Supplementary material

Table S1. PRISMA checklist.

Section/topic	#	Checklist item
TITLE		
Title	1	Identify the report as a systematic review, meta-analysis, or both.
ABSTRACT		
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; da eligibility criteria, participants, and interventions; study appraisal and synthesis m limitations; conclusions and implications of key findings; systematic review registr
INTRODUCTION		·
Rationale	3	Describe the rationale for the review in the context of what is already known.
Objectives	4	Provide an explicit statement of questions being addressed with reference to partic comparisons, outcomes, and study design (PICOS).
METHODS		
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web addre provide registration information including registration number.
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report character considered, language, publication status) used as criteria for eligibility, giving ratio
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact wi identify additional studies) in the search and date last searched.
Search	8	Present full electronic search strategy for at least one database, including any limit could be repeated.
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in system applicable, included in the meta-analysis).
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independentl any processes for obtaining and confirming data from investigators.
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sour assumptions and simplifications made.
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including symbols) whether this was done at the study or outcome level), and how this information is synthesis.
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, in consistency (e.g., I ²) for each meta-analysis.

Section/topic	#	Checklist item
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g selective reporting within studies).

Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, me indicating which were pre-specified.
RESULTS		
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the revie exclusions at each stage, ideally with a flow diagram.
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study si period) and provide the citations.
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level asses
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple each intervention group (b) effect estimates and confidence intervals, ideally with
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and mea
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, Item 16]).
DISCUSSION	•	·
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main out relevance to key groups (e.g., healthcare providers, users, and policy makers).
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-lev retrieval of identified research, reporting bias).
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and research.
FUNDING		•
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supplication for the systematic review.

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit: **www.prisma-statement.org**.

 Table S2. Boolean search strategy for each database.

PubMed	(("core strength"[Title/Abstract] OR "trunk strength"[Title/Abstract] OR "trunk stability"[Title/Abstract] OR "trunk stabilization"[Title/Abstract] OR "trunk control"[Title/Abstract] OR "core stability"[Title/Abstract] OR "core stabilization"[Title/Abstract] OR "core control"[Title/Abstract] OR "lumbar stability"[Title/Abstract] OR "lumbar stabilization"[Title/Abstract] OR "lumbar control"[Title/Abstract] OR "spine stability"[Title/Abstract] OR "lumbar control"[Title/Abstract] OR "spine stability"[Title/Abstract] OR "lumbopelvic stabilization"[Title/Abstract] OR "spine control"[Title/Abstract] OR "lumbopelvic stabilization"[Title/Abstract] OR "lumbopelvic control"[Title/Abstract] OR "lumbopelvic stabilization"[Title/Abstract] OR "lumbopelvic stability"[Title/Abstract] OR "lumbopelvic control"[Title/Abstract] OR "lumbo-pelvic stabilization"[Title/Abstract] OR "lumbopelvic control"[Title/Abstract] OR "lumbo-pelvic stabilization"[Title/Abstract] OR "lumbopelvic control"[Title/Abstract] OR "lumbo-pelvic stabilization"[Title/Abstract] OR "lumbo-pelvic control"[Title/Abstract] OR "lumbo-pelvic stabilization"[Title/Abstract] OR "lumbo-pelvic control"[Title/Abstract] OR "lumbo-pelvic stabilization"[Title/Abstract] OR "lumbo-pelvic control"[Title/Abstract] OR "lumbo-pelvic stabilization"[Title/Abstract]] AND ("training"[Title/Abstract] OR "stroke"[Title/Abstract]] OR "program"[Title/Abstract]] OR "programme") AND ("stroke"[Title/Abstract]] NOT "cell"[Title/Abstract]]
Scopus	ITTLE-ABS ("core strength" OR "trunk strength" OR "trunk stability" OR "trunk stabilization" OR "trunk control" OR "core stability" OR "core stabilization" OR "core control" OR "lumbar stability" OR "lumbar stabilization" OR "lumbar control" OR "spine stability" OR "spine stabilization" OR "spine control" OR "lumbopelvic stability" OR "lumbopelvic control" OR "lumbopelvic stabilization" OR "lumbo-pelvic stability" OR "lumbo-pelvic control" OR "lumbo-pelvic stabilization" OR "lumbo-pelvic stability" OR "lumbo-pelvic ("stroke") AND NOT ("cell") AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT- TO (LANGUAGE , "English"))
Cochrane and EMBASE	("core strength" OR "trunk strength" OR "trunk stability" OR "trunk stabilization" OR "trunk control" OR "core stability" OR "core stabilization" OR "core control" OR "lumbar stability" OR "lumbar stabilization" OR "lumbar control" OR "spine stability" OR "spine stabilization" OR "lumbopelvic stability" OR "lumbopelvic control" OR "lumbopelvic stabilization" OR "lumbopelvic control" OR "lumbopelvic control" OR "lumbopelvic stabilization" OR "lumbopelvic control" OR "lumbopelvic control" OR "lumbopelvic stabilization" OR "lumbopelvic control" OR "lumbopelvic control" OR "lumbopelvic stabilization" OR "lumbopelvic control" OR "lumbopelvic control" OR "lumbopelvic stabilization" OR "lumbopelvic control" OR "lumbopelvic control" OR "lumbopelvic stabilization" OR "stroke") AND ("training" OR "exercises" OR "program" OR "programme") AND ("stroke") AND NOT ("cell")

Forest plot of the main outcomes analyzed

	Experimental			c	ontrol			Std. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI
De Sèze 2001	33.7	11.5	10	20	18.3	10	6.7%	6.7% 0.86 [-0.07, 1.78]		
Verheyden 2009	4.82	4.82 2.69 17 3.31 3.59		16	8.9% 0.47 [-0.23, 1.16] 2			+		
Yoo 2010	4.78	4.55	28	2.45	4.31	31	10.9%	0.52 [-0.00, 1.04]	2010	
Vijayakumar 2011	6.96	1.28	10	3.13	1.24	10	4.1%	2.91 [1.58, 4.25]	2011	
Lee 2011	3.7	2.3	14	0.9	1.4	14	7.4%	1.43 [0.58, 2.27]	2011	
Saeys 2012	8.72	2.8	18	2.87	3.23	15	7.4%	1.90 [1.06, 2.74]	2012	
Jung 2014	2.4 1.5 9 0.1		2.38	8	5.8%	1.11 [0.07, 2.16]	2014			
Jung 2015	2.36	2.36 2.94 11 -0.27 1.2		1.27	11	6.8% 1.12 [0.21, 2.03]				
Cabanas-Valdés 2015	5.88	3.48	40	2.5	2.2	39	11.4%	1.15 [0.67, 1.62]	2015	
Rose 2016	1.83	1.28	12	1.75	2.19	12	7.8%	0.04 [-0.76, 0.84]	2016	
Haruyama 2016	4.13	2.38	16	1.19	2.79	16	8.3%	1.11 [0.35, 1.86]	2016	
Shin 2016	3.08	2.71	12	0.09	1.24	12	6.8%	1.37 [0.46, 2.28]	2016	
Park 2019	3.07	2.04	14	0.93	2.23	14	7.9%	0.97 [0.18, 1.76]	2018	
Total (05% CI)			211			208	100.0%	1 06 [0 74 1 27]		
Total (95% CI)			211			208	100.0%	1.06 [0.74, 1.37]		
Heterogeneity: $Tau^2 = 0.17$; $Chi^2 = 25.59$, $df = 12$ (P = 0.01); I^2							= 53%			-4 -2 0 2 4
Test for overall effect: Z	= 6.51	(P < 0	0.00001)						Fayour control group Fayour intervention group

Figure S1. Pooled effect sizes on trunk function.

	Experimental			Control			:	Std. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI
De Sèze 2001	1.6	0.5	10	0.8	0.7	10	7.3%	1.26 [0.28, 2.24]	2001	
Yoo 2010	11.29	13.25	28	6.32	11.99	31	15.6%	0.39 [-0.13, 0.91]	2010	+
Vijayakumar 2011	7.1	0.88	10	4.4	1.1	10	5.0%	2.60 [1.34, 3.85]	2011	
Saeys 2012	19.39	12.61	18	9.2	13.52	15	11.2%	0.76 [0.05, 1.48]	2012	
Cabanas-Valdés 2015	23.03	15.95	40	8.49	8.74	39	16.7%	1.12 [0.64, 1.59]	2015	
Haruyama 2016	2.79	3.34	16	0.06	4.32	16	11.1%	0.69 [-0.03, 1.41]	2016	
An 2017	2.93	2.96	15	1.36	2.84	14	10.6%	0.53 [-0.22, 1.27]	2017	+
Park 2019	4.79	3.06	14	2.86	3.19	14	10.3%	0.60 [-0.16, 1.36]	2018	
Min 2020	7.36	3.63	19	4.42	4.49	19	12.3%	0.71 [0.05, 1.36]	2020	
Total (95% CI)			170			168	100.0%	0.83 [0.52, 1.14]		•
Heterogeneity: Tau ² = 0.09; Chi ² = 13.81, df = 8 (P = 0.09); I					$I^2 = 42$	%			-4 -2 0 2 4	
rescrot overall effect. Z	(1 < 0.1	00001)							Favour control group Favour intervention group	

Figure S2. Pooled effect sizes on balance ability.

	Expe	erimen	ntal	C	ontrol		9	Std. Mean Difference		Std. Mean Difference				
Study or Subgroup	or Subgroup Mean SD Tota		Total	Mean S		Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI				
Kim 2011	4.6	5.54	20	0.1	4.1	20	20.3%	0.91 [0.25, 1.56]	2011	· · · · · · · · · · · · · · · · · · ·				
Lee 2011	16.5	9.7	14	4.1	5.6	14	15.2%	1.52 [0.66, 2.38]	2011					
Jung 2015	8.28	5.42	11	2.37	6.15	11	14.4%	0.98 [0.09, 1.88]	2015	_				
Haruyama 2016	3.37	4.47	16	2.28	6.49	16	19.1%	0.19 [-0.50, 0.89]	2016					
Shin 2016	7.36	5.5	12	0.99	0.63	12	13.5%	1.57 [0.63, 2.51]	2016					
Park 2019	5.69	6.24	14	2.71	4.21	14	17.5%	0.54 [-0.21, 1.30]	2018					
Total (95% CI)			87			87	100.0%	0.90 [0.47, 1.33]						

-2 -1 0 1 2 Favour control group Favour intervention group

B)

	Expe	Experimental Control					9	Std. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI
Howe 2005	1	1.1	15	0.4	0.59	18	32.1%	0.68 [-0.03, 1.39]	2005	
Lee 2011	8.7	5.2	14	1.8	2.8	14	24.0%	1.60 [0.74, 2.47]	2011	_
Jung 2015	7.91	5.01	11	0.95	2.48	11	19.3%	1.69 [0.69, 2.70]	2015	
Shin 2016	8.36	4.5	12	3.44	5.46	12	24.7%	0.95 [0.10, 1.80]	2016	
Total (95% CI) Heterogeneity: Tau ² = Test for overall effect	5% Cl) 52 ;neity: Tau ² = 0.07; Chi ² = 4.08, df = 3 (P = 0.25; overall effect: Z = 4.63 (P < 0.00001)					55 ?5); I ² =	100.0% 26%	1.16 [0.67, 1.66]	_	-2 -1 0 1 2 Favour control group Favour intervention group

C)

	Experimental			al Control			9	Std. Mean Difference		Std. Mean Difference		
Study or Subgroup	Mean SD Total Mean SD To			Total	Weight IV, Random, 95% CI Year			IV, Random, 95% CI				
Lee 2011	5.3	4.4	14	3.5	2.1	14	38.2%	0.51 [-0.25, 1.26]	2011			
Jung 2015	5.66	6.35	11	1.65	4.2	11	32.5%	0.72 [-0.15, 1.58]	2015			
Shin 2016	6.32	3.79	12	1.7	1.13	12	29.3%	1.60 [0.65, 2.54]	2016	_		
Total (95% CI)			37			37	100.0%	0.89 [0.26, 1.52]				
Heterogeneity: Tau ² :	= 0.12; (Chi² =	3.29, d	f = 2 (F)	P = 0.1	L9); I ² =	= 39%		-			
Test for overall effect: $Z = 2.78$ (P = 0.005)										Favour control group Favour intervention group		

Figure S3. (A) Pooled effect sizes on limits of stability forward reach of the unaffected arm; (B) Pooled effect sizes on limits of stability lateral reach of the unaffected arm; (C) Pooled effect sizes on limits of stability lateral reach of the affected arm.

	Experimental Control						:	Std. Mean Difference		Std. Mean Difference						
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI						
De Sèze 2001	2.2	1	10	1.1	1.1	10	7.3%	1.00 [0.06, 1.94]	2001							
Dean 2007	0.41	0.35	6	0.21	0.16	6	4.7%	0.68 [-0.50, 1.86]	2007							
Saeys 2012	2.45	1.31	18	1.86	1.38	15	13.5%	0.43 [-0.27, 1.12]	2012	- -						
Chung 2013	14.08	13.9	8	-0.3	11.24	8	5.7%	1.08 [0.01, 2.15]	2013							
Cabanas-Valdés 2015	5.57	3.97	40	2.62	2.78	39	30.5%	0.85 [0.39, 1.31]	2015							
Haruyama 2016	0.5	0.81	16	0.12	0.93	16	13.2%	0.42 [-0.28, 1.13]	2016							
Shin 2020	0.17	0.15	12	0.05	0.1	12	9.0%	0.91 [0.06, 1.76]	2019							
Min 2020	0.36	0.58	19	0.32	0.71	19	16.1%	0.06 [-0.58, 0.70]	2020							
Total (95% CI)			129			125	100.0%	0.63 [0.38, 0.89]		•						
Heterogeneity: $Tau^2 = 0$	= 0.00; Chi ² = 6.30, df = 7 (P = 0.51)				0.51);	$I^2 = 0\%$										
Test for overall effect: Z	st for overall effect: $Z = 4.85$ (P < 0.00001)									Favour control group Favour intervention group						

Figure S4. Pooled effect sizes on gait performance.

	Experimental Control				ontrol			Mean Difference		Mean Difference					
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI					
Chung 2013	5.42	5.61	8	5.48	6.8	8	18.0%	-0.06 [-6.17, 6.05]	2013						
Jung 2014	5	11.77	9	2.6	7.52	8	11.0%	2.40 [-6.89, 11.69]	2014						
Haruyama 2016	13.67	23.05	16	1.33	25.19	16	4.3%	12.34 [-4.39, 29.07]	2016						
Shin 2016	9.71	4.46	12	2.18	1.13	12	29.9%	7.53 [4.93, 10.13]	2016						
An 2017	4.11	2.24	15	2	3.05	14	32.0%	2.11 [0.15, 4.07]	2017						
Min 2020	11.69	21.27	19	18.32	28.07	19	4.8%	-6.63 [-22.47, 9.21]	2020						
Total (95% CI)			79			77	100.0%	3.40 [-0.32, 7.12]		◆					
Heterogeneity: Tau ² =	ogeneity: Tau ² = 10.25; Chi ² = 15.03, df = 5 (P =		P = 0.0	1); $I^2 =$	67%										
Test for overall effect	Test for overall effect: $Z = 1.79$ (P = 0.07)									Favour control group Favour intervention group					

Figure S5. Pooled effect sizes on functional mobility.

Sul	bgroup	anal	lyses f	for tl	he mod	lerator	varia	abl	es	anal	yzed	l
	()											

,						
Study or Subgroup	Experimental Mean SD Total	Control	Woight	Std. Mean Difference	Voar	Std. Mean Difference
De Sèze 2001	33.7 11.5 10	20 18.3 10) 12.6%	0.86 [-0.07, 1.78]	2001	
Yoo 2010	4.78 2.69 17	2.45 4.31 3	18.1%	0.60 [-0.01, 1.20]	2010	_ _
Lee 2011	3.7 2.3 14	0.9 1.4 14	4 13.8%	1.43 [0.58, 2.27]	2011	
Vijayakumar 2011	6.96 1.28 10	3.13 1.24 10	8.0%	2.91 [1.58, 4.25]	2011	
Saeys 2012 Cabanas Valdás 2015	8.72 2.8 18 5.88 3.48 40	2.8/ 3.23 1	3 13.9%	1.90 [1.06, 2.74]	2012	
Shin 2016	3.08 2.71 12	0.09 1.24 12	20.7%	1.37 [0.46, 2.28]	2015	
Total (95% CI)	121	131	100.0%	1.32 [0.87, 1.78]		•
Heterogeneity: Tau ² =	0.20; Chi ² = 13.75, d	$f = 6 (P = 0.03); I^2 =$	= 56%			-4 -2 0 2 4
lest for overall effect:	Z = 5.76 (P < 0.0000)	1)				Favour control group Favour intervention group
A2)						
,	Experimental	Control	s	td. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean SD Total	Mean SD Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI
Verheyden 2009	4.82 2.69 17	3.31 3.59 16	21.7%	0.47 [-0.23, 1.16]	2009	
Jung 2014	2.4 1.5 9	0.1 2.38 8	10.8%	1.11 [0.07, 2.16]	2014	
Jung 2015	2.36 2.94 11	-0.27 1.27 11	13.7%	1.12 [0.21, 2.03]	2015	
Kose 2016	1.83 1.28 12	1.75 2.19 12	17.2%	0.04 [-0.76, 0.84]	2016	
Park 2019	4.15 2.58 10	0.93 2.79 10	17.5%	0.97 [0.18, 1.76]	2018	
Funk E015	5107 2101 11	0.000 2.200 2.1	1113/0	0107 [0110, 1170]	2010	
Total (95% CI)	79	77	100.0%	0.76 [0.40, 1.12]		
Heterogeneity: Tau ² =	0.03; Chi ² = 5.89, di	$f = 5 (P = 0.32); I^2 =$	= 15%		-	
Test for overall effect:	Z = 4.15 (P < 0.0001)	L)				Favour control group Favour intervention group
D1)						
B1)	Francisco estad	Control				Stid Mary Difference
Study or Subaroup	Mean SD Tota	L Mean SD To	al Weigh	IV. Random. 95% Cl	Year	IV. Random, 95% CI
De Sèze 2001	1.6 0.5 1	0 0.8 0.7	10 16.79	6 1.26 [0.28, 2.24]	2001	
Yoo 2010	11.29 13.25 2	8 6.32 11.99	31 24.79	6 0.39 [-0.13, 0.91]	2010	+ - -
Vijayakumar 2011	6.96 1.28 1	0 3.13 1.24	10 12.09	6 2.91 [1.58, 4.25]	2011	
Saeys 2012	19.39 12.61 1	8 9.2 13.52	15 21.29	6 0.76 [0.05, 1.48]	2012	
Cabanas-vaides 2015	23.03 15.95 4	5 8.49 8.74	39 25.4%	5 I.12 [0.64, I.59]	2015	
Total (95% CI)	10	6 1	05 100.09	6 1.10 [0.51, 1.70]		◆
Heterogeneity: $Tau^2 = 0$	0.31; Chi ² = 13.91, df	$= 4 (P = 0.008); I^2 =$	= 71%			
Test for overall effect: 2	Z = 3.62 (P = 0.0003)					Favour control group Favour intervention group
R2)	,					
B2)	Experimental	Control		td. Mean Difference		Std Mean Difference
B2) Study or Subgroup	Experimental Mean SD Total	Control Mean SD Total	S Weight	td. Mean Difference IV, Random, 95% CI	Year	Std. Mean Difference IV, Random, 95% Cl
B2) Study or Subgroup Haruyama 2016	Experimental Mean SD Total 2.79 3.34 16	Control Mean SD Total 0.06 4.32 16	S Weight 53.0%	td. Mean Difference IV, Random, 95% CI 0.69 [-0.03, 1.41]	Year 2016	Std. Mean Difference IV, Random, 95% Cl
B2) Study or Subgroup Haruyama 2016 Park 2019	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14	Control Mean SD Total 0.06 4.32 16 2.86 3.19 14	S Weight 53.0% 47.0%	td. Mean Difference IV, Random, 95% CI 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36]	Year 2016 2018	Std. Mean Difference IV, Random, 95% Cl
B2) Study or Subgroup Haruyama 2016 Park 2019 Total (95% Cl)	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14	Control Mean SD Total 0.06 4.32 16 2.86 3.19 14	S Weight 53.0% 47.0%	td. Mean Difference IV, Random, 95% CI 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36]	Year 2016 2018	Std. Mean Difference IV, Random, 95% Cl
B2) <u>Study or Subgroup</u> Haruyama 2016 Park 2019 Total (95% Cl) Haterogeneity: Tou ² =	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14 0.00: Chi2 = 0.03 0.03	Control Mean SD Total 0.06 4.32 16 2.86 3.19 14 30 5 5	S Weight 53.0% 47.0%	td. Mean Difference IV, Random, 95% Cl 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17]	Year 2016 2018	Std. Mean Difference IV, Random, 95% Cl
B2) <u>Study or Subgroup</u> Haruyama 2016 Park 2019 Total (95% Cl) Heterogeneity: Tau ² = Test for overall effect:	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14 0 0.00; Chi ² = 0.03, dt 30 Z = 2.43 (P = 0.01) 0.01) 0.01)	$\begin{tabular}{ c c c c } \hline Control & \\ \hline Mean & SD & Total \\ \hline 0.06 & 4.32 & 16 \\ 2.86 & 3.19 & 14 \\ \hline & & & & & \\ \hline & & & & & \\ \hline & & & &$	S Weight 53.0% 47.0% 100.0% = 0%	td. Mean Difference IV, Random, 95% Cl 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17]	Year 2016 2018	Std. Mean Difference IV, Random, 95% CI
B2) <u>Study or Subgroup</u> Haruyama 2016 Park 2019 Total (95% Cl) Heterogeneity: Tau ² = Test for overall effect:	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14 30 0.00; Chi ² = 0.03, di Z = 2.43 (P = 0.01)	$\begin{tabular}{ c c c c } \hline Control & \\ \hline Mean & SD & Total \\ \hline 0.06 & 4.32 & 16 \\ 2.86 & 3.19 & 14 \\ \hline & & & & & \\ \hline S = 1 (P = 0.87); ^2 = & & & \\ \hline \end{tabular}$	S Weight 53.0% 47.0% 100.0% = 0%	td. Mean Difference IV, Random, 95% Cl 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17]	Year 2016 2018	Std. Mean Difference IV, Random, 95% CI
B2) <u>Study or Subgroup</u> Haruyama 2016 Park 2019 Total (95% Cl) Heterogeneity: Tau ² = Test for overall effect: C1)	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14 30 0.00; Chi ² = 0.03, di Z = 2.43 (P = 0.01)	$\begin{tabular}{ c c c c } \hline \hline U & $U$$	S Weight 53.0% 47.0% 100.0% = 0%	td. Mean Difference IV, Random, 95% Cl 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17]	Year 2016 2018	Std. Mean Difference IV, Random, 95% CI
B2) <u>Study or Subgroup</u> Haruyama 2016 Park 2019 Total (95% CI) Heterogeneity: Tau ² = Test for overall effect: C1)	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14 30 0.00; Chi ² = 0.03, di Z = 2.43 (P = 0.01) Experimental	$\begin{tabular}{ c c c c } \hline Control & & & \\ \hline \hline Mean & SD & Total \\ \hline 0.06 & 4.32 & 16 \\ 2.86 & 3.19 & 14 \\ \hline & & & \\ \hline S = 1 (P = 0.87); ^2 = \\ \hline \hline \hline Control & & \\ \hline \end{tabular}$	S Weight 53.0% 47.0% 100.0% = 0%	td. Mean Difference IV, Random, 95% CI 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17] td. Mean Difference	Year 2016 2018	Std. Mean Difference IV, Random, 95% CI
B2) Study or Subgroup Haruyama 2016 Park 2019 Total (95% Cl) Heterogeneity: Tau ² = Test for overall effect: C1) Study or Subgroup	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14 30 0.00; Chi ² = 0.03, di 2 2 = 2.43 (P = 0.01) Experimental Mean SD Total	Control Mean SD Total 0.06 4.32 16 2.86 3.19 14 30 F = 1 (P = 0.87); I ² = Control Mean SD	S Weight 53.0% 47.0% 100.0% 0%	td. Mean Difference IV, Random, 95% CI 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17] td. Mean Difference IV, Random, 95% CI	Year 2016 2018	Std. Mean Difference IV, Random, 95% CI
B2) Study or Subgroup Haruyama 2016 Park 2019 Total (95% Cl) Heterogeneity: Tau ² = Test for overall effect: C1) Study or Subgroup Lee 2011	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14 30 0.00; Chi ² = 0.03, di 2 Z = 2.43 (P = 0.01) Experimental Mean Mean SD Total 16.5 9.7 14	$\begin{tabular}{ c c c c } \hline Control & \\ \hline Mean & SD & Total \\ \hline 0.06 & 4.32 & 16 \\ 2.86 & 3.19 & 14 \\ \hline & & & & \\ \hline S = 1 (P = 0.87); ^2 = \\ \hline & & & \\ \hline \hline \hline & & & \\ \hline \hline \hline \hline & & & \\ \hline \hline \hline \hline$	S S 53.0% 47.0% 100.0% 0% S Weight 53.0% 54.5%	td. Mean Difference IV, Random, 95% CI 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17] td. Mean Difference IV, Random, 95% CI 1.52 [0.66, 2.38]	Year 2016 2018 Year 2011	Std. Mean Difference IV, Random, 95% CI
B2) <u>Study or Subgroup</u> Haruyama 2016 Park 2019 Total (95% CI) Heterogeneity: Tau ² = Test for overall effect: C1) <u>Study or Subgroup</u> Lee 2011 Shin 2016	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14 0.00; Chi ² = 0.03, di 2 2 = 2.43 (P = 0.01) Experimental Mean SD Total 16.5 9.7 14 7.36 5.5 12	Control Mean SD Total 0.06 4.32 16 2.86 3.19 14 F T (P = 0.87); ² = Control Mean A A Total A Total A Total A Total 4.1 5.6 14 0.63 A	53.0% 53.0% 47.0% 100.0% ○ 0% Sueight 54.5% 45.5%	td. Mean Difference IV, Random, 95% Cl 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17] td. Mean Difference IV, Random, 95% Cl 1.52 [0.66, 2.38] 1.57 [0.63, 2.51]	Year 2016 2018 Year 2011 2016	Std. Mean Difference IV, Random, 95% CI
B2) <u>Study or Subgroup</u> Haruyama 2016 Park 2019 Total (95% Cl) Heterogeneity: Tau ² = Test for overall effect: C1) <u>Study or Subgroup</u> Lee 2011 Shin 2016 Total (95% Cl)	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14 0.00; Chi ² = 0.03, dl 30 0.00; Chi ² = 0.03, dl 2 Z = 2.43 (P = 0.01) Experimental Mean SD Total 16.5 9.7 14 7.36 5.5 12	Control Mean SD Total 0.06 4.32 16 2.86 3.19 14 30 Total 1 (P = 0.87); I ² = Control Mean SD Total 4.1 5.6 14 0.99 0.63 12	53.0% 53.0% 47.0% 100.0% • 0% • 0% • 0% • 0% • 0% • 0%	td. Mean Difference IV, Random, 95% CI 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17] td. Mean Difference IV, Random, 95% CI 1.52 [0.66, 2.38] 1.57 [0.63, 2.51] 1.54 [0.91, 2.18]	Year 2016 2018 Year 2011 2016	Std. Mean Difference IV, Random, 95% CI
B2) <u>Study or Subgroup</u> Haruyama 2016 Park 2019 Total (95% Cl) Heterogeneity: Tau ² = Test for overall effect: C1) <u>Study or Subgroup</u> Lee 2011 Shin 2016 Total (95% Cl) Heterogeneity: Tau ² =	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14 0.00; Chi ² = 0.03, dt 2 2.43 (P = 0.01) 0.01) Experimental Mean SD Total 16.5 9.7 14 7.36 5.5 12 26 0.00; Chi ² = 0.01, dt	Control Mean SD Total 0.06 4.32 16 2.86 3.19 14 $f = 1$ (P = 0.87); ² = 30 Mean SD Total 4.1 5.6 12 4.1 5.6 12 $f = 1$ (P = 0.94); ² = 26	S Weight 53.0% 47.0% 100.0% ○ % S Weight 54.5% 45.5% 100.0% ○ %	td. Mean Difference IV, Random, 95% CI 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17] td. Mean Difference IV, Random, 95% CI 1.52 [0.66, 2.38] 1.57 [0.63, 2.51] 1.54 [0.91, 2.18]	Year 2016 2018 Year 2011 2016	Std. Mean Difference IV, Random, 95% CI
B2) <u>Study or Subgroup</u> Haruyama 2016 Park 2019 Total (95% CI) Heterogeneity: Tau ² = Test for overall effect: C1) <u>Study or Subgroup</u> Lee 2011 Shin 2016 Total (95% CI) Heterogeneity: Tau ² = Test for overall effect:	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14 3.00 5.01 3.06 0.00 ; $Chi^2 = 0.03$, di Z $Z = 2.43$ (P = 0.01) 3.06 Experimental Mean SD Total 16.5 9.7 14 7.36 5.5 12 26 0.00 ; $Chi^2 = 0.01$, di $Z = 4.79$ (P < 0.000) $Z = 4.79$ (P < 0.000)	Control Mean SD Total 0.06 4.32 16 2.86 3.19 14 $f = 1$ (P = 0.87); ² = 30 $\frac{Mean}{4.1}$ 5.6 14 4.1 5.6 14 4.1 5.6 14 6.9 0.63 12 26 $f = 1$ (P = 0.94); ² = 26 $f = 1$ (P = 0.94); ² = 21	S Weight 53.0% 47.0% 100.0% ∞ Weight 54.5% 45.5% 100.0% ∞	td. Mean Difference IV, Random, 95% CI 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17] td. Mean Difference IV, Random, 95% CI 1.52 [0.66, 2.38] 1.57 [0.63, 2.51] 1.54 [0.91, 2.18]	Year 2016 2018 Year 2011 2016	Std. Mean Difference IV, Random, 95% CI
B2) Study or Subgroup Haruyama 2016 Park 2019 Total (95% CI) Heterogeneity: Tau ² = Test for overall effect: C1) Study or Subgroup Lee 2011 Shin 2016 Total (95% CI) Heterogeneity: Tau ² = Test for overall effect:	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14 30 0.00; Chi ² = 0.03, di 2 Z = 2.43 (P = 0.01) 0.00; Chi ² = 0.03, di Experimental Mean SD Total 16.5 9.7 14 7.36 5.5 12 26 0.00; Chi ² = 0.01, di Z = 4.79 (P < 0.000)	Control Mean SD Total 0.06 4.32 16 2.86 3.19 14 $5 = 1$ (P = 0.87); ² = 30 Mean SD Total 4.1 5.6 14 0.99 0.63 12 E 1 (P = 0.94); ² = 26 $5 = 1$ (P = 0.94); ² = 21	S Weight 53.0% 47.0% 100.0% ○ 0% S Weight 54.5% 45.5% 100.0% ○ 0%	td. Mean Difference IV, Random, 95% Cl 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17] td. Mean Difference IV, Random, 95% Cl 1.52 [0.66, 2.38] 1.57 [0.63, 2.51] 1.54 [0.91, 2.18]	Year 2016 2018 Year 2011 2016	Std. Mean Difference IV, Random, 95% CI -2 -1 0 1 2 Favour control group Favour intervention group Std. Mean Difference IV, Random, 95% CI -4 -2 0 2 4 Favour control group Favour intervention group
B2) Study or Subgroup Haruyama 2016 Park 2019 Total (95% CI) Heterogeneity: Tau ² = Test for overall effect: C1) Study or Subgroup Lee 2011 Shin 2016 Total (95% CI) Heterogeneity: Tau ² = Test for overall effect: C2)	$\begin{tabular}{ c c c c c } \hline Experimental & SD & Total \\ \hline 2.79 & 3.34 & 16 \\ \hline 4.79 & 3.06 & 14 \\ \hline & & 30 \\ \hline 0.00; Chi^2 &= 0.03, di \\ \hline Z &= 2.43 & (P &= 0.01) \\ \hline \hline \\ \hline $	Control Mean SD Total 0.06 4.32 16 2.86 3.19 14 $F = 1$ (P = 0.87); ² = 30 Control Mean SD Total 4.1 5.6 14 30 4.1 5.6 14 30 6.7 70.87 70.87 70.87 6.7 70.99 0.63 12 6.7 $1 = 0.94$ $12 = 0.94$ $12 = 0.94$	S S 53.0% 47.0% 100.0% 0% 20% S Weight 54.5% 45.5% 100.0% = 0% 0%	td. Mean Difference IV, Random, 95% Cl 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17] td. Mean Difference IV, Random, 95% Cl 1.52 [0.66, 2.38] 1.57 [0.63, 2.51] 1.54 [0.91, 2.18]	Year 2016 2018 Year 2011 2016	Std. Mean Difference IV, Random, 95% CI -2 -1 0 1 2 Favour control group Favour intervention group Std. Mean Difference IV, Random, 95% CI -4 -2 0 2 4 Favour control group Favour intervention group
B2) <u>Study or Subgroup</u> Haruyama 2016 Park 2019 Total (95% CI) Heterogeneity: Tau ² = Test for overall effect: C1) <u>Study or Subgroup</u> Lee 2011 Shin 2016 Total (95% CI) Heterogeneity: Tau ² = Test for overall effect: C2)	$\begin{tabular}{ c c c c c } \hline Experimental & \hline Mean & SD & Total \\ \hline 2.79 & 3.34 & 16 & 14 & & & & & & & & & & & & & & & & & $	Control Mean SD Total 0.06 4.32 16 2.86 3.19 14 $F = 1$ (P = 0.87); ² = Control Mean SD Total 4.1 5.6 14 0.99 0.63 12 26 $F = 1$ (P = 0.94); ² = 0.1 20	S Weight 53.0% 47.0% 100.0% ○ 0% S Weight 54.5% 45.5% 100.0% ○ 0%	td. Mean Difference IV, Random, 95% CI 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17] td. Mean Difference IV, Random, 95% CI 1.52 [0.66, 2.38] 1.57 [0.63, 2.51] 1.54 [0.91, 2.18] td. Mean Difference	Year 2016 2018 Year 2011 2016	Std. Mean Difference IV, Random, 95% CI -2 -1 0 1 2 Favour control group Favour intervention group Std. Mean Difference IV, Random, 95% CI -4 -2 0 2 4 Favour control group Favour intervention group Std. Mean Difference
B2) <u>Study or Subgroup</u> Haruyama 2016 Park 2019 Total (95% CI) Heterogeneity: Tau ² = Test for overall effect: C1) <u>Study or Subgroup</u> Lee 2011 Shin 2016 Total (95% CI) Heterogeneity: Tau ² = Test for overall effect: C2) <u>Study or Subgroup</u>	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14 30 0.00; Chi ² = 0.03, di 2 $Z = 2.43$ (P = 0.01) 2 2.43 (P = 0.01) Experimental Mean SD Total 16.5 9.7 14 7.36 5.5 12 26 0.00; Chi ² = 0.01, di Z = 4.79 (P < 0.0000)	$\begin{tabular}{ c c c c } \hline Control & SD & Total \\ \hline \hline Mean & SD & Total \\ \hline 0.06 & 4.32 & 16 \\ \hline 2.86 & 3.19 & 14 \\ \hline & & & & & & \\ \hline S = 1 (P = 0.87); ^2 = \\ \hline \hline \hline Control & & & & \\ \hline \hline Mean & SD & Total \\ \hline \hline & & & & & & \\ \hline \hline & & & & & & \\ \hline \hline & & & &$	S Weight 53.0% 47.0% 100.0% = 0% S Weight 100.0% = 0% S Weight S 45.5% 100.0% S Weight 24.5%	td. Mean Difference IV, Random, 95% Cl 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17] td. Mean Difference IV, Random, 95% Cl 1.52 [0.66, 2.38] 1.57 [0.63, 2.51] 1.54 [0.91, 2.18] td. Mean Difference IV, Random, 95% Cl	Year 2016 2018 4 2011 2011 2016	Std. Mean Difference IV, Random, 95% CI -2 -1 0 1 2 Favour control group Favour intervention group Std. Mean Difference IV, Random, 95% CI -4 -2 0 2 4 Favour control group Favour intervention group Std. Mean Difference IV, Random, 95% CI
B2) Study or Subgroup Haruyama 2016 Park 2019 Total (95% CI) Heterogeneity: Tau ² = Test for overall effect: C1) Study or Subgroup Lee 2011 Shin 2016 Total (95% CI) Heterogeneity: Tau ² = Test for overall effect: C2) Study or Subgroup Jung 2015 Haruyama 2016	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14 0.00 ; Chi ² = 0.03, di Z Z Z = 2.43 (P = 0.01) Z Z Experimental Mean SD Total 16.5 9.7 14 7.36 5.5 12 26 0.00 ; Chi ² = 0.01 , di Z = 4.79 (P < 0.0000) Experimental Mean SD Total 8.28 5.42 11 3.37 4.7 16	$\begin{tabular}{ c c c c } \hline Control & \hline Mean & SD & Total \\ \hline 0.06 & 4.32 & 16 \\ \hline 2.86 & 3.19 & 14 \\ \hline & & & & & & \\ \hline S = 1 (P = 0.87); ^2 = & & & \\ \hline \hline & & & & & & \\ \hline \hline \hline & & & &$	S Weight 53.0% 47.0% 100.0% 0% S Weight 100.0% S Weight 100.0% S Weight 24.6% 40.9%	td. Mean Difference IV, Random, 95% CI 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17] td. Mean Difference IV, Random, 95% CI 1.52 [0.66, 2.38] 1.57 [0.63, 2.51] 1.54 [0.91, 2.18] td. Mean Difference IV, Random, 95% CI 0.98 [0.09, 1.88] 0.10 [-0.50, 0.99]	Year 2016 2018 Year 2011 2016 Year 2015 2015	Std. Mean Difference IV, Random, 95% CI -2 -1 0 1 2 Favour control group Favour intervention group Std. Mean Difference IV, Random, 95% CI -4 -2 0 2 4 Favour control group Favour intervention group Std. Mean Difference IV, Random, 95% CI
B2) Study or Subgroup Haruyama 2016 Park 2019 Total (95% Cl) Heterogeneity: Tau ² = Test for overall effect: C1) Study or Subgroup Lee 2011 Shin 2016 Total (95% Cl) Heterogeneity: Tau ² = Test for overall effect: C2) Study or Subgroup Jung 2015 Haruyama 2016 Park 2019	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14 300 0.00 ; Chi ² = 0.03 , di 30 0.00 ; Chi ² = 0.03 , di Z Z = 2.43 (P = 0.01) Z Experimental Mean SD Total 16.5 9.7 14 7.36 5.5 12 26 0.00 ; Chi ² = 0.01 , di Z 26 0.000 ; Experimental Mean SD Total 8.28 5.42 11 3.37 4.47 16 5.69 6.24 14 7.62 12 12	Control Mean SD Total 0.06 4.32 16 2.86 3.19 14 $f = 1$ (P = 0.87); I ² = 30 Mean SD Total 4.1 5.6 14 0.99 0.63 12 0.11 P 0.94); I ² =	S Weight 53.0% 47.0% 100.0% 0% S Weight 100.0% 54.5% 100.0% 24.6% 40.9% 34.5%	td. Mean Difference IV, Random, 95% CI 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17] td. Mean Difference IV, Random, 95% CI 1.52 [0.63, 2.51] 1.54 [0.91, 2.18] td. Mean Difference IV, Random, 95% CI 0.98 [0.09, 1.88] 0.19 [-0.50, 0.89] 0.54 [-0.21, 1.30]	Year 2016 2018 Year 2011 2016 1 2016 Year 2015 2016 2015 2016	Std. Mean Difference IV, Random, 95% CI -2 -1 0 1 2 Favour control group Favour intervention group Std. Mean Difference IV, Random, 95% CI -4 -2 0 2 4 Favour control group Favour intervention group Std. Mean Difference IV, Random, 95% CI
B2) Study or Subgroup Haruyama 2016 Park 2019 Total (95% Cl) Heterogeneity: Tau ² = Test for overall effect: C1) Study or Subgroup Lee 2011 Shin 2016 Total (95% Cl) Heterogeneity: Tau ² = Test for overall effect: C2) Study or Subgroup Jung 2015 Haruyama 2016 Park 2019	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14 0.00; Chi ² 0.03, dt 2 Z 2.43 (P = 0.01) Experimental Mean SD Total 16.5 9.7 14 7.36 5.5 12 26 0.00; Chi ² 0.01, dt Z 4.79 (P < 0.000)	Control Mean SD Total 0.06 4.32 16 2.86 3.19 14 $f = 1$ (P = 0.87); ² = 30 $f = 1$ (P = 0.87); ² = 16 Control 4.1 5.6 14 0.99 0.63 12 $f = 1$ (P = 0.94); ² = 26 $f = 1$ (P = 0.94); ² = 11 2.37 6.15 11 2.37 6.15 11 2.27 6.49 16 2.71 4.21 14	S Weight 53.0% 47.0% 100.0% ○ 0% S 45.5% 100.0% ○ 0% S Weight 100.0% 24.6% 40.9% 34.5%	td. Mean Difference IV, Random, 95% CI 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17] td. Mean Difference IV, Random, 95% CI 1.52 [0.66, 2.38] 1.57 [0.63, 2.51] 1.54 [0.91, 2.18] td. Mean Difference IV, Random, 95% CI 0.98 [0.09, 1.88] 0.19 [-0.50, 0.89] 0.54 [-0.21, 1.30]	Year 2016 2018 Year 2011 2016 Vear 2015 2016 2018	Std. Mean Difference IV, Random, 95% CI -2 -1 0 1 2 Favour control group Favour intervention group Std. Mean Difference IV, Random, 95% CI -4 -2 0 2 4 Favour control group Favour intervention group Std. Mean Difference IV, Random, 95% CI
B2) Study or Subgroup Haruyama 2016 Park 2019 Total (95% CI) Heterogeneity: Tau ² = Test for overall effect: C1) Study or Subgroup Lee 2011 Shin 2016 Total (95% CI) Heterogeneity: Tau ² = Test for overall effect: C2) Study or Subgroup Jung 2015 Haruyama 2016 Park 2019 Total (95% CI)	Experimental Mean SD Total 2.79 3.34 16 4.79 3.06 14 30 0.00; Chi ² = 0.03, dl 2 Z = 2.43 (P = 0.01) 2 Experimental Mean SD Total 16.5 9.7 14 7.36 5.5 12 26 0.00; Chi ² = 0.01, dl Z = 4.79 (P < 0.0000)	$\begin{tabular}{ c c c c } \hline L Control $$ $$ $$ $$ $$ $$ $$ $$ $$ $$ $$ $$ $$$	S Weight 53.0% 47.0% 100.0% © % S4.5% 45.5% 100.0% S Weight 24.6% 40.9% 34.5% 100.0%	td. Mean Difference IV, Random, 95% CI 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17] td. Mean Difference IV, Random, 95% CI 1.52 [0.66, 2.38] 1.57 [0.63, 2.51] 1.54 [0.91, 2.18] td. Mean Difference IV, Random, 95% CI 0.98 [0.09, 1.88] 0.19 [-0.50, 0.89] 0.54 [-0.21, 1.30] 0.51 [0.06, 0.95]	Year 2016 2018 Year 2011 2016 Year 2015 2016 2018	Std. Mean Difference IV, Random, 95% CI -2 -1 0 1 2 Favour control group Favour intervention group Std. Mean Difference IV, Random, 95% CI -4 -2 0 2 4 Favour control group Favour intervention group Std. Mean Difference IV, Random, 95% CI
B2) Study or Subgroup Haruyama 2016 Park 2019 Total (95% CI) Heterogeneity: Tau ² = Test for overall effect: C1) Study or Subgroup Lee 2011 Shin 2016 Total (95% CI) Heterogeneity: Tau ² = Test for overall effect: C2) Study or Subgroup Jung 2015 Haruyama 2016 Park 2019 Total (95% CI) Heterogeneity: Tau ² =	$\begin{tabular}{ c c c c c } \hline Experimental & SD & Total \\ \hline 2.79 & 3.34 & 16 \\ \hline 4.79 & 3.06 & 14 \\ \hline & & 30 \\ \hline 0.00; Chi^2 = 0.03, di \\ \hline Z = 2.43 (P = 0.01) \\ \hline \hline & & & & \\ \hline \hline & & & & \\ \hline \hline & & & &$	$\begin{array}{c c c c c c c } \hline \textbf{LCONTURU} & \textbf{SD} & \textbf{Total} \\ \hline \hline \textbf{Mean} & \textbf{SD} & \textbf{Total} \\ \hline \textbf{2.86} & \textbf{3.19} & \textbf{14} \\ \hline \textbf{5} = 1 & (\textbf{P} = 0.87); & \textbf{I}^2 = \\ \hline \textbf{Mean} & \textbf{SD} & \textbf{Total} \\ \hline \textbf{4.1} & \textbf{5.6} & \textbf{14} \\ \hline \textbf{0.99} & \textbf{0.63} & \textbf{12} \\ \hline \textbf{2.37} & \textbf{6.15} & \textbf{11} \\ \hline \textbf{2.28} & \textbf{6.49} & \textbf{16} \\ \hline \textbf{2.71} & \textbf{4.21} & \textbf{14} \\ \hline \textbf{F} = 2 & (\textbf{P} = 0.39); & \textbf{I}^2 = \\ \hline \textbf{4.1} & \textbf{41} \\ \hline \textbf{F} = 2 & (\textbf{P} = 0.39); & \textbf{I}^2 = \\ \hline \textbf{4.1} & \textbf{41} \\ \hline \textbf{5.1} & \textbf{5.1} & \textbf{5.1} & \textbf{5.1} \\ \hline \textbf{5.1} & \textbf{5.1} & \textbf{5.1} & \textbf{5.1} \\ \hline \textbf{5.28} & \textbf{6.19} & \textbf{5.1} & \textbf{5.1} \\ \hline \textbf{5.29} & \textbf{5.19} & \textbf{5.1} & \textbf{5.1} \\ \hline \textbf{5.29} & \textbf{5.19} & \textbf{5.1} & \textbf{5.1} \\ \hline \textbf{5.29} & \textbf{5.19} & \textbf{5.19} \\ \hline \textbf{5.29} & \textbf{5.19} & 5$	S Weight 53.0% 47.0% 100.0% 0% S Weight 54.5% 45.5% 100.0% S Weight 24.6% 40.9% 34.5% 100.0%	td. Mean Difference IV, Random, 95% CI 0.69 [-0.03, 1.41] 0.60 [-0.16, 1.36] 0.65 [0.13, 1.17] td. Mean Difference IV, Random, 95% CI 1.52 [0.66, 2.38] 1.57 [0.63, 2.51] 1.54 [0.91, 2.18] td. Mean Difference IV, Random, 95% CI 0.98 [0.09, 1.88] 0.19 [-0.50, 0.89] 0.54 [-0.21, 1.30] 0.51 [0.06, 0.95]	Year 2016 2018 Year 2011 2016 Year 2015 2016 2018	Std. Mean Difference IV, Random, 95% CI -2 -1 0 1 2 Favour control group Favour intervention group Std. Mean Difference IV, Random, 95% CI -4 -2 0 2 4 Favour control group Favour intervention group Std. Mean Difference IV, Random, 95% CI -4 -2 0 2 4

Figure S6. Subgroup analyses by initial trunk impairment. (A1) Effect on trunk function for studies below the median; (A2) Effect on trunk function for studies over the median; (B1) Effect on balance ability for studies below the median; (B2) Effect on balance ability for studies over the median; (C1) Effect on limits of stability forward reach of the unaffected arm for studies below the median; (C2) Effect on limits of stability forward reach of the unaffected arm for studies over the median; (C2) Effect on limits of stability forward reach of the unaffected arm for studies over the median.

A1)

	Expe	erimer	ntal	C	ontrol		9	Std. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI
Verheyden 2009	4.82	2.69	17	3.31	3.59	16	19.6%	0.47 [-0.23, 1.16]	2009	
Vijayakumar 2011	6.96	1.28	10	3.13	1.24	10	12.0%	2.91 [1.58, 4.25]	2011	
Jung 2014	2.4	1.5	9	0.1	2.38	8	15.1%	1.11 [0.07, 2.16]	2014	
Jung 2015	2.36	2.94	11	-0.27	1.27	11	16.7%	1.12 [0.21, 2.03]	2015	
Rose 2016	1.83	1.28	12	1.75	2.19	12	18.2%	0.04 [-0.76, 0.84]	2016	
Park 2019	3.07	2.04	14	0.93	2.23	14	18.3%	0.97 [0.18, 1.76]	2018	
Total (95% CI)			73			71	100.0%	0.98 [0.35, 1.61]		◆
Heterogeneity: Tau ² =	= 0.40; 0	Chi ² =	14.90,	df = 5	(P = 0)	.01); I ²	= 66%			
Test for overall effect	:: Z = 3.0)5 (P =	= 0.002)						Favour control group Favour intervention group
										· · · · · · · · · · · · · · · · · · ·

A2)

	Expe	rimer	Ital	C	ontrol		9	Std. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI
De Sèze 2001	33.7	11.5	10	20	18.3	10	10.0%	0.86 [-0.07, 1.78]	2001	
Yoo 2010	4.78	4.55	28	2.45	4.31	31	20.7%	0.52 [-0.00, 1.04]	2010	
Lee 2011	3.7	2.3	14	0.9	1.4	14	11.5%	1.43 [0.58, 2.27]	2011	
Saeys 2012	8.72	2.8	18	2.87	3.23	15	11.5%	1.90 [1.06, 2.74]	2012	
Cabanas-Valdés 2015	5.88	3.48	40	2.5	2.2	39	22.4%	1.15 [0.67, 1.62]	2015	
Haruyama 2016	4.13	2.38	16	1.19	2.79	16	13.5%	1.11 [0.35, 1.86]	2016	
Shin 2016	3.08	2.71	12	0.09	1.24	12	10.4%	1.37 [0.46, 2.28]	2016	
Total (95% CI)			138			137	100.0%	1.13 [0.79, 1.46]		
Heterogeneity: $Tau^2 = 0$	0.07; Ch	² = 9.	46, df :	= 6 (P =	= 0.15); $I^2 = 3$	7%			-2 -1 0 1 2
Test for overall effect: 2	. = 6.52	(P < 0	0.00001	.)						Favour control group Favour intervention group

B1)										
	Expe	erimer	ntal	С	ontro	I	5	Std. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI
Vijayakumar 2011	7.1	0.88	10	4.4	1.1	10	27.4%	2.60 [1.34, 3.85]	2011	
An 2017	2.93	2.96	15	1.36	2.84	14	36.4%	0.53 [-0.22, 1.27]	2017	
Park 2019	4.79	3.06	14	2.86	3.19	14	36.1%	0.60 [-0.16, 1.36]	2018	
Total (95% CI)		c 1 · ²	39			38	100.0%	1.12 [0.06, 2.18]		
Heterogeneity: Tau	= 0.66; 0	$Chi^{2} =$	8.58, 0	if = 2 (i)	P = 0.0	01); l² =	= 77%			-4 -2 0 2
lest for overall effe	ct: Z = Z.	06 (P =	= 0.04)							Favour control group Favour intervention group

B2)

	Exp	eriment	al	c	ontrol		Std. Mean Difference			
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	
De Sèze 2001	1.6	0.5	10	0.8	0.7	10	6.9%	1.26 [0.28, 2.24]	2001	
Yoo 2010	11.29	13.25	28	6.32	11.99	31	24.1%	0.39 [-0.13, 0.91]	2010	
Saeys 2012	19.39	12.61	18	9.2	13.52	15	12.9%	0.76 [0.05, 1.48]	2012	
Cabanas-Valdés 2015	23.03	15.95	40	8.49	8.74	39	28.2%	1.12 [0.64, 1.59]	2015	
Haruyama 2016	2.79	3.34	16	0.06	4.32	16	12.8%	0.69 [-0.03, 1.41]	2016	
Min 2020	7.36	3.63	19	4.42	4.49	19	15.1%	0.71 [0.05, 1.36]	2020	
Total (95% CI)			131			130	100.0%	0.79 [0.53, 1.05]		
Heterogeneity: $Tau^2 = 0$.00; Chi	$^{2} = 5.1$	5, df =	5 (P = (0.40); I ²	² = 3%				
Test for overall effect: Z	= 5.96	(P < 0.0)	00001)							

Std. Mean Difference IV, Random, 95% CI Favour control group Favour intervention group -2

4

C1)

	Expe	erimer	ıtal	Control			5	Std. Mean Difference		Std. Mean Difference			
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI			
Kim 2011	4.6	5.54	20	0.1	4.1	20	43.8%	0.91 [0.25, 1.56]	2011	_			
Jung 2015	8.28	5.42	11	2.37	6.15	11	23.4%	0.98 [0.09, 1.88]	2015				
Park 2019	5.69	6.24	14	2.71	4.21	14	32.8%	0.54 [-0.21, 1.30]	2018				
Total (95% CI)			45			45	100.0%	0.80 [0.37, 1.24]					
Heterogeneity: Tau ² =	= 0.00; 0	$Chi^2 = $	0.70, d	f = 2(1)	P = 0.7		-2 -1 0 1 2						
rescrot overall effect	. 2 - 5.0	0-+ (F =	- 0.000	5)						Favour control group Favour intervention group			

C2)

C=)										
	Expe	rimer	ntal	C	ontrol	I	5	Std. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	r IV, Random, 95% CI
Lee 2011	16.5	9.7	14	4.1	5.6	14	32.8%	1.52 [0.66, 2.38]	2011	1
Haruyama 2016	3.37	4.47	16	2.28	6.49	16	36.1%	0.19 [-0.50, 0.89]	2016	5
Shin 2016	7.36	5.5	12	0.99	0.63	12	31.2%	1.57 [0.63, 2.51]	2016	5
Total (95% CI)			42			42	100.0%	1.06 [0.11, 2.01]		
Heterogeneity: Tau ² = Test for overall effect:	0.53; 0 Z = 2.1	Chi ² = 18 (P =	7.98, c = 0.03)	lf = 2 (I	P = 0.0	02); I ² =	= 75%			-2 -1 0 1 2 Favour control group Favour intervention group

D1)

	Experimental Control					I		Mean Difference		Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI
Chung 2013	5.42	5.61	8	5.48	6.8	8	9.0%	-0.06 [-6.17, 6.05]	2013	
Jung 2014	5	11.77	9	2.6	7.52	8	3.9%	2.40 [-6.89, 11.69]	2014	
An 2017	4.11	2.24	15	2	3.05	14	87.2%	2.11 [0.15, 4.07]	2017	
Total (95% CI)			32			30	100.0%	1.93 [0.10, 3.76]		•
Heterogeneity: Tau ² =	= 0.00; 0	$Chi^2 = 0$	0.45, df	f = 2 (P	= 0.80	0); I ² =	0%			
Test for overall effect	: Z = 2.0	06 (P =	0.04)							Favour control group Favour intervention group

D2)										
	Exp	erimen	tal	c	ontrol			Mean Difference		Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI
Haruyama 2016	13.67	23.05	16	1.33	25.19	16	17.2%	12.34 [-4.39, 29.07]	2016	
Shin 2016	9.71	4.46	12	2.18	1.13	12	64.2%	7.53 [4.93, 10.13]	2016	-∎ -
Min 2020	11.69	21.27	19	18.32	28.07	19	18.6%	-6.63 [-22.47, 9.21]	2020	
Total (95% CI)			47			47	100.0%	5.72 [-2.27, 13.72]		
Heterogeneity: Tau ² =	= 24.14;	Chi ² =	3.35, d	f = 2 (P)	= 0.19); $ ^2 = 4$	10%			
Test for overall effect	Z = 1.4	40 (P =	0.16)							Favour control group Favour intervention group

Figure S7. Subgroup analyses by participants' age. (A1) Effect on trunk function for studies below the median; (A2) Effect on trunk function for studies over the median; (B1) Effect on balance ability for studies below the median; (B2) Effect on balance ability for studies over the median (C1) Effect on limits of stability forward reach of the unaffected arm for studies below the median; (C2) Effect on limits of stability forward reach of the unaffected arm for studies over the median; (D1) Effects on functional mobility for studies below the median; (D2) Effects on functional mobility for studies below the median.

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A1)

	Experimental	Control	Std. Mean	Difference	Std. Mean Difference
Study or Subaroup	Mean SD Tot	al Mean SD Total	Weight IV. Rand	om. 95% CI Year	IV. Random, 95% CI
D. C) 2001	22.7.11.5.1	0 20 10 2 10	12.2%	0.07.1.701.2001	
De Seze 2001	35.7 11.5 1	0 20 18.5 10	12.3% 0.86 [-	0.07, 1.78] 2001	•
Verheyden 2009	4.82 2.69 1	7 3.31 3.59 16	15.3% 0.47 [-	0.23, 1.16] 2009	
Yoo 2010	4.78 4.55 2	8 2.45 4.31 31	17.9% 0.52 [-	0.00. 1.04] 2010	⊢ ∎−−
Vijavakumar 2011	6 96 1 28 1	0 3 13 1 24 10	8 2% 2 91	1 58 4 251 2011	
Vijayakulliai 2011	0.30 1.28 1	0 3.13 1.24 10	0.2% 2.91	1.50, 4.25] 2011	
Saeys 2012	8.72 2.8 1	8 2.87 3.23 15	13.3% 1.90	1.06, 2.74] 2012	
Cabanas-Valdés 2015	5.88 3.48 4	0 2.5 2.2 39	18.5% 1.15	0.67, 1.62] 2015	
Haruvama 2016	413 238 1	6 1 19 2 79 16	14.5% 1.11	0 35 1 861 2016	
narayana 2010	4.15 2.50	0 1.15 2.75 10	14.5/0 1.11	0.55, 1.00] 2010	
T			100.00/ 1.12		
Total (95% CI)	13	9 137	100.0% 1.13	0.65, 1.61]	\bullet
Heterogeneity: Tau ² =	0.26: Chi ² = 18.35.	$df = 6 (P = 0.005); I^2$	= 67%		
Test for overall effect:	7 = 4.64 (P < 0.000)	01)	0170		-4 -2 0 2 4
rescior overall effect.	Z = 4.64 (P < 0.000)	01)			Favour control group Favour intervention group
Δ 2)					
A2)					
	Experimental	Control	Std. Mean D	ifference	Std. Mean Difference
Study or Subaroup	Mean SD Total	Mean SD Total	Weight IV. Rando	m. 95% CI Year	IV. Random, 95% CI
bea 2011	27 22 14		17.5%	50 2 271 2011	
Lee 2011	3.7 2.3 14	0.9 1.4 14	17.5% 1.43 [0.58, 2.27] 2011	
Jung 2014	2.4 1.5 9	0.1 2.38 8	12.9% 1.11 [0.07, 2.16] 2014	
Jung 2015	2 36 2 94 11	-0.27 1.27 11	15 7% 1 12 [21 2 031 2015	
Julig 2013	2.30 2.94 11	-0.27 1.27 11	13.7% 1.12 [5.21, 2.03] 2013	
Shin 2016	3.08 2.71 12	0.09 1.24 12	15.9% 1.37 [0.46, 2.28] 2016	
Rose 2016	1.83 1.28 12	1.75 2.19 12	18.8% 0.04 [-(0.76, 0.84] 2016	
Park 2019	3 07 2 04 14	0.03 2.23 14	10.1% 0.07.0	18 1 761 2018	
Faik 2019	5.07 2.04 14	0.95 2.25 14	19.1% 0.97 [2018, 1.70] 2018	
Total (95% CI)	72	71	100.0% 0.98 [0.55, 1.41]	
Heterogeneity: Tau ² -	0.09 Chi ² - 7.21	$df = 5 (P = 0.21) \cdot 1^2 =$	31%		
Therefogenerty. Tau =	0.03, Chi = 7.21, 4	$a_1 = 5(1 = 0.21), 1 =$	51/0		-2 -1 0 1 2
lest for overall effect:	Z = 4.49 (P < 0.000))01)			Favour control group Favour intervention group
D (1)					
B1)					
	Experimental	Control	Std. Mean	Difference	Std. Mean Difference
Study on Subaroun	Mean SD Te	al Mean SD Tet	al Weight IV Dan	dom 05% CL Vea	N/ Bandom 05% Cl
Study of Subgroup	Mean SD TO	a Mean SD Tot	ai weight TV, Kan	10m, 95% CI fea	r IV, Kandom, 95% Ci
De Sèze 2001	1.6 0.5	10 0.8 0.7 1	0 12.6% 1.26	[0.28, 2.24] 2003	1
Yoo 2010	11.29 13.25	28 6 32 11 99 3	1 21.5% 0.39	-0 13 0 911 2010	n +
Viieveluvere 2011	71 0.00		0.00		
Vijayakumar 2011	7.1 0.88	10 4.4 1.1	9.2% 2.60	[1.34, 3.85] 201.	
Saeys 2012	19.39 12.61	18 9.2 13.52 1	.5 17.2% 0.76	[0.05, 1.48] 2012	2
Cabanas-Valdés 2015	23.03 15.95	40 8.49 8.74 3	9 22.4% 1.12	[0.64, 1.59] 2015	5 – –
Harman 2016	2 70 2 24	16 0.06 4.32 1	6 17.2% 0.60	0.02 1.411 2014	
Haruyama 2010	2.79 5.54	10 0.00 4.32	0.09	[-0.05, 1.41] 2010	-
Total (95% CI)	1	22 12	1 100.0% 0.98	[0.52, 1.44]	
Heterogeneity: $Tau^2 =$	$0.18^{\circ} \text{ Chi}^2 = 12.55^{\circ}$	$df = 5 (P = 0.03)$: $I^2 =$	60%		
Test for overall offect	7 - 4.30 (P < 0.0001)	a = 5 (1 = 0.05), 1 = 1	0070		-4 -2 0 2 4
rest for overall effect.	Z = 4.20 (P < 0.000)	L)			Favour control group Favour intervention group
B 2)					
D2)					
	Experimental	Control	Std. Mean D	ifference	Std. Mean Difference
Study or Subaroup	Mean SD Total	Mean SD Total	Weight IV. Rando	m. 95% CI Year	IV. Random, 95% CI
1. 2017	2.02.2.05.15	1.26 2.04 1.4	20.000 0.52.1		
An 2017	2.93 2.96 15	1.36 2.84 14	30.9% 0.53 [-0).22, 1.27] 2017	
Park 2019	4.79 3.06 14	2.86 3.19 14	29.6% 0.60 [-(0.16, 1.36] 2018	
Min 2020	7 36 3 63 10	4 4 2 4 4 9 1 9	39.5% 0.71.0	0.05 1.361 2020	_
	,.50 5.05 19		55.570 0.71 [
Total (95% CI)	48	47	100.0% 0.62 [0.21, 1.03]	
Heterogeneity: Tau ² -	0.00 Chi ² = 0.13	$df = 2 (P = 0.94) \cdot 1^2 -$	0%		
Test for second 4	7 - 2.02 (D - 0.13)	$a_1 - a_3 = (1 - 0.54), 1 =$	070		-2 -1 0 1 2
lest for overall effect:	z = 2.93 (P = 0.00)	5)			Favour control group Favour intervention group
					· · · · · · · · · · · · · · · · · · ·
$C^{(1)}$					
CI)					
	Experimental	Control	Std. Mean	Difference	Std. Mean Difference
Study or Subarous	Moon SD Tot	al Moan SD Total	Woight IV Band	om 05% CL Voor	IV Pandom 95% CI
study of Subgroup	Mean SD 10t	ai mean SD 10tal	weight iv, kand	Jin, 95% CI tear	iv, ranuom, 95% Ci
De Sèze 2001	2.2 1 1	0 1.1 1.1 10	13.1% 1.00	0.06, 1.94] 2001	
Dean 2007	0.41 0.35	6 0.21 0.16 6	8.4% 0.681	0.50 1.861 2007	
Cohanaa Valdéa 2015	5.71 0.55	0 0.21 0.10 0	5.4/0 0.00[-	0.30, 1.30) 2007	
Cabanas-vaides 2015	5.57 3.97 4	0 2.62 2.78 39	54.8% 0.85	0.39, 1.31] 2015	
Haruvama 2016					
,	0.5 0.81 1	6 0.12 0.93 16	23.7% 0.42 [-	0.28, 1.13] 2016	
,	0.5 0.81 1	6 0.12 0.93 16	23.7% 0.42 [-	0.28, 1.13] 2016	
, Total (95% Cl)	0.5 0.81 1	.6 0.12 0.93 16 2 71	23.7% 0.42 [- 100.0% 0.76	0.28, 1.13] 2016	



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C2)										
	Expe	rimen	ital	c	Control		5	Std. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI
Chung 2013	14.08	13.9	8	-0.3	11.24	8	24.9%	1.08 [0.01, 2.15]	2013	
Shin 2020	0.17	0.15	12	0.05	0.1	12	32.6%	0.91 [0.06, 1.76]	2019	_
Min 2020	0.36	0.58	19	0.32	0.71	19	42.5%	0.06 [-0.58, 0.70]	2020	_
Total (95% CI)			39			39	100.0%	0.59 [-0.08, 1.26]		
Heterogeneity: Tau ⁴ =	= 0.17; C	$hi^2 =$	3.84, d	f = 2 (P)	y = 0.15	$(); ^2 = 4$	48%			-2 -1 0 1 2
lest for overall effect	z = 1.7	4 (P =	: 0.08)							Favour control group Favour intervention group

Figure S8. Subgroup analyses by the start of the intervention after the stroke-onset. (A1) Effect on trunk function for studies below the median; (A2) Effect on trunk function for studies over the median; (B1) Effect on balance ability for studies below the median; (B2) Effect on balance ability for studies over the median; (C1) Effect on gait performance for studies below the median; (C2) Effect on gait performance for studies over the median.

A1)

	Expe	erimer	ital	C	ontrol			Std. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI
Yoo 2010	4.78	4.55	28	2.45	4.31	31	33.4%	0.52 [-0.00, 1.04]	2010	
Cabanas-Valdés 2015	5.88	3.48	40	2.5	2.2	39	36.9%	1.15 [0.67, 1.62]	2015	
Jung 2015	2.36	2.94	11	-0.27	1.27	11	14.8%	1.12 [0.21, 2.03]	2015	
Shin 2016	3.08	2.71	12	0.09	1.24	12	14.9%	1.37 [0.46, 2.28]	2016	
Total (95% CI)			91			93	100.0%	0.97 [0.58, 1.35]		•
Heterogeneity: $Tau^2 = 0$	0.05; Ch	$i^2 = 4.$	24, df	= 3 (P =	0.24)	; $I^2 = 2$	9%			
Test for overall effect. 2	= 4.91	(F < 0	.00001	.)						Favour control group Favour intervention
A2)										

	Expe	erimer	ıtal	C	ontrol		9	Std. Mean Difference	Std. Mean Difference				
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI			
De Sèze 2001	33.7	11.5	10	20	18.3	10	11.9%	0.86 [-0.07, 1.78]	2001				
Verheyden 2009	4.82	2.69	17	3.31	3.59	16	15.4%	0.47 [-0.23, 1.16]	2009	+			
Vijayakumar 2011	6.96	1.28	10	3.13	1.24	10	7.6%	2.91 [1.58, 4.25]	2011				
Lee 2011	3.7	2.3	14	0.9	1.4	14	13.1%	1.43 [0.58, 2.27]	2011				
Saeys 2012	8.72	2.8	18	2.87	3.23	15	13.1%	1.90 [1.06, 2.74]	2012				
Jung 2014	2.4	1.5	9	0.1	2.38	8	10.4%	1.11 [0.07, 2.16]	2014				
Haruyama 2016	4.13	2.38	16	1.19	2.79	16	14.5%	1.11 [0.35, 1.86]	2016				
Park 2019	3.07	2.04	14	0.93	2.23	14	13.9%	0.97 [0.18, 1.76]	2018	_			
Total (95% CI)			108			103	100.0%	1.24 [0.80, 1.69]		◆			
Heterogeneity: Tau ² =	= 0.21; 0	Chi ² =	14.46,	df = 7	(P = 0	.04); I ²	= 52%		-				
Test for overall effect	: Z = 5.	50 (P <	< 0.000	01)						Favour control group Favour intervention group			

B1)

	Expe	eriment	tal	C (Control			Std. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI
Yoo 2010	11.29	13.25	28	6.32	11.99	31	36.2%	0.39 [-0.13, 0.91]	2010	
Cabanas-Valdés 2015	23.03	15.95	40	8.49	8.74	39	38.5%	1.12 [0.64, 1.59]	2015	_
An 2017	2.93	2.96	15	1.36	2.84	14	25.3%	0.53 [-0.22, 1.27]	2017	
Total (95% CI)			83			84	100.0%	0.70 [0.21, 1.19]		
Heterogeneity: $Tau^2 = 0$.10; Chi	$^{2} = 4.4$	9, df =	2 (P =	0.11); I ²	² = 55%				
Test for overall effect: Z	= 2.82	(P = 0.0)	005)							Favour control group Favour intervention group

B2)

,	Exp	eriment	tal	c	Control		9	Std. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI
De Sèze 2001	1.6	0.5	10	0.8	0.7	10	13.3%	1.26 [0.28, 2.24]	2001	· · · · · · · · · · · · · · · · · · ·
Vijayakumar 2011	7.1	0.88	10	4.4	1.1	10	9.4%	2.60 [1.34, 3.85]	2011	
Saeys 2012	19.39	12.61	18	9.2	13.52	15	19.3%	0.76 [0.05, 1.48]	2012	_ _
Haruyama 2016	2.79	3.34	16	0.06	4.32	16	19.2%	0.69 [-0.03, 1.41]	2016	
Park 2019	4.79	3.06	14	2.86	3.19	14	18.0%	0.60 [-0.16, 1.36]	2018	+
Min 2020	7.36	3.63	19	4.42	4.49	19	20.8%	0.71 [0.05, 1.36]	2020	
Total (95% CI)			87			84	100.0%	0.95 [0.50, 1.39]		•
Heterogeneity: $Tau^2 = 0.13$; $Chi^2 = 8.94$, $df = 5$ (P = 0.11); $I^2 = 4$							1%		H	4 -2 0 2 4
Test for overall effect: $Z = 4.20$ (P < 0.0001)									-	Favour control group Favour intervention group

C1)

	Expe	erimer	ntal	c	ontrol		9	Std. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI
Kim 2011	4.6	5.54	20	0.1	4.1	20	49.5%	0.91 [0.25, 1.56]	2011	· · · · · · · · · · · · · · · · · · ·
Jung 2015	8.28	5.42	11	2.37	6.15	11	26.4%	0.98 [0.09, 1.88]	2015	-
Shin 2016	7.36	5.5	12	0.99	0.63	12	24.1%	1.57 [0.63, 2.51]	2016	_
Total (95% CI)			43			43	100.0%	1.09 [0.63, 1.55]		
Heterogeneity: Tau ² = Test for overall effect	Chi² = 53 (P <	1.38, d < 0.000	lf = 2 (l 01)	P = 0.5	50); I ² =	= 0%		-	-2 -1 0 1 2 Favour control group Favour intervention group	

9

C2)										
	Expe	erimen	ital	Co	ontrol		S	td. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD 7	Fotal	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI
Lee 2011	16.5	9.7	14	4.1	5.6	14	30.7%	1.52 [0.66, 2.38]	2011	_
Haruyama 2016	3.37	4.47	16	2.28	6.49	16	35.6%	0.19 [-0.50, 0.89]	2016	
Park 2019	5.69	6.24	14	2.71	4.21	14	33.7%	0.54 [-0.21, 1.30]	2018	
Total (95% CI)			44			44	100.0%	0.72 [-0.03, 1.47]		
Heterogeneity: Tau ² =	0.28; 0	Chi ² =	5.72. d	f = 2 (P)	9 = 0.06); $ ^2 =$	65%			
Test for overall effect:	Z = 1.8	88 (P =	0.06)							-2 -1 0 1 2 Favour control group Favour intervention group
D1)										
	Exp	perime	ental		Control			Std. Mean Difference		Std. Mean Difference
Study or Subgroup	Mea	n SE) Tota	l Mean	SD	Tota	l Weight	IV, Random, 95% C	I Yea	r IV, Random, 95% Cl
Dean 2007	0.4	1 0.3	56	0.21	0.16		5 9.4%	0.68 [-0.50, 1.86	j 2007	
Chung 2013	14.0	8 13.9	98	3 -0.3	11.24		3 11.4%	1.08 [0.01, 2.15] 2013	3
Cabanas-Valdés 2015	5.5	7 3.97	7 40	2.62	2.78	3	9 61.1%	0.85 [0.39, 1.31	.] 2015	
Shin 2020	0.1	7 0.1	5 12	0.05	0.1	1	2 18.1%	0.91 [0.06, 1.76	[] 2019	
Total (95% CI)			66	i		6	5 100.0%	0.87 [0.51, 1.23	1	•
Heterogeneity: Tau ² =	0.00; C	$hi^2 = 0$).26, df	= 3 (P =	= 0.97);	$I^2 = 0$	%			
Test for overall effect:	Z = 4.7	3 (P <	0.0000	1)						-2 -1 0 1 2
										Favour control group Favour intervention group
D2)										
	Expe	rimen	tal	Co	ontrol		S	td. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD T	Fotal	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI
De Sèze 2001	2.2	1	10	1.1	1.1	10	14.6%	1.00 [0.06, 1.94]	2001	
Saevs 2012	2.45	1.31	18	1.86	1.38	15	26.9%	0.43 [-0.27, 1.12]	2012	
Haruvama 2016	0.5	0.81	16	0.12	0.93	16	26.4%	0.42 [-0.28, 1.13]	2016	
Min 2020	0.36	0.58	19	0.32	0.71	19	32.1%	0.06 [-0.58, 0.70]	2020	_
Total (05% CI)			62			60	100.0%	0 20 [0 02 0 75]		
I otal (95% CI)	0.00.0	-1-12	2 6 7 4	6 2 (5		60	100.0%	0.59 [0.05, 0.75]		
Heterogeneity: Tau ² =	0.00; 0	_ni ⁻ =	2.67, d	f = 3 (P)	r = 0.44); 1- =	0%			-2 -1 0 1 2
lest for overall effect:	Z = 2	L4 (P =	= 0.03)							Favour control group Favour intervention group
E1)										
	Expe	erimer	ntal	С	ontrol			Mean Difference		Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year	IV, Random, 95% CI
Chung 2013	5.42	5.61	8	5.48	6.8	8	23.4%	-0.06 [-6.17, 6.05]	2013	
Shin 2016	9.71	4.46	12	2.18	1.13	12	37.2%	7.53 [4.93, 10,13]	2016	
An 2017	4.11	2.24	15	2	3.05	14	39.4%	2.11 [0.15, 4.07]	2017	_
Total (05% CI)			25			24	100.0%	262 0 78 901		
	11 70	Ch:2	12.25			54	12 0.0%	5.02 [-0.76, 6.01]		
Heterogeneity: Tau ² =	= 11.78;	Chi ² =	= 12.28	a, at = a	2 (P = 0)	.002);	$1^{\circ} = 84\%$			-10 -5 0 5 10
lest for overall effect	Z = 1.0	61 (P =	= 0.11)							Favour control group Favour intervention group
E-2)										
G 4)	E		tal		Control			Moon Difference		Moon Difference
Study or Subgroup	Mean	si imen SD	Total	Mean	SD	Tota	Weight	IV, Random, 95% Cl	Year	IV, Random, 95% Cl
lung 2014	5	11.77	9	2.6	7.52	\$	52.9%	2.40 [-6.89, 11 69]	2014	
Haruvama 2016	13.67	23.05	16	1.33	25.19	16	5 22.5%	12.34 [-4.39, 29.07]	2016	
Min 2020	11.69	21.27	19	18.32	28.07	19	24.6%	-6.63 [-22.47, 9.21]	2020	· · _ · _ ·
		/	20	20.02	20.07		2.1070		2020	
Total (95% CI)			44			43	3 100.0%	2.41 [-6.29, 11.11]		
Heterogeneity: Tau ² =	14.80;	Chi ² =	2.61, d	lf = 2 (F	P = 0.27	'); I ² =	23%			
Test for overall effect:	Z = 0.5	4 (P =	0.59)							Favour control group Favour intervention group

Figure S9. Subgroup analyses by total volume (minutes) of the additional trunk exercise programs. (A1) Effect on trunk function for studies below the median; (A2) Effect on trunk function for studies over the median; (B1) Effect on balance ability for studies below the median; (B2) Effect on balance ability for studies over the median; (C1) Effect on limits of stability forward reach of the unaffected arm for studies below the median; (C2) Effect on limits of stability forward reach of the unaffected arm for studies over the median; (D1) Effects on gait performance for studies below the median; (D2) Effects on gait performance for studies over the median; (E1) Effects on functional mobility for studies below the median; (E2) Effects on functional mobility for studies over the median.

	Eligibility criteria specified	Subjects random allocation	Concealed allocation	Similar groups baseline	Subjects blinding	Therapists blinding	Assessors blinding	Outcome measurement in 85% of the subjects initially allocated	Intention to treat	Between- group statistical comparison	Point measures and variability
DeSèze et al., 2001	~	~	~	~	Х	Х	~	~	~	~	v
Howe et al., 2005	v	V	v	V	Х	Х	V	v	Х	v	Х
Dean et al., 2007	v	V	v	V	Х	Х	V	V	V	V	~
Verheyden et al., 2009	v	v	v	V	Х	Х	v	V	V	V	~
Yoo et al., 2010	v	v	Х	V	Х	Х	Х	?	?	V	Х
Kim et al., 2011	v	V	Х	V	Х	Х	Х	V	V	V	Х
Vijayakumar et al., 2011	v	V	v	V	Х	Х	V	?	?	V	Х
Lee et al., 2011	v	V	Х	V	Х	Х	V	V	Х	V	~
Saeys et al., 2012	V	V	V	V	Х	Х	~	V	V	V	~
Chung et al., 2013	V	V	Х	V	Х	Х	Х	V	V	V	~
Jung et al., 2014	~	~	~	~	Х	Х	~	~	X	~	Х

Table S3. PEDro scale to assess methodological quality.

Cabanas- Valdés et al., 2015	~	~	v	V	Х	Х	v	v	X	~	v
Jung et al., 2015	~	~	V	~	X	Х	V	Х	Х	~	~
Haruyama et al., 2016	~	~	~	V	Х	Х	v	v	Х	~	~
Shin et al., 2016	~	~	~	V	Х	Х	~	v	~	~	~
Rose et al., 2016	~	~	~	~	Х	Х	v	v	Х	~	~
An et al., 2017	~	~	V	~	Х	Х	?	~	Х	~	~
Park et al., 2019	~	~	~	~	~	Х	X	~	Х	~	Х
Min et al., 2020	~	~	~	~	X	X	V	~	~	~	~

№ of studies	Study design	Risk of bias (PEDro)	Inconsistency	Indirectness	Imprecision	Publication bias	Sample Experimental group	Sample Control group	Pooled effect size (95% CI)	Certainity	Importance
					Trunk functio	on					
13	randomised trials	serious ª	serious ^b	serious ^c	not serious	none	211	208	SMD 1.06 SD higher (0.74 higher to 1.37 higher)	⊕○○○ VERY LOW	CRITICAL
					Balance abili	ty					
9	randomised trials	serious ª	not serious	serious ^c	not serious	none	170	168	SMD 0.83 SD higher (0.52 higher to 1.14 higher)		CRITICAL
				Limits of st	tability - Forw	ard unaffected					
6	randomised trials	serious ª	not serious	serious ^c	serious ^d	none	87	87	SMD 0.9 SD higher (0.47 higher to 1.33 higher)	€ VERY LOW	CRITICAL
				Limits of s	tability - Late	ral unaffected					
4	randomised trials	serious ª	not serious	serious ^c	serious ^d	none	52	55	SMD 1.16 SD higher (0.67 higher to 1.66 higher)	⊕OOO VERY LOW	CRITICAL
				Limits of	stability - Lat	eral affected					
3	randomised trials	serious ª	not serious	not serious	serious ^d	none	37	37	SMD 0.89 SD higher (0.26 higher to 1.52 higher)		CRITICAL
					Gait performa	nce					
8	randomised trials	not serious	not serious	serious ^c	serious ^d	none	129	125	SMD 0.63 SD higher (0.38 higher to 0.89 higher)		CRITICAL
				F	unctional mob	ility					

Table S4. Quality of evidence (GRADE approach) between additional trunk-focused exercises vs conventional rehabilitation.

6	randomised	serious	serious ^b	not serious	very	none	79	77	MD 3.4 higher		
	trials	а			serious ^{d, e}				(-0.32 lower to 7.12	VERVIOW	CRITICAL
									higher)	VERT LOW	

Abbreviations. PEDro: Physiotherapy Evidence Database Scale; CI: Confidence interval; SMD: Standardized mean difference; MD: Weighted Mean difference; I²: Inconsistency Statistic;

a. Downgraded one level since at least two studies scored ≤6 on the PEDro scale

b. Downgraded one level due to an Inconsistency statistic (I²) \ge 50%

c. Downgraded one level because different test/scales were employed to measure the outcome

d. Downgraded one level due to a sample with less than 300 participants

e. Downgraded one level due to large confidence intervals (Includes the 0-Hypothesis)