.78-1.07
surg	1.53	0.87-2.69

Abbreviations: **exerc**, exercise; **med**, medication; **surg**, surgery; **psych**, psychological interventions; **envir**, environmental assessment and modifications; **assist**, assistive technology; **qualt**, quality improvement strategies; **hypot**, management of orthostatic hypotension; **brisk**, basic falls risk assessment; **vibr**, whole-body vibration; **ph_pbo**, pharmacological placebo**; non-ph_pbo**, non-pharmacological placebo.

Supplementary Appendix S8. Additional results for number of hip fractures

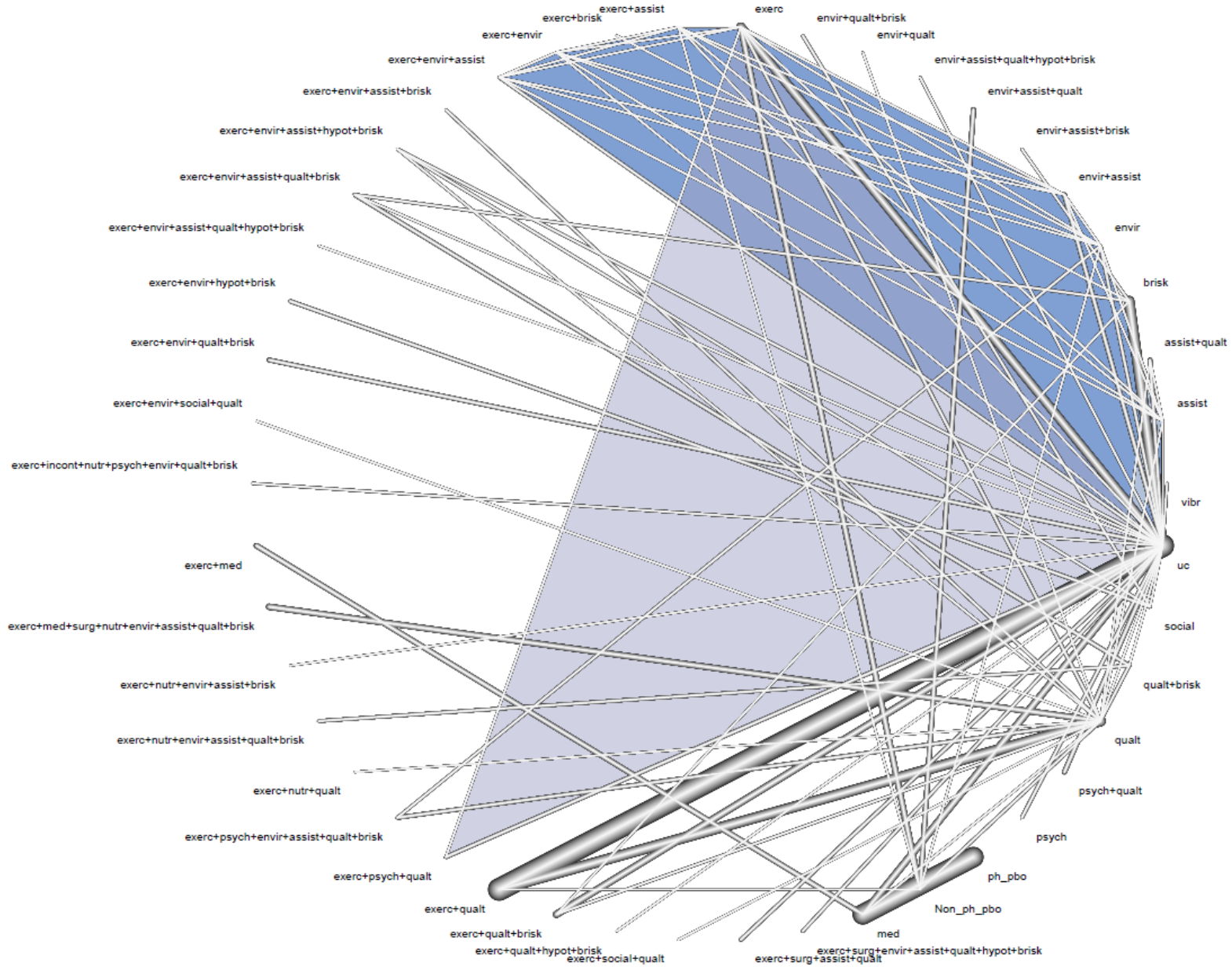
For the outcome of number of hip fractures, the performance of primary analysis was not possible due to the lack of a connected network. Analysis at the component level (C-NMA) was possible.

Supplementary Table S8. Risk ratios with 95% confidence intervals (95% CI) resulting from the component network meta-analysis for every intervention component versus usual care for the outcome number of hip fractures

Component	Risk ratio	95% CI
assist	1.16	0.44-3.12
brisk	0.83	0.28-2.48
envir	1.48	0.30-7.26
exerc	0.79	0.21-3.02
med	0.79	0.14-4.33
hypot	0.79	0.23-2.67
ph_pbo	0.69	0.12-3.89
psych	0.89	0.10-7.87
qualt	0.78	0.37-1.65
social	1.27	0.37-4.29

Abbreviations: **exerc**, exercise; **med**, medication; **psych**, psychological interventions; **envir**, environmental assessment and modifications; **assist**, assistive technology; **social**, social engagement**; qualt**, quality improvement strategies; **hypot**, management of orthostatic hypotension; **brisk**, basic falls risk assessment; **ph_pbo**, pharmacological placebo.

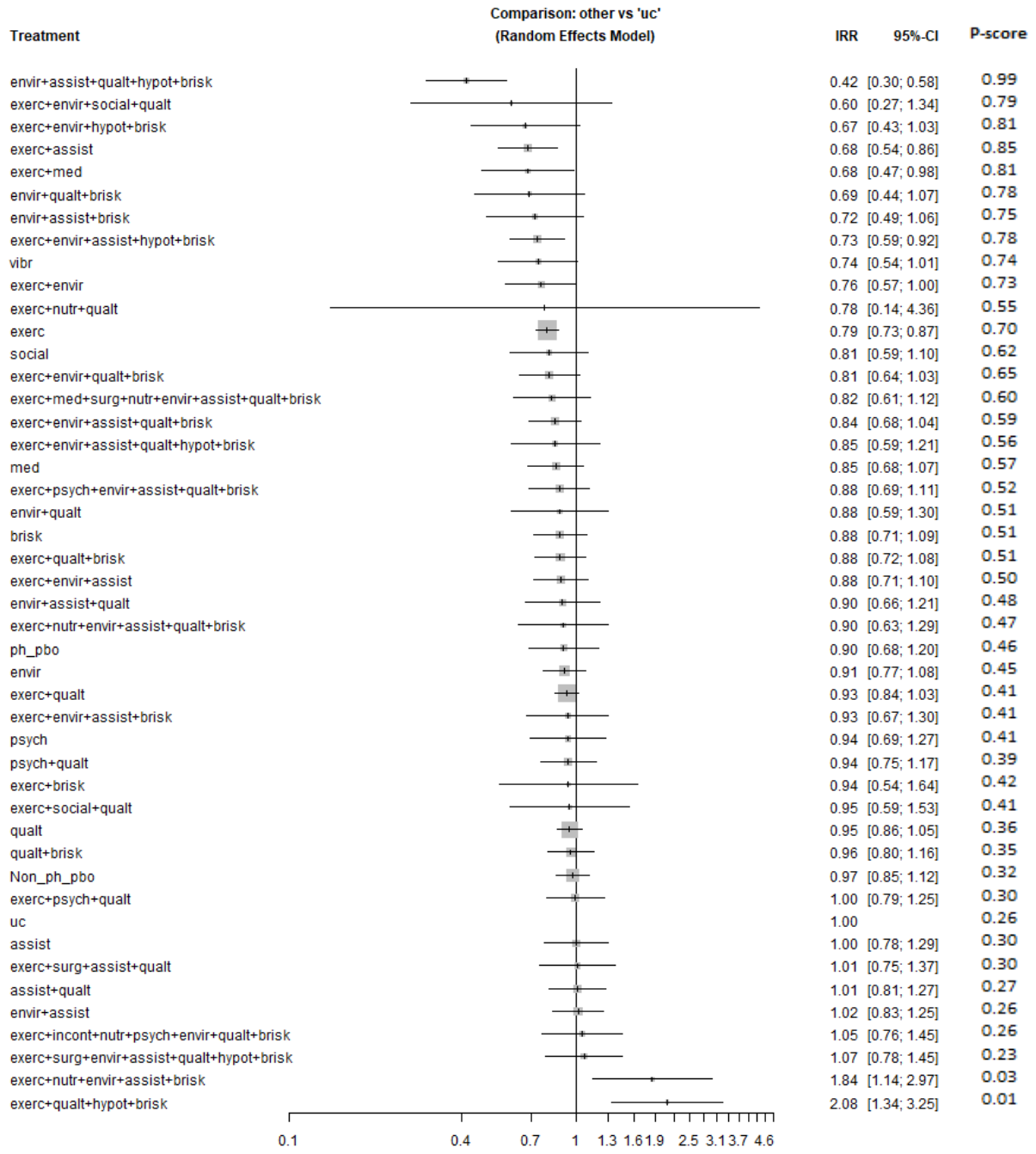
Supplementary Appendix S9. Additional results for falls rate



Abbreviations: **exerc**, exercise; **med**, medication; **surg**, surgery; **incont**, management of urinary incontinence; **nutr**, fluid or nutrition therapy; **psych**, psychological interventions; **envir**, environmental assessment and modifications; **assist**, assistive technology; **social**, social engagement; **qualt**, quality improvement strategies; **hypot**, management of orthostatic hypotension; **brisk**, basic falls risk assessment; **vibr**, whole-body vibration; **chiro**, chiropractic care; **uc**, usual care; **ph_pbo**, pharmacological placebo; **non-ph_pbo**, non-pharmacological placebo.

A network plot provides an overview of the interventions investigated in all included randomized control trials. Interventions connected by a line were directly compared in one or more studies (direct evidence), e.g. exercise + nutrition versus usual care. Each node represents an intervention addressed in the included studies. The nodes are sized according to the number of participants who have received this intervention. The thickness of the line is according to the number of studies addressing this comparison.

Supplementary Figure S12. Network plot for falls rate



Abbreviations: **exerc**, exercise; **med**, medication; **surg**, surgery; **incont**, management of urinary incontinence; **nutr**, fluid or nutrition therapy; **psych**, psychological interventions; **envir**, environmental assessment and modifications; **assist**, assistive technology; **social**, social engagement; **qualt**, quality improvement strategies; **hypot**, management of orthostatic hypotension; **brisk**, basic falls risk assessment; **vibr**, whole-body vibration; **chiro**, chiropractic care; **uc**, usual care; **ph_pbo**, pharmacological placebo; **non-ph_pbo**, non-pharmacological placebo.

The boxes and error bars represent the rate ratios and its 95% confidence interval.

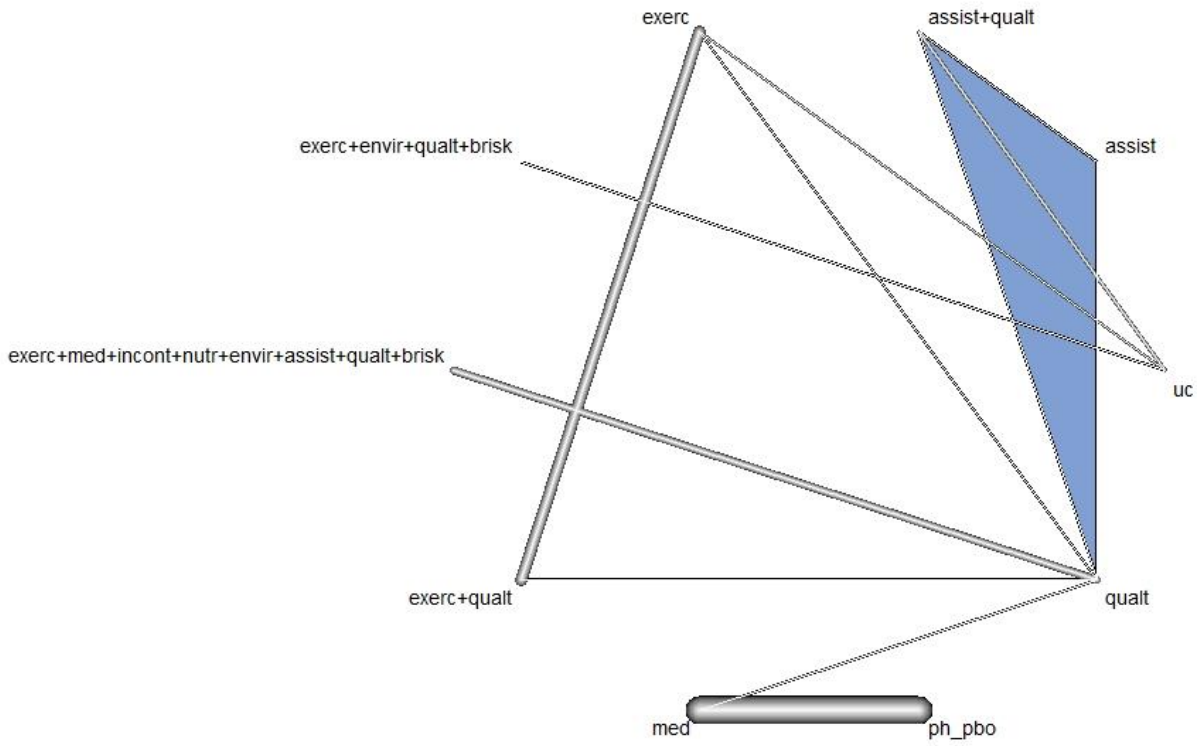
Supplementary Figure S13. Summary rate ratios (IRR) with 95% confidence intervals (95%-CI) and P-scores resulting from the network meta-analysis for every intervention consisting of one or more components versus usual care for the outcome falls rate

Supplementary Table S9. Rate ratios with 95% confidence intervals (95% CI) resulting from the component network meta-analysis for every intervention component versus usual care for the outcome falls rate

Component	Rate ratio	95% CI
assist	1.00	0.91-1.10
brisk	0.99	0.90-1.09
envir	0.94	0.85-1.03
vibr	0.74	0.53-1.02
exerc	0.90	0.86-0.95
nutr	1.24	0.97-1.58
med	0.81	0.66-1.00
hypot	0.94	0.80-1.11
incont	0.98	0.63-1.50
non_ph_pbo	1.08	0.96-1.21
ph_pbo	0.87	0.66-1.14
psych	1.02	0.90-1.17
qualt	1.01	0.95-1.08
social	0.95	0.80-1.14
surg	1.14	0.92-1.42

Abbreviations: **exerc**, exercise; **med**, medication; **surg**, surgery; **incont**, management of urinary incontinence; **nutr**, fluid or nutrition therapy; **psych**, psychological interventions; **envir**, environmental assessment and modifications; **assist**, assistive technology; **social**, social engagement; **qualt**, quality improvement strategies; **hypot**, management of orthostatic hypotension; **brisk**, basic falls risk assessment; **vibr**, whole-body vibration; **ph_pbo**, pharmacological placebo; **non-ph_pbo**, non-pharmacological placebo.

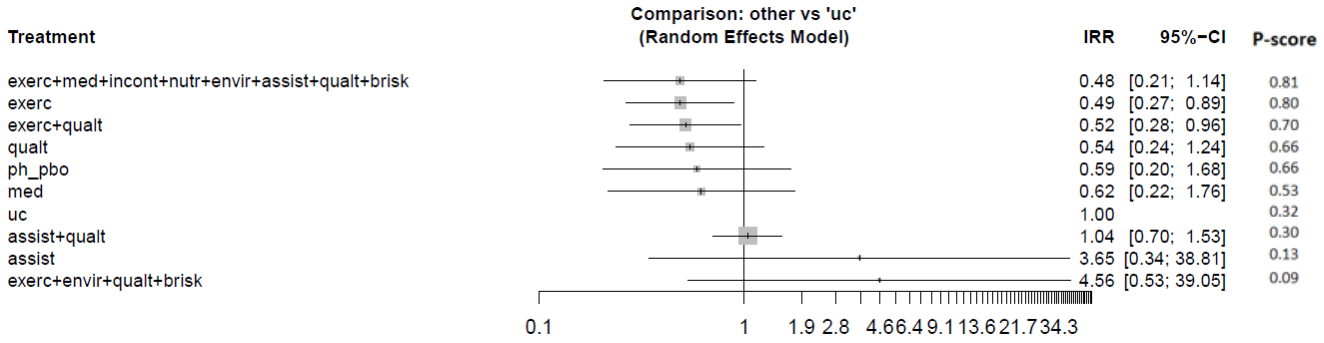
Supplementary Appendix S10. Additional results for fracture rate



Abbreviations: **exerc**, exercise; **med**, medication; **incont**, management of urinary incontinence; **nutr**, fluid or nutrition therapy; **envir**, environmental assessment and modifications; **assist**, assistive technology; **qualt**, quality improvement strategies; **brisk**, basic falls risk assessment; **ph_pbo**, pharmacological placebo.

A network plot provides an overview of the interventions investigated in all included randomized control trials. Interventions connected by a line were directly compared in one or more studies (direct evidence), e.g. exercise + nutrition versus usual care. Each node represents an intervention addressed in the included studies. The nodes are sized according to the number of participants who have received this intervention. The thickness of the line is according to the number of studies addressing this comparison.

Supplementary Figure S14. Network plot for fracture rate



Abbreviations: **exerc**, exercise; **med**, medication; **incont**, management of urinary incontinence; **nutr**, fluid or nutrition therapy; **envir**, environmental assessment and modifications; **assist**, assistive technology; **qualt**, quality improvement strategies; **brisk**, basic falls risk assessment; **uc**, usual care; **ph_pbo**, pharmacological placebo.

The boxes and error bars represent the rate ratios and its 95% confidence interval.

Supplementary Figure S15. Summary rate ratios (IRR) with 95% confidence intervals (95%-CI) and P-scores resulting from the network meta-analysis for every intervention consisting of one or more components versus usual care for the outcome fracture rate

Supplementary Table S10. Rate ratios with 95% confidence intervals (95% CI) resulting from the component network meta-analysis for every intervention component versus usual care for the outcome fracture rate

Component	Rate ratio	95% CI
assist	1.06	0.65 - 1.74
brisk	2.56	0.85 - 7.78
envir	2.56	0.85 - 7.78
exerc	0.69	0.44 - 1.06
nutr	0.40	0.13 - 1.29
med	1.15	0.56 - 2.36
hypot	0.40	0.13 - 1.29
ph_pbo	1.05	0.50 - 2.19
qualt	1.01	0.80 - 1.28

Abbreviations: **exerc**, exercise; **med**, medication; **nutr**, fluid or nutrition therapy; **envir**, environmental assessment and modifications; **assist**, assistive technology; **qualt**, quality improvement strategies; **hypot**, management of orthostatic hypotension**; brisk**, basic falls risk assessment; **ph_pbo**, pharmacological placebo.

Supplementary Appendix S11. eMethods

1.1 Additional information regarding study population, interventions, comparators and outcomes

Supplementary Table S11. Additional information regarding study population, interventions, comparators and outcomes

Population	Community-dwelling (living at home or in residential facilities) adults aged ≥65 years. Included: - Minimal dependence was allowed (e.g. home assistance with housework or showering, delivery of meals) - Patients recruited in hospital and then discharged home for follow-up Excluded: - Nursing home or rehabilitation center setting - Studies on specific conditions (e.g. stroke, Parkinson's Disease, severe dementia, spinal cord injury, multiple sclerosis, amputations), where the effects of the interventions cannot be generalized to most community-dwelling older people
Intervention	Any intervention aimed at preventing falls: - single - multiple (>2 interventions, fixed combination) - multifactorial (>2 interventions, personalized according to the results of a pre-executed falls risk assessment) Included: - Fourteen individual intervention components were identified (manuscript Table 1). Excluded: - Interventions violating the transitivity assumption (i.e. intervention not applicable to all participants in all studies included in the NMA)
Comparator	One of the following control groups: usual care, pharmacological placebo, non-pharmacological placebo (a sham intervention), and any other type of intervention to prevent falls.
Outcomes	*Primary outcomes*: 1. Number of fallers (participants who sustained one or more falls) 2. Number of fall-related fractures *Secondary outcomes:* 1. Number of repeated fallers (one individual sustaining at least two falls) 2. Number of hip fractures 3. Falls rate (number of falls per person-year of follow-up) 4. Fracture rate (number of fall-related fractures per person-year of follow-up)

1.2 Electronic search strategy

General limits applied to the search of the updated literature included:

- Studies published between 2015 – 2019
- Human studies only, i.e. no animal studies

The search strategy for PubMed is presented below. The search strategy for the other databases can be requested from the corresponding author.

Search PubMed:

1. "Accidental Falls"[Mesh]
2. fall[Title/Abstract]
3. falls[Title/Abstract]
4. faller*[Title/Abstract]

5. fallen[Title/Abstract]
6. falling[Title/Abstract]
7. fall-related[Title/Abstract]
8. near-fall*[Title/Abstract]
9. or/1-8
10. "Adult"[Mesh]
11. "Health Services for the Aged"[Mesh]
12. elder*[Title/Abstract] OR geriatric*[Title/Abstract] OR gerontolog*[Title/Abstract] OR old-age*[Title/Abstract] OR senior*[Title/Abstract]
13. ((older[Title/Abstract] OR adult*[Title/Abstract] OR age[Title/Abstract] OR aged[Title/Abstract]) AND (man[Title/Abstract] OR men[Title/Abstract] OR woman*[Title/Abstract] OR women*[Title/Abstract] OR patient[Title/Abstract] OR patients[Title/Abstract] OR person*[Title/Abstract] OR people*[Title/Abstract] OR population*[Title/Abstract]))
14. or/10-13
15. 9 and 14
16. controlled clinical trial[Publication Type] OR randomized controlled trial[Publication Type]
17. "Clinical Trials as Topic"[Mesh]
18. randomised[Title/Abstract] OR randomized[Title/Abstract] OR randomly[Title/Abstract] OR RCT*[Title/Abstract] OR placebo*[Title/Abstract]
19. (singl*[Title/Abstract] OR doubl*[Title/Abstract] OR trebl*[Title/Abstract] OR tripl*[Title/Abstract]) AND (mask*[Title/Abstract] OR blind*[Title/Abstract] OR dumm*[Title/Abstract])
20. trial[Title]
21. or/16-20
22. 15 AND 21
23. 22 NOT (animals[MeSH] NOT humans[MeSH])
24. "Urinary Incontinence"[Mesh]
25. "Enuresis"[Mesh]
26. Urinary Incontinence[Title/Abstract]
27. Urine Incontinence[Title/Abstract]
28. or/24-27
29. "Hypotension, Orthostatic"[Mesh]
30. Postural hypotension [Title/Abstract]
31. Orthostatic Hypotension [Title/Abstract]
32. or/29-31
33. "Shoes"[Mesh]
34. "Braces"[Mesh]
35. "Canes"[Mesh]
36. "Walkers"[Mesh]
37. "Mobility Limitation"[Mesh]
38. walking aid* [Title/Abstract]
39. walking stick* [Title/Abstract]
40. rollator* [Title/Abstract]
41. walking frame* [Title/Abstract]
42. or/33-41
43. 28 OR 32 OR 42
44. 23 AND 43

1.3 Additional information on methods systematic review

Screening: Studies from author Yoshihiro Sato were excluded, because a large part of his studies have been officially retracted from PubMed.

Data extraction: When multiple follow-up time points were reported, we chose the time point where we expected the highest clinical impact, e.g. in case of an exercise intervention, we chose the time point closest to the end of the exercise intervention.

When only data on fall frequency was available, we combined data on fall frequency and the general follow-up time duration to estimate falls rates, assuming that each participant was followed for the entire follow-up period.

1.4 Additional information on network meta-analysis

Simplifications
Originally, we had planned to include all the different types of exercise as subgroups (e.g balance, strength, flexibility, endurance training). However, after completion of data extraction, the sample sizes for the subgroups were too small and thus had to be merged into one exercise component. For example, in RCTs with similar intervention arms: exercise (balance training) vs. exercise (strength training) vs. medication, exercise was merged (balance & strength training) vs. medication. For the merging process, the two exercise sample sizes were added together, and for dichotomous outcomes the number of events were added together but for continuous outcomes we computed weighted means and pooled standard deviations.

RCTs where all intervention arms belonged to the same overall component were disregarded, e.g exercise (balance) vs. exercise (strength) vs. exercise (flexibility), since no comparisons could be drawn for the efficacy of one intervention over another.

Data synthesis

At first, we conducted a random-effects meta-analysis using inverse variance weighting for each pairwise comparison.[1] We conducted the analysis in R using the 'meta' package.[2] DerSimonian-Laird estimator was used for estimating the between-study variance.

Many studies compared interventions consisting of multiple interacting components. The primary NMA followed the standard approach where each distinct combination of components is treated as a separate intervention. To disentangle the effect of each component, we additionally employed statistical models to obtain relative effects for each separate component (component-NMA (C-NMA). For both analyses (standard NMA and (C-NMA),[3,4] we used the *netmeta* package[5] in R software (version 3.6.1) which handles the within multi-arm trials correlation by reducing the weight given to each effect size.[2] A prerequisite for standard NMA is that the network is connected (you can go from any node to any other one). The C-NMA approach allows disconnected networks to be analyzed jointly as long as they include some common components. However, we performed NMA only for connected networks in which the number of studies exceeded the number of treatment nodes. We excluded from the analysis studies comparing identical treatments in the study arms, e.g. exercise (balance) vs. exercise (strength), or not having the necessary arm-level data.

We encountered studies in which participants were randomized to multiple or multifactorial interventions. The main challenge in such a network was to disentangle the effects of each component. We conducted a series of network meta-analyses. We followed the models (below) described in Welton et al. 2009 to estimate relative effects.[3]

More specifically,

Model A, **pairwise meta-analysis:** Some of the trials compared an active intervention to usual care. Model A lumps all interventions together and compares to the reference treatment (e.g. usual care). Such a model answers the question whether interventions work as a whole.

Model B, standard NMA: Each possible combination of components is considered to be a separate intervention and has its own effect. This was the primary analysis.

Model C, component NMA, additive model: Assumes that each component has a separate effect. The total effect of an intervention is equal to the sum of the relative component effects (additivity assumption).

Model D, component NMA, interaction model: Extension of Model C with extra terms for combinations of pairs of components. Allows pairs of components to have a bigger or smaller effect than would be expected from the sum of their individual components

In the network meta-analysis, we used models A, B and where appropriate model C.

For models A and B, we presented relative effects for each treatment, whereas for model C we placed emphasis on the absolute effects of components. Along with effects we also ranked interventions using P-scores.[6]

Assessment of heterogeneity
For each comparison we assessed statistical heterogeneity by visually inspecting the forest plot. We computed the chi-square test for heterogeneity, the I^2 index and the actual estimated value of heterogeneity (τ^2) both in each pairwise comparison and in the network.[7] For dichotomous outcomes, magnitude of heterogeneity variance was compared with the empirical distribution as derived by Turner et al 2012.[8] Both in standard pairwise meta-analyses and in network meta-analysis we assumed that heterogeneity is the same for all treatment comparisons to increase power in estimation. We estimated heterogeneity using restricted maximum likelihood both in pairwise and network meta-analysis.

Assessment of Inconsistency
Assessment of statistical inconsistency
A key assumption in NMA is that of transitivity. This assumption implies that the distribution of effect modifiers is similar across treatment comparisons. In order to get a valid indirect estimate for B vs C via A, the distribution of all characteristics that may influence the relative effect for B vs C must be similar in A vs B and A vs C studies. Alternative interpretations of transitivity can be found in Salanti 2012.[9] Intransitivity may manifest itself statistically through large discrepancies between direct and indirect evidence. This is called inconsistency.

Local approaches for evaluating inconsistency
We applied the node-splitting approach to evaluate if direct evidence for a treatment comparison is in agreement with the indirect evidence estimated from the entire network after studies involving this treatment comparison were omitted.[10]

Global approaches for evaluating inconsistency
To check the assumption of consistency in the entire network we used the "design-by treatment" model as described by Higgins and colleagues.[11] This method accounts for different sources of inconsistency that can occur when studies with different designs (two-arm trials vs. three-arm trials) give different results as well as disagreement between direct and indirect evidence. Using this approach, we inferred the presence of inconsistency from any source in the entire network based on a chi-square test. Inconsistency and heterogeneity are interweaved; to distinguish between these two sources of variability we employed the I^2 for inconsistency that measures the percentage of variability that cannot be attributed to random error or heterogeneity (within comparison variability).

1.5 Additional information on CINeMA confidence rating

Methods:
A semi-automated assessment of the confidence in the results of the NMA was performed using CINeMA for every possible pairwise comparison of interventions. CINeMA makes judgements about six domains (within-study bias, reporting bias, indirectness, imprecision, heterogeneity, and incoherence) and scores each NMA treatment effect estimate as "no concerns", "some concerns" and "major concerns". Regarding within-study biases and indirectness, we summarized these domains for each network estimate using the average risk of bias and indirectness respectively. For reporting bias we summarized each network estimate as having "major concerns" as there are no established statistical methods to explore that and we did not have other information on whether such biases exist. For imprecision, we considered that relative effect estimates below 0.8 or above 1.25 are clinical important and we followed the CINeMA strategy for exploring whether statistical significance and clinical importance coincide for each outcome. Incoherence (inconsistency) was checked by the node-split method[10] and a global test for inconsistency.[11] We additionally checked the net-heat plot.[12] For heterogeneity we followed the standard CINeMA approach. A key characteristic of the CINeMA approach is the use of the percentage contribution matrix that shows how information flows in the network and more specifically, how each study and/or direct comparison informs the effect estimates.

Results:
For the domains ‘within-study bias’ and ‘reporting bias’, there were major concerns for all comparisons, resulting in low confidence in the results for every comparison. Major concerns for the domain ‘within-study bias’ were mainly the result of the lack of blinding of personnel and participants, due to the nature of the fall prevention interventions. For reporting bias we summarized each network estimate as having "major concerns" as there are no established statistical methods to explore that. In order to still maintain distinctiveness, the evaluation of the confidence in the results of the NMA was based on the remaining 4 domains. The results of the assessments and the reasons for downgrading are presented in manuscript Table 3 and 4 for the 23 interventions with statistically significant associations versus usual care. Based on the assessment without consideration of the domains ‘within-study bias’ and ‘reporting bias’, for 20 of the 23 comparisons the confidence in the treatment effect was considered high.

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Supplementary Appendix S12. eReferences. List of 220 included studies and 3 companion reports

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