Exercise for depression: A systematic review and network meta-analysis of randomised controlled trials
Supplementary Files

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S0–PRISMA NMA Checklist of Items to Include When Reporting A Systematic Review Involving a Network Meta-analysis

Section/Topic	Item #	Checklist Item	Reported on Page #
TITLE			
Title	1	Identify the report as a systematic review *incorporating a network meta-analysis (or related form of meta-analysis)*.	*1*
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: **Background:** main objectives **Methods:** data sources; study eligibility criteria, participants, and interventions; study appraisal; and *synthesis methods, such as network meta-analysis.* **Results:** number of studies and participants identified; summary estimates with corresponding confidence/credible intervals; *treatment rankings may also be discussed. Authors may choose to summarize pairwise comparisons against a chosen treatment included in their analyses for brevity.* **Discussion/Conclusions:** limitations; conclusions and implications of findings. **Other:** primary source of funding; systematic review registration number with registry name.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known*, including mention of why a network meta-analysis has been conducted.*	4
Objectives	4	Provide an explicit statement of questions being addressed, with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	4
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists and if and where it can be accessed (e.g., Web address); and, if available, provide registration information, including registration number.	5
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale. *Clearly describe eligible treatments included in the treatment network, and note whether any have been clustered or merged into the same node (with justification).*	5

Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	5
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	5
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	5
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	5
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	5-6
Geometry of the network	S1	Describe methods used to explore the geometry of the treatment network under study and potential biases related to it. This should include how the evidence base has been graphically summarized for presentation, and what characteristics were compiled and used to describe the evidence base to readers.	7
Risk of bias within individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	6
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means). *Also describe the use of additional summary measures assessed, such as treatment rankings and surface under the cumulative ranking curve (SUCRA) values, as well as modified approaches used to present summary findings from meta-analyses.*	6
Planned methods of analysis	14	Describe the methods of handling data and combining results of studies for each network meta-analysis. This should include, but not be limited to: • *Handling of multi-arm trials;* • *Selection of variance structure;* • *Selection of prior distributions in Bayesian analyses; and* • *Assessment of model fit.*	6
Assessment of Inconsistency	S2	Describe the statistical methods used to evaluate the agreement of direct and indirect evidence in the treatment network(s) studied. Describe efforts taken to address its presence when found.	7
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	7
Additional analyses	16	Describe methods of additional analyses if done, indicating which were pre-specified. This may include, but not be limited to, the following: • Sensitivity or subgroup analyses;	6-7

- Meta-regression analyses;
- *Alternative formulations of the treatment network; and*
- *Use of alternative prior distributions for Bayesian analyses (if applicable).*

RESULTS†

Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	8
Presentation of network structure	S3	Provide a network graph of the included studies to enable visualization of the geometry of the treatment network.	9
Summary of network geometry	S4	Provide a brief overview of characteristics of the treatment network. This may include commentary on the abundance of trials and randomized patients for the different interventions and pairwise comparisons in the network, gaps of evidence in the treatment network, and potential biases reflected by the network structure.	9
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	S2
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment.	10, S4
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: 1) simple summary data for each intervention group, and 2) effect estimates and confidence intervals. *Modified approaches may be needed to deal with information from larger networks.*	S6
Synthesis of results	21	Present results of each meta-analysis done, including confidence/credible intervals. *In larger networks, authors may focus on comparisons versus a particular comparator (e.g. placebo or standard care), with full findings presented in an appendix. League tables and forest plots may be considered to summarize pairwise comparisons.* If additional summary measures were explored (such as treatment rankings), these should also be presented.	11
Exploration for inconsistency	S5	Describe results from investigations of inconsistency. This may include such information as measures of model fit to compare consistency and inconsistency models, *P* values from statistical tests, or summary of inconsistency estimates from different parts of the treatment network.	12
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies for the evidence base being studied.	14

Results of additional analyses	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression analyses, *alternative network geometries studied, alternative choice of prior distributions for Bayesian analyses,* and so forth).	13-14

DISCUSSION

Summary of evidence	24	Summarize the main findings, including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy-makers).	15
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review level (e.g., incomplete retrieval of identified research, reporting bias). *Comment on the validity of the assumptions, such as transitivity and consistency. Comment on any concerns regarding network geometry (e.g., avoidance of certain comparisons).*	16–17
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	17–18

FUNDING

Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review. This should also include information regarding whether funding has been received from manufacturers of treatments in the network and/or whether some of the authors are content experts with professional conflicts of interest that could affect use of treatments in the network.	18

PICOS = population, intervention, comparators, outcomes, study design.

* Text in italics indicateS wording specific to reporting of network meta-analyses that has been added to guidance from the PRISMA statement.

† Authors may wish to plan for use of appendices to present all relevant information in full detail for items in this section.

S1 - Search Strategy

We replicated the search from the most recent Cochrane review,21 adding keywords for yoga, tai-chi, and qigong, because we judged them to meet our definition of 'exercise'.

Cochrane Central Register of Controlled Trials (CENTRAL)
CENTRAL was searched using the following terms:
1. MeSH descriptor Exercise explode all trees
2. MeSH descriptor Exercise Therapy explode all trees
3. MeSH descriptor Physical Education and Training explode all trees
4. MeSH descriptor Physical Fitness, this term only
5. MeSH descriptor Physical Exertion, this term only
6. MeSH descriptor Walking explode all trees
7. MeSH descriptor Running explode all trees
8. MeSH descriptor Swimming, this term only
9. (cycling or bicycling or yoga or "tai-chi" or "tai chi" or "tai ji" or qigong or "qi gong")
10. (exercise* or exercising)
11. (physical NEAR/5 (education or training))
12. (#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11)
13. MeSH descriptor Depressive Disorder explode all trees
14. MeSH descriptor Depression, this term only
15. SR-DEPRESSN
16. HS-DEPRESSN
17. (#13 OR #14 OR #15 OR #16)
18. (#12 AND #17)

MEDLINE
OVID MEDLINE was searched using the following terms:
1. exp Exercise/
2. exp Exercise Therapy/
3. exp "Physical Education and Training"/
4. Physical Fitness/
5. Physical Exertion/
6. exp Walking/
7. Running/ or Jogging/
8. Swimming/ or Yoga/ or Qigong/ or Tai ji/
9. (cycling or bicycling or yoga or "tai-chi" or "tai chi" or "tai ji" or qigong or "qi gong").tw.
10. (exercise$ or exercising).tw.
11. (physical adj3 (education or training)).tw.
12. or/1-11
13. Depression/
14. exp Depressive Disorder/
15. or/13-14
16. randomized controlled trial.pt.
17. controlled clinical trial.pt.
18. randomly.ab.
19. trial.ab.
20. groups.ab.
21. (control$ adj3 (trial$ or study or studies)).tw.
22. randomi#ed.ab.
23. placebo$.ab.
24. or/16-23
25. 12 and 15 and 24

EMBASE
OVID EMBASE was searched using the following terms (for RCTs, we used [Cochrane's recommended Embase search terms for RCTs, section 2.1.2](#)):
1. exp exercise/
2. exp physical activity/
3. exp sport/
4. (exercise$ or exercising or yoga or "tai-chi" or "tai chi" or "tai ji" or qigong or "qi gong").tw.
5. or/1-4
6. exp depression/
7. ("crossover procedure" or "double-blind procedure" or "randomized controlled trial" or "single-blind procedure").hw.
8. (random* or factorial* or crossover* or (cross adj1 over*) or placebo* or (doubl* adj1 blind*) or (singl* adj1 blind*) or assign* or allocat* or volunteer*).ab,hw,ti.
9. 7 or 8
10. 5 and 6 and 9

PsycINFO
OVID PsycINFO was searched using the following terms:
1. exp major depression/
2. atypical depression/
3. seasonal affective disorder/
4. (depress$ adj3 (patient$ or symptom$ or disorder$)).ti,ab.
5. or/1-4
6. exp physical activity/
7. exp sports/
8. running/ or walking/
9. (cycling or bicycling or yoga or "tai-chi" or "tai chi" or "tai ji" or qigong or "qi gong").tw.
10. (exercise$ or exercising).tw.
11. (physical adj3 (education or training)).tw.
12. or/6-11
13. treatment effectiveness evaluation/
14. clinical trials/
15. mental health program evaluation/
16. placebo/
17. placebo$.tw.
18. randomly.ab.
19. randomi#ed.tw.
20. trial$.tw.
21. ((singl$ or doubl$ or trebl$ or tripl$) adj3 (blind$ or mask$ or dummy)).tw.
22. (control* adj3 (trial* or study or studies)).tw.
23. or/13-22
24. 5 and 12 and 23

SPORTdiscus via EBSCO
Using PsycINFO terms for RCTs optimising specificity and [specificity](#)
1. TI(depressi* OR dysthymi*)
2. AB(depressi* OR dysthymi*)
3. KW(depressi* OR dysthymi*)
4. 1 OR 2 OR 3
5. TX(sport* OR exercis* OR aerobic* OR running OR jogging OR walk* OR hiking OR swim* OR aquatic* OR yoga OR "tai-chi" OR "tai chi" OR "tai ji" OR qigong OR "qi gong" OR cycling OR bicycl* OR ((physical or strength*) AND (activit* OR educat* OR fitness OR train*)) OR "physical medicine" OR ((resistance or weight*) AND (train* or lift*)))
6. TI("double-blind" OR "random* assigned" OR control)
7. AB("double-blind" OR "random* assigned" OR control)

8. KW("double-blind" OR "random* assigned" OR control)
9. 6 OR 7 OR 8
10. 4 AND 5 AND 9

S2 Consensus reasons for exclusion

https://osf.io/nzw6u/

S3 Characteristics of Included Studies

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Abdelbasset 2019												
Saudi Arabia	Y	23	26.0	NA	N	Moderate	Usual care	12	NA	NA	Post	PHQ-9
Saudi Arabia	Y	23	26.0	NA	N	Moderate	Walking / Jogging	12	4	452	Post	PHQ-9
Saudi Arabia	Y	23	26.0	NA	N	Moderate	Walking / Jogging	12	5	729	Post	PHQ-9
Abdelbasset 2020												
Saudi Arabia	N	14	50.0	52.8 (5.7)	Y	Severe	Usual care	NA	NA	NA	Post	HDRS
Saudi Arabia	N	14	42.0	53.4 (5.3)	Y	Severe	Proprioceptive exercises	8	3	378	Post	HDRS
Abdollahi 2017												
Iran	N	35	40.0	50.91 (7.43)	N	Moderate	Aerobic + Therapy	12	NA	NA	Post	BDI-II
Iran	N	35	54.0	48.43 (6.83)	N	Moderate	Cognitive behavioural therapy	12	NA	NA	Post	BDI-II
Abedi 2015												
Iran	Y	49	100.0	NA	N	Moderate	Waitlist control	12	NA	NA	Post	BDI
Iran	Y	48	100.0	NA	N	Moderate	Walking / Jogging	12	4	99	Post	BDI
Abt 2006												
USA	Y	14	79.0	46.1 (10.1)	N	Moderate	Social	6	NA	NA	Post	IDS-SR
USA	Y	17	65.0	46.1 (10.1)	N	Moderate	Aerobic + Strength	6	10	685	Post	IDS-SR
Aguinaga 2018												

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	Y	24	89.0	70.25 (3.72)	N	Moderate	Educational	NA	NA	NA	Post	HADS
USA	Y	18	84.0	69.73 (3.58)	N	Moderate	Strength	26	4	NA	Post	HADS
Armstrong 2003												
Australia	N	10	NA	(21-30)	N	Severe	Waitlist control	NA	NA	NA	Post	DASS, EPDS
Australia	N	10	NA	(21-30)	N	Moderate	Mixed aerobic exercises	12	5	567	Post	DASS, EPDS
Armstrong 2004												
Australia	Y	10	100.0	30 (NA)	N	Moderate	Social	NA	NA	NA	Post	HAM-D
Australia	Y	9	100.0	30 (NA)	N	Moderate	Walking / Jogging	12	4	344	Post	HAM-D
Balchin 2016												
Not reported	Y	10	0.0	25.4 (NA)	N	Moderate	Cycling	6	4	630	Post	HAM-D, MADRS
Not reported	Y	11	0.0	25.4 (NA)	N	Mild	Cycling	6	7	1224	Post	HAM-D, MADRS
Not reported	Y	9	0.0	25.4 (NA)	N	Mild	Mixed aerobic exercises	6	7	1260	Post	HAM-D, MADRS
Beffert 1994												
USA	Y	11	NA	(12-16)	N	Unclear	Waitlist control	NA	NA	NA	Post	RADS
USA	Y	15	NA	(12-16)	N	Unclear	Walking / Jogging	6	4	258	Post, 8 weeks	RADS
BelvederiMurri 2015												
Italy	Y	42	69.0	75 (6.2)	Y	Moderate	Exercise + SSRI	24	7	1224	Post	HRSD
Italy	Y	37	68.0	75 (6.3)	Y	Moderate	Exercise + SSRI	24	4	774	Post	HRSD
Italy	Y	42	76.0	75.6 (5.6)	Y	Moderate	SSRI	NA	NA	NA	Post	HRSD
Bhandari 2022												
India	Y	21	26.0	31.85 (11.44)	Y	Moderate	Waitlist control	NA	NA	NA	Post	BDI

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
India	Y	19	53.0	31.64 (10.12)	Y	Moderate	Yoga	4	2	808	Post		BDI
India	Y	21	52.0	32.71 (11.52)	Y	Moderate	Yoga + Herbal Formula	4	2	808	Post		BDI
Bieber 2021													
Germany	Y	36	78.0	51.31 (9.19)	N	Moderate	Waitlist control	NA	NA	NA	Post		BDI-II, MADRS
Germany	Y	47	81.0	48.38 (10.21)	N	Moderate	Yoga	12	4	1080	Post		BDI-II, MADRS
Blumenthal 1999													
USA	Y	53	74.0	57 (5.8)	N	Moderate	Walking / Jogging	16	4	387	Post		BDI, HAM-D
USA	Y	55	65.0	57 (6.7)	N	Moderate	Exercise + SSRI	16	NA	NA	Post		BDI, HAM-D
USA	Y	48	79.0	57 (7)	N	Moderate	SSRI	16	NA	NA	Post		BDI, HAM-D
Blumenthal 2007													
USA	Y	49	78.0	52 (8)	Y	Mild	Placebo pill	16	NA	NA	52 weeks		HAM-D
USA	Y	53	73.5	52 (8)	Y	Mild	Walking / Jogging	16	4	506	52 weeks		HAM-D
USA	Y	49	78.0	52 (8)	Y	Mild	SSRI	16	NA	NA	52 weeks		HAM-D
Blumenthal 2012													
USA	Y	24	68.0	63.9 (NA)	N	Mild	Placebo pill	16	NA	NA	Post		HAM-D
USA	Y	37	68.0	63.9 (NA)	N	Mild	Walking / Jogging	16	4	387	Post		HAM-D
USA	Y	40	68.0	63.9 (NA)	N	Mild	SSRI	16	NA	NA	Post		HAM-D
Bombardier 2013													
USA	Y	48	82.0	NA	Y	Mild	Waitlist control	NA	NA	NA	Post		HAM-D
USA	Y	44	90.0	NA	Y	Moderate	Physical activity counselling	12	NA	NA	Post		HAM-D
Bonnet 2006													

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	N	5	100.0	23.27 (NA)	N	Severe	Aerobic + Therapy	6	NA	NA	Post, 4 weeks	BDI, CES-D
USA	N	6	67.0	23.27 (NA)	N	Severe	Cognitive behavioural therapy	9	NA	NA	Post, 4 weeks	BDI, CES-D
Bosscher 1993												
The Netherlands	N	9	56.0	34.7 (12.5)	N	Mild	Aerobic + Strength	8	4	445	Post	SDS
The Netherlands	N	9	44.0	35.8 (11.1)	N	Mild	Walking / Jogging	8	7	945	Post	SDS
Brenes 2007												
USA	Y	12	50.0	73.9 (5.8)	Y	Mild	Usual care	NA	NA	NA	Post	HAM-D
USA	Y	14	64.0	73.5 (7.8)	Y	Mild	Aerobic + Strength	16	4	702	Post	HAM-D
USA	Y	11	73.0	76.4 (6.4)	Y	Mild	SSRI	NA	NA	NA	Post	HAM-D
Bressington 2019												
China	Y	27	70.0	NA	Y	Severe	Usual care	NA	NA	NA	Post, 12 weeks	DASS
China	Y	23	70.0	NA	Y	Severe	Laughter yoga	4	2	NA	Post, 12 weeks	DASS
Briggs 2017												
USA	Y	12	75.0	20.17 (1.9)	N	Severe	Mind-body + Therapy	6	NA	150	1 week, 4 weeks	BDI-II
USA	Y	12	75.0	20.17 (1.9)	N	Severe	Acceptance and commitment therapy	6	NA	NA	1 week, 4 weeks	BDI-II
Brown 1992												
USA	N	3	NA	15.6 (NA)	N	Mild	Usual care	9	NA	NA	Post	BDI
USA	N	4	NA	15.6 (NA)	N	Moderate	Walking / Jogging	9	NA	NA	Post	BDI
Brush 2022												
USA	N	35	69.0	20.26 (2.84)	Y	Moderate	Mixed aerobic exercises	8	7	945	Post	BDI-II
USA	N	31	81.0	20.19 (1.78)	Y	Moderate	Stretching	8	2	310	Post	BDI-II

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities		Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Buschert 2018													
Germany	N	15	32.0	NA	N	Mild	Educational		NA	NA	NA	Post	BDI-II, HAM-D
Germany	N	15	32.0	NA	N	Moderate	Walking / Jogging	4	5	483	Post	BDI-II, HAM-D
Butler 2008													
USA	Y	16	74.0	50.4 (14.8)	N	Mild	Educational	12	NA	NA	24 weeks, 36 weeks	HAM-D
USA	Y	15	74.0	50.4 (14.8)	N	Mild	Mind-body + Therapy	12	NA	NA	24 weeks, 36 weeks	HAM-D
Buttner 2015													
USA	N	29	NA	NA	N	Mild	Waitlist control	NA	NA	NA	Post	HAM-D
USA	N	28	NA	NA	N	Moderate	Yoga	8	2	450	Post	HAM-D
Callaghan 2011													
UK	Y	19	NA	NA	N	Severe	Walking / Jogging	4	4	NA	Post	BDI
Carneiro 2015													
Portugal	Y	9	53.0	50.2 (12.1)	N	Severe	Exercise + SSRI	16	NA	NA	Post	BDI-II, DASS
Portugal	Y	10	48.0	50.2 (12.1)	N	Severe	SSRI	16	NA	NA	Post	BDI-II, DASS
Carter 2015													
UK	Y	42	NA	NA	N	Severe	Usual care	6	NA	NA	Post, 18 weeks	CDI
UK	Y	44	NA	NA	N	Severe	Aerobic + Strength	6	5	534	Post, 18 weeks	CDI
Cecchini-Estrada 2015													
Spain	Y	27	NA	NA	N	Moderate	Mixed aerobic exercises	8	NA	NA	Post, 24 weeks	DSS
Spain	Y	26	NA	NA	N	Moderate	Stretching	NA	2	NA	Post, 24 weeks	DSS
Chalder 2012													
UK	Y	179	65.0	38.8 (12.7)	N	Severe	Usual care	17	NA	NA	Post, 17 weeks, 35 weeks	BDI

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
UK	Y	182	68.0	40.9 (12.5)	N	Severe	Physical activity counselling	17	4	600	Post, 17 weeks, 35 weeks	BDI

Chan 2012

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
China	Y	17	NA	NA	N	Moderate	Cognitive behavioural therapy + SSRI	10	NA	NA	Post	BDI-II, HRSD
China	Y	17	NA	NA	N	Severe	Exercise + SSRI	10	2	225	Post	BDI-II, HRSD
China	Y	16	NA	NA	N	Severe	SSRI	10	NA	NA	Post	BDI-II, HRSD

Chang 2018

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
South Korea	Y	46	88.0	77.8 (6.6)	N	Mild	Social	12	NA	NA	Post	GDS
South Korea	Y	47	86.0	77.8 (6.6)	N	Mild	Aerobic + Therapy	12	4	387	Post	GDS

Cheng 2012

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
China	Y	12	NA	NA	Y	Moderate	Social	12	NA	NA	Post, 24 weeks	GDS-15
China	Y	12	NA	NA	Y	Moderate	Tai-chi / Qigong	12	2	450	Post, 24 weeks	GDS-15

Cheng 2016

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
China	Y	15	53.0	21.1 (1.4)	N	Mild	Waitlist control	NA	NA	NA	Post	BDI, HAMD
China	Y	15	53.0	21.1 (1.4)	N	Mild	Tai-chi / Qigong	12	2	1050	Post	BDI, HAMD

Cheung 2018

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
China	N	17	71.0	48.1 (10.8)	N	Moderate	Usual care	NA	NA	NA	Post	HADS, HAM-D, PHQ-15
China	N	17	88.0	47.4 (11.2)	N	Moderate	Mixed aerobic exercises	12	7	840	Post	HADS, HAM-D, PHQ-15

Chin 2022

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Hong Kong	Y	9	89.0	63.8 (6)	N	Moderate	Stretching	12	2	172	Post	HADS, PHQ-9
Hong Kong	Y	10	78.0	65.9 (7)	N	Moderate	Walking / Jogging	12	3	488	Post	HADS, PHQ-9
Hong Kong	Y	10	78.0	61.7 (2.7)	N	Moderate	Walking / Jogging	12	6	488	Post	HADS, PHQ-9
Hong Kong	Y	10	78.0	63.7 (4.7)	N	Moderate	Walking / Jogging	12	3	488	Post	HADS, PHQ-9

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Hong Kong	Y	10	78.0	61.5 (6.1)	N	Moderate	Walking / Jogging	12	6	488	Post		HADS, PHQ-9
Chou 2004													
China	Y	7	50.0	72.6 (4.2)	N	Severe	Waitlist control	12	NA	NA	Post		CES-D
China	Y	7	50.0	72.6 (4.2)	N	Severe	Tai-chi / Qigong	12	2	338	Post		CES-D
Chu 2009													
USA	N	18	100.0	26.4 (7.3)	N	Moderate	Mixed aerobic exercises	10	7	1225	Post		BDI-II
USA	N	18	100.0	26.6 (6.3)	N	Moderate	Mixed aerobic exercises	10	4	752	Post		BDI-II
USA	N	18	100.0	24.6 (4.8)	N	Moderate	Stretching	10	2	NA	Post		BDI-II
Chu 2017													
Taiwan	Y	13	100.0	NA	Y	Moderate	Waitlist control	12	NA	NA	Post		BDI-II
Taiwan	Y	13	100.0	NA	Y	Severe	Yoga	12	2	292	Post		BDI-II
Chu 2018													
USA	Y	18	100.0	26.4 (NA)	N	Moderate	Mixed aerobic exercises	10	4	900	Post		BDI-II
USA	Y	18	100.0	26.4 (NA)	N	Moderate	Mixed aerobic exercises	10	7	980	Post		BDI-II
USA	Y	18	100.0	26.4 (NA)	N	Moderate	Stretching	10	2	NA	Post		BDI-II
Ciccolo 2022													
USA	Y	21	0.0	41 (11.29)	Y	Moderate	Educational	NA	NA	NA	Post, 12 weeks		PHQ-9
USA	Y	24	0.0	41.68 (13.44)	Y	Moderate	Strength	12	4	420	Post, 12 weeks		PHQ-9
Cody 2023													
Switzerland	Y	107	49.0	39.95 (12.2)	Y	Moderate	Educational	NA	NA	NA	Post		BDI, HAM-D
Switzerland	Y	113	56.0	41.78 (12.94)	Y	Moderate	Physical activity counselling	52	NA	NA	Post		BDI, HAM-D
Cohen-Kahn 1995													
USA	N	16	NA	15 (NA)	N	Severe	Strength	8	3	504	Post		BDI, CDI

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	N	17	NA	15 (NA)	N	Severe	Strength	8	4	720	Post		BDI, CDI

Cooney 2018

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	Y	19	100.0	NA	Y	Mild	Aerobic + Behavioral + Diet	16	NA	NA	Post		CES-D
USA	Y	12	100.0	NA	Y	Severe	Aerobic + Diet	16	NA	NA	Post		CES-D

Craft 2007

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	Y	16	100.0	40.4 (10.6)	N	Moderate	Walking / Jogging	12	4	452	Post		BDI-II
USA	Y	16	100.0	40.4 (10.6)	N	Moderate	Walking / Jogging	12	4	301	Post		BDI-II

D'Amato 1990

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	N	20	82.0	70.3 (9.2)	N	Mild	Social	3	NA	NA	Post		GDS, SCL-90-R
USA	N	13	82.0	70.3 (9.2)	N	Mild	Walking / Jogging	3	2	990	Post		GDS, SCL-90-R

Da Costa 2009

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Canada	Y	42	100.0	NA	N	Moderate	Usual care	NA	NA	NA	Post, 12 weeks		EPDS, HAM-D
Canada	Y	46	100.0	NA	N	Moderate	Aerobic + Strength	12	5	540	Post, 12 weeks		EPDS, HAM-D

Daley 2008

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
UK	Y	18	100.0	(21-40)	N	Severe	Usual care	12	NA	NA	Post		EPDS
UK	Y	20	100.0	(21-40)	N	Moderate	Walking / Jogging	12	4	645	Post		EPDS

Daley 2015

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
UK	Y	47	100.0	NA	N	Moderate	Usual care	24	NA	NA	24 weeks, 48 weeks		EPDS
UK	Y	47	100.0	NA	N	Moderate	Walking / Jogging	24	5	648	24 weeks, 48 weeks		EPDS

DanHauer 2022

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	Y	125	82.0	66.3 (4.9)	Y	Unclear	Yoga	11	2	375	26 weeks		PROMIS-29 Depression
USA	Y	125	90.0	66.7 (5.7)	Y	Unclear	Cognitive behavioural therapy	11	NA	NA	26 weeks		PROMIS-29 Depression

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Danielsson 2014												
Sweden	Y	20	80.0	NA	Y	Mild	Educational	10	NA	NA	Post	MADRS
Sweden	Y	22	73.0	NA	Y	Mild	Mixed aerobic exercises	10	5	648	Post	MADRS
Sweden	Y	20	80.0	NA	Y	Mild	Mind-body + Therapy	10	NA	NA	Post	MADRS
Davis 2014												
USA	Y	23	100.0	30.15 (4.92)	Y	Mild	Usual care	8	NA	NA	Post	EPDS
USA	Y	23	100.0	30.15 (4.92)	Y	Mild	Yoga	8	2	188	Post	EPDS
de Groot 2019												
USA	Y	36	NA	NA	Y	Moderate	Usual care	NA	NA	NA	Post	BDI-II
USA	Y	34	NA	NA	Y	Moderate	Mixed aerobic exercises	12	4	645	Post	BDI-II
USA	Y	34	NA	NA	Y	Severe	Aerobic + Therapy	12	4	645	Post	BDI-II
USA	Y	36	NA	NA	Y	Moderate	Cognitive behavioural therapy	NA	NA	NA	Post	BDI-II
de Manincor 2016												
Australia	N	54	80.0	NA	Y	Moderate	Usual care	6	NA	NA	Post	DASS
Australia	N	47	80.0	NA	Y	Moderate	Yoga	6	2	375	Post	DASS
Deus 2021												
Brazil	Y	76	47.0	66.33 (3.88)	Y	Moderate	Waitlist control	NA	NA	NA	Post	BDI
Brazil	Y	81	43.0	67.27 (3.24)	Y	Moderate	Strength	26	4	630	Post	BDI
Dopp 2018												
USA	Y	9	NA	NA	N	Severe	Usual care	12	NA	NA	Post	CDI
USA	Y	9	NA	NA	N	Severe	Mixed aerobic exercises	12	NA	NA	Post	CDI

Country	Funded	n	% Female	Mean Age (SD/Range)		Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Doyne 1987													
USA	N	30	100.0	29.46 (4.68)	N	Moderate		Waitlist control	8	NA	NA	Post	BDI
USA	N	30	100.0	27.67 (4.81)	N	Moderate		Strength	8	4	315	Post	BDI
USA	N	30	100.0	28.48 (3.48)	N	Moderate		Walking / Jogging	8	4	387	Post	BDI
Dunn 2002													
USA	Y	16	81.0	37.9 (6.3)	N	Moderate		Mixed aerobic exercises	12	6	975	Post	HAM-D
USA	Y	18	72.0	37.7 (5.1)	N	Moderate		Mixed aerobic exercises	12	4	525	Post	HAM-D
USA	Y	16	81.0	35.8 (6.1)	N	Moderate		Mixed aerobic exercises	12	4	315	Post	HAM-D
USA	Y	17	76.0	33.2 (6.7)	N	Moderate		Mixed aerobic exercises	12	6	585	Post	HAM-D
USA	Y	13	62.0	34.5 (7.3)	N	Moderate		Stretching	12	2	NA	Post	HAM-D
Epstein 1986													
USA	Y	26	NA	39.42 (NA)	N	Moderate		Waitlist control	8	NA	NA	Post	BDI, SDS
USA	Y	26	NA	39.42 (NA)	N	Moderate		Walking / Jogging	8	4	516	Post, 4 weeks, 9 weeks	BDI, SDS
USA	Y	26	NA	39.42 (NA)	N	Severe		Cognitive behavioural therapy	8	NA	NA	Post, 4 weeks, 9 weeks	BDI, SDS
Euteneuer 2017													
Germany	Y	30	49.0	37.3 (12.2)	Y	Moderate		Waitlist control	NA	NA	NA	Post	BDI-II
Germany	Y	34	49.0	37.3 (12.2)	Y	Moderate		Aerobic + Therapy	16	4	720	Post	BDI-II
Germany	Y	34	49.0	37.3 (12.2)	Y	Moderate		Cognitive behavioural therapy	16	NA	NA	Post	BDI-II
Fetsch 1980													
USA	N	8	57.0	(18-51)	N	Moderate		Social	4	NA	NA	Post	BDI
USA	N	8	57.0	(20-35)	N	Moderate		Walking / Jogging	4	4	129	Post	BDI

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Field 2012												
USA	Y	28	100.0	26.6 (NA)	N	Mild	Usual care	12	NA	NA	Post	CES-D
USA	Y	28	100.0	26.6 (NA)	N	Severe	Yoga	NA	2	100	Post	CES-D
USA	Y	28	100.0	26.6 (NA)	N	Severe	Relaxation	12	NA	NA	Post	CES-D
Field 2013												
USA	Y	39	100.0	24.9 (5.2)	N	Severe	Social	12	NA	NA	Post	CES-D, EPDS
USA	Y	40	100.0	24.9 (5.2)	N	Severe	Yoga	12	2	50	Post	CES-D, EPDS
Foley 2008												
New Zealand	N	10	NA	(18-55)	N	Moderate	Mixed aerobic exercises	12	5	567	Post	BDI, MADRS
New Zealand	N	13	NA	(18-55)	N	Moderate	Stretching	12	2	NA	Post	BDI, MADRS
Forsyth 2017												
UK	N	11	100.0	NA	N	Moderate	Usual care	NA	NA	NA	Post, 12 weeks	EPDS
UK	N	11	100.0	NA	N	Moderate	Mixed aerobic exercises	12	4	645	Post, 12 weeks	EPDS
Fremont 1987												
USA	N	15	71.0	(19-62)	N	Mild	Walking / Jogging	10	5	324	Post, 8 weeks, 16 weeks	BDI
USA	N	18	76.0	(19-62)	N	Mild	Aerobic + Therapy	10	NA	NA	Post, 8 weeks, 16 weeks	BDI
USA	N	16	73.0	(19-62)	N	Moderate	Cognitive behavioural therapy	10	NA	NA	Post, 8 weeks, 16 weeks	BDI
Gao 2016												
China	N	24	100.0	52.5 (4.3)	N	Mild	Waitlist control	NA	NA	NA	Post	SDS
China	N	26	100.0	52.5 (4.3)	N	Mild	Dance	13	4	1312	Post	SDS
García-Toro 2012												

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Spain	Y	40	48.0	NA	N	Moderate	Usual care	26	NA	NA	Post	BDI, HAM-D
Spain	Y	40	48.0	NA	N	Moderate	Aerobic + Behavioral + Diet	26	NA	NA	Post	BDI, HAM-D
Gary 2010												
USA	Y	17	63.0	68 (13.5)	N	Mild	Usual care	12	NA	NA	Post, 12 weeks	HAM-D
USA	Y	20	54.0	68 (13.5)	N	Mild	Walking / Jogging	12	4	774	Post, 12 weeks	HAM-D
USA	Y	18	60.0	68 (13.5)	N	Moderate	Aerobic + Therapy	12	NA	NA	Post, 12 weeks	HAM-D
USA	Y	19	57.0	68 (13.5)	N	Mild	Cognitive behavioural therapy	12	NA	NA	Post, 12 weeks	HAM-D
Gautam 2019												
India	Y	36	78.0	NA	Y	Mild	Usual care	8	NA	NA	Post	BDI-II
India	Y	36	78.0	NA	Y	Moderate	Yoga	8	2	1500	Post	BDI-II
Goracci 2016												
Italy	Y	81	80.0	49 (NA)	N	Mild	Educational	13	NA	NA	Post	PHQ-9
Italy	Y	79	80.0	49 (NA)	N	Mild	SSRI + Educational	13	NA	NA	Post	PHQ-9
Greer 2015												
USA	Y	19	89.0	46.7 (9.6)	N	Severe	Mixed aerobic exercises	12	8	960	Post	QIDS-CR
USA	Y	20	85.0	46.7 (9.6)	N	Severe	Mixed aerobic exercises	12	5	648	Post	QIDS-CR
Gujral 2019												
USA	Y	7	71.0	NA	N	Mild	Exercise + SSRI	12	3	1598	Post	MADRS
USA	Y	8	62.0	NA	N	Mild	SSRI	12	NA	NA	Post	MADRS
Guo 2020												
China	Y	150	NA	NA	Y	Severe	Waitlist control	NA	NA	NA	Post	CES-D
China	Y	150	NA	NA	Y	Severe	Walking / Jogging	13	4	774	Post	CES-D
Hallgren 2015												
Sweden	Y	312	74.0	43 (12)	Y	Mild	Usual care	12	NA	NA	Post	MADRS

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Sweden	Y	316	73.0	43 (12)	Y	Mild	Aerobic + Strength	12	4	810	Post		MADRS
Sweden	Y	317	72.0	43 (12)	Y	Mild	Cognitive behavioural therapy	12	NA	NA	Post		MADRS
Hanssen 2018													
Switzerland	N	15	83.0	37.8 (NA)	N	Severe	Cycling	4	5	518	Post		BDI-II
Switzerland	N	19	66.0	37.8 (NA)	N	Severe	Cycling	4	8	840	Post		BDI-II
Haussleiter 2020													
Germany	N	40	33.0	46.43 (11.6)	Y	Moderate	Self guided physical activity	6	NA	NA	Post		HAM-D
Germany	N	36	32.0	43.94 (13.24)	Y	Moderate	Mixed aerobic exercises + relaxation	6	5	750	Post		HAM-D
Heh 2008													
Taiwan	Y	33	100.0	NA	N	Moderate	Waitlist control	12	NA	NA	Post		EPDS
Taiwan	Y	33	100.0	NA	N	Moderate	Stretching	12	2	NA	Post		EPDS
Heinzel 2022													
Germany	Y	30	63.0	42.67 (10.68)	N	Moderate	Waitlist control	NA	NA	NA	Post		BDI-II, HAM-D
Germany	Y	41	54.0	38.07 (10.74)	N	Moderate	Mixed aerobic exercises	12	8	984	Post		BDI-II, HAM-D
Germany	Y	42	31.0	38.52 (9.34)	N	Moderate	Mixed aerobic exercises + relaxation	12	3	324	Post		BDI-II, HAM-D
Heissel 2015													
Germany	N	7	50.0	66.8 (NA)	N	Severe	Aerobic + Strength	4	5	534	Post		BDI-II
Germany	N	7	50.0	66.8 (NA)	N	Mild	Relaxation	4	2	NA	Post		BDI-II
Hemat-Far 2012													
Iran	N	10	100.0	(18-25)	N	Moderate	Waitlist control	8	NA	NA	Post		BDI
Iran	N	10	100.0	(18-25)	N	Moderate	Walking / Jogging	8	5	795	Post		BDI

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Hess-Homeier 1981												
Not reported	Y	6	NA	30 (NA)	N	Moderate	Waitlist control	NA	NA	NA	Post	BDI
Not reported	Y	5	NA	32 (NA)	N	Moderate	Walking / Jogging	8	4	516	Post	BDI
Not reported	Y	6	NA	30 (NA)	N	Moderate	Cognitive behavioural therapy	8	NA	NA	Post	BDI
Ho 2014												
China	Y	26	34.0	NA	N	Moderate	Aerobic + Strength	3	8	1600	Post	BDI-II, MADRS
China	Y	26	34.0	NA	N	Severe	Stretching	3	NA	NA	Post	BDI-II, MADRS
Hoffman 2010												
USA	Y	40	50.0	37.1 (NA)	N	Moderate	Waitlist control	10	NA	NA	Post	BDI
USA	Y	40	38.0	39.7 (NA)	N	Moderate	Mixed aerobic exercises	10	8	1192	Post	BDI
Huang 2015												
Taiwan	Y	20	53.0	76.53 (5.94)	N	Mild	Usual care	12	NA	NA	Post, 12 weeks, 24 weeks	GDS-15
Taiwan	Y	19	53.0	76.53 (5.94)	N	Moderate	Aerobic + Strength	12	2	544	Post, 12 weeks, 24 weeks	GDS-15
Taiwan	Y	18	53.0	76.53 (5.94)	N	Mild	Cognitive behavioural therapy	12	NA	NA	Post, 12 weeks, 24 weeks	GDS-15
Hughes 2013												
USA	Y	14	42.0	17 (16.1-17.9)	Y	Severe	Aerobic + Strength	12	5	567	Post	CDI, QIDS-CR
USA	Y	12	42.0	17 (16.1-17.9)	Y	Severe	Stretching	12	2	NA	Post	CDI, QIDS-CR
Imboden 2020												
Switzerland	Y	22	46.0	41.3 (9.2)	N	Moderate	Mixed aerobic exercises	6	7	918	Post, 20 weeks	BDI, HDRS

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Switzerland	Y	20	50.0	38.3 (13.4)	N	Moderate	Stretching	6	2	310	Post, 20 weeks	BDI, HDRS

Irandoust 2019

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Iran	N	34	0.0	46.2 (2.1)	N	Moderate	Walking / Jogging	12	4	387	Post	BDI

Jelalian 2019

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	Y	24	50.0	NA	N	Moderate	Aerobic + Therapy	24	NA	NA	Post, 24 weeks	BDI
USA	Y	9	NA	NA	N	Moderate	Cognitive behavioural therapy	24	NA	NA	Post, 24 weeks	BDI

Jeong 2005

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
South Korea	Y	20	100.0	16 (NA)	N	Unclear	Waitlist control	12	NA	NA	Post	SCL-20
South Korea	Y	20	100.0	16 (NA)	N	Unclear	Dance	12	5	729	Post	SCL-20

Jin 2019

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
South Korea	Y	15	100.0	NA	N	Moderate	Placebo pill	26	NA	NA	Post	GDS-15
South Korea	Y	15	100.0	NA	N	Moderate	Aerobic + Strength	26	3	478	Post	GDS-15

Jing 2022

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
China	N	30	NA	NA	N	Severe	Exercise + SSRI	8	7	1260	Post	HAM-D
China	N	30	NA	NA	N	Severe	SSRI	NA	NA	NA	Post	HAM-D

Joyce 2021

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	Y	64	66.0	44.3 (10.3)	Y	Mild	Educational	12	1	NA	Post, 40 weeks	PHQ-8
USA	Y	129	70.0	46 (11.4)	Y	Mild	Aerobic + Strength	12	6	210	Post, 40 weeks	PHQ-8
USA	Y	127	57.0	46.7 (10.2)	Y	Mild	Yoga	12	2	188	Post, 40 weeks	PHQ-8

Kanner 1991

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	N	23	41.0	13.63 (2.58)	N	Mild	Social	8	NA	NA	Post	CDI
USA	N	22	42.0	13.63 (2.58)	N	Mild	Cycling	8	3	540	Post	CDI

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	N	23	41.0	13.63 (2.58)	N	Mild	Cycling	8	5	972	Post		CDI

Kerling 2015

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Germany	N	20	NA	NA	N	Severe	Usual care	6	NA	NA	Post		BDI-II, MADRS
Germany	N	22	NA	NA	N	Severe	Cycling	6	6	810	Post		BDI-II, MADRS

Khoshnab 2017

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Iran	Y	15	100.0	NA	N	Severe	Waitlist control	8	NA	NA	Post		BDI
Iran	Y	15	100.0	NA	N	Moderate	Walking / Jogging	8	4	645	Post		BDI
Iran	Y	15	100.0	NA	N	Severe	Exercise + SSRI	8	NA	NA	Post		BDI
Iran	Y	15	100.0	NA	N	Severe	SSRI	8	NA	NA	Post		BDI

Kim 2022

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
South Korea	N	8	100.0	38.14 (1.39)	N	Severe	Waitlist control	NA	NA	NA	Post		EPDS
South Korea	N	8	100.0	39.71 (2.01)	N	Severe	Pilates	8	3	300	Post		EPDS

Klein 1984

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	Y	27	70.0	30.33 (6.52)	N	Severe	Walking / Jogging	12	4	580	Post		SCL-20
USA	Y	24	71.0	29.75 (6.07)	N	Severe	Cognitive behavioural therapy	12	NA	NA	Post		SCL-20
USA	Y	23	74.0	29.96 (6.29)	N	Severe	Relaxation	12	2	NA	Post		SCL-20

Knubben 2007

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Germany	N	18	NA	50 (13)	N	Severe	Stretching	1	2	NA	Post		CES-D
Germany	N	20	NA	49 (13)	N	Severe	Walking / Jogging	1	4	903	Post		CES-D

Kouidi 2010

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Greece	N	20	22.0	NA	N	Moderate	Waitlist control	52	NA	NA	Post		BDI, HADS

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Greece	N	24	19.0	NA	N	Moderate	Aerobic + Strength	52	5	1016	Post	BDI, HADS

Krogh 2009

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Denmark	Y	55	78.0	38.1 (9)	N	Severe	Mixed aerobic exercises	17	5	972	Post, 32 weeks	BDI, HAM-D, MADRS
Denmark	Y	55	82.0	41.9 (8.7)	N	Severe	Strength	17	4	720	Post, 32 weeks	BDI, HAM-D, MADRS
Denmark	Y	55	62.0	36.7 (8.7)	N	Severe	Relaxation	17	NA	NA	Post, 32 weeks	BDI, HAM-D, MADRS

Krogh 2012

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Denmark	N	56	67.0	41.6 (NA)	Y	Severe	Cycling	NA	5	729	Post	BDI-II, HAM-D
Denmark	N	59	67.0	41.6 (NA)	Y	Severe	Stretching	NA	2	NA	Post	BDI-II, HAM-D

Kruisdijk 2019

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
The Netherlands	Y	7	61.0	41.2 (9.1)	N	Severe	Usual care	NA	NA	NA	Post	HAM-D
The Netherlands	Y	12	61.0	41.2 (9.1)	N	Moderate	Walking / Jogging	13	4	540	Post	HAM-D

Kuvačić 2018

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Croatia	N	15	47.0	34.2 (4.52)	N	Mild	Educational	8	NA	NA	Post	SDS
Croatia	N	15	47.0	34.2 (4.52)	N	Mild	Yoga	8	2	375	Post	SDS

Lanza 2018

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Italy	Y	6	92.0	NA	N	Mild	Mixed aerobic exercises	43	2	562	Post	GDS
Italy	Y	6	92.0	NA	N	Mild	Aerobic + Massage	43	NA	NA	Post	GDS

LaRocque 2021

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Canada	Y	15	100.0	29.4 (13.08)	Y	Mild	Waitlist control	NA	NA	NA	Post	HAM-D
Canada	Y	20	100.0	34.85 (15.15)	Y	Mild	Mixed aerobic exercises	8	8	912	Post	HAM-D

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Canada	Y	18	100.0	34.17 (15.75)	Y	Mild	Yoga	8	4	675	Post	HAM-D

Lavretsky 2011

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	Y	37	61.0	NA	N	Mild	Educational	10	NA	NA	Post	HAM-D
USA	Y	36	62.0	NA	N	Moderate	Tai-chi / Qigong	10	2	300	Post	HAM-D

Lavretsky 2022

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	Y	89	75.0	69.4 (6.2)	Y	Moderate	Educational	12	NA	NA	Post, 12 weeks	GDS, HAM-D
USA	Y	89	70.0	69.2 (6.9)	Y	Moderate	Tai-chi / Qigong	12	2	150	Post, 12 weeks	GDS, HAM-D

Lee 2020

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Taiwan	Y	16	NA	(65-90)	Y	Moderate	Tai-chi / Qigong	12	2	300	Post	PHQ-9
Taiwan	Y	14	NA	(65-90)	Y	Moderate	Cognitive behavioural therapy	12	NA	NA	Post	PHQ-9

Legrand 2007

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
France	N	8	71.5	NA	N	Moderate	Mixed aerobic exercises	8	5	648	Post	BDI-II
France	N	8	67.0	NA	N	Moderate	Aerobic + Social Support	8	NA	NA	Post	BDI-II

Legrand 2009

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
France	N	6	NA	66.8 (2.5)	N	Mild	Walking / Jogging	4	4	1032	Post, 4 weeks	GDS
France	N	6	NA	66.8 (2.5)	N	Mild	Walking / Jogging	4	4	108	Post, 4 weeks	GDS

Legrand 2014

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
France	Y	22	100.0	23 (19-30)	N	Moderate	Waitlist control	7	NA	NA	Post	BDI-II
France	Y	22	100.0	23 (19-30)	N	Moderate	Mixed aerobic exercises	7	5	648	Post	BDI-II

Legrand 2016

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
France	N	11	71.0	45.3 (13.2)	N	Severe	Stretching	1	2	NA	Post	BDI-II
France	N	14	71.0	45.3 (13.2)	N	Severe	Walking / Jogging	1	4	194	Post	BDI-II
France	N	10	71.0	45.3 (13.2)	N	Severe	SSRI	1	NA	NA	Post	BDI-II

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Levin 2016												
Australia	N	14	NA	58.9 (10.8)	N	Mild	Waitlist control	NA	NA	NA	Post	HADS
Australia	N	8	NA	58.9 (10.8)	N	Mild	Aerobic + Strength	12	4	600	Post	HADS
Australia	N	10	NA	58.9 (10.8)	N	Mild	Aerobic + Strength	12	4	668	Post	HADS
Liao 2018												
Malaysia	Y	52	63.0	71.79 (7.713)	N	Mild	Educational	13	NA	NA	Post	GDS
Malaysia	Y	55	60.0	71.79 (7.713)	N	Mild	Tai-chi / Qigong	13	2	375	Post	GDS
Lok 2017												
Turkey	N	40	45.0	(65-90)	N	Mild	Waitlist control	10	NA	NA	Post	BDI-II
Turkey	N	40	45.0	(65-90)	N	Mild	Mixed aerobic exercises	10	5	1512	Post	BDI-II
Lu 2022												
China	N	52	100.0	52.25 (12.3)	Y	Mild	Self guided physical activity	10	4	202	Post	HAM-D
China	N	52	100.0	54.12 (10.25)	Y	Mild	Aerobic + Diet	NA	NA	NA	Post	HAM-D
Luttenberger 2015												
Germany	Y	26	52.0	43.91 (11.91)	N	Moderate	Usual care	8	NA	NA	Post	BDI-II
Germany	Y	25	54.0	43.91 (11.91)	N	Moderate	Strength	8	6	1044	Post, 8 weeks, 16 weeks	BDI-II
Ma 2019												
USA	Y	205	70.0	NA	N	Moderate	Usual care	52	NA	NA	Post	SCL-20
USA	Y	204	70.0	NA	N	Moderate	Walking / Jogging	52	4	645	Post	SCL-20
Maddux 2018												

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Sweden	N	25	70.0	47.1 (10.4)	N	Moderate	Waitlist control	NA	NA	NA	Post	HADS
Sweden	N	31	93.0	45.5 (10)	N	Moderate	Yoga	8	4	480	Post	HADS
Maharaj 2023												
Nigeria	N	24	100.0	39.9 (5.77)	Y	Moderate	Educational	NA	NA	NA	Post	BDI
Nigeria	N	25	100.0	40.4 (7.22)	Y	Moderate	Walking / Jogging	12	4	677	Post	BDI
Makizako 2020												
Japan	Y	28	51.0	73.1 (5.5)	Y	Mild	Educational	20	NA	NA	Post, 6 weeks	GDS-15
Japan	Y	27	51.0	73.1 (5.5)	Y	Mild	Strength	20	4	331	Post, 6 weeks	GDS-15
Margolis 1982												
USA	N	14	77.0	44.5 (NA)	N	Moderate	Aerobic + Therapy	10	NA	NA	Post	BDI-II
USA	N	15	74.5	44.5 (NA)	N	Moderate	Cognitive behavioural therapy	10	NA	NA	Post	BDI-II
Martinsen 1985												
Norway	Y	19	NA	40 (17-60)	N	Severe	Usual care	NA	NA	NA	Post	BDI
Norway	Y	24	NA	40 (17-60)	N	Moderate	Mixed aerobic exercises	9	4	774	Post	BDI
Martinsen 1989												
Norway	Y	51	62.0	NA	N	Mild	Mixed aerobic exercises	8	7	1260	Post	MADRS
Norway	Y	47	67.0	NA	Y	Mild	Strength	8	4	630	Post	MADRS
Martiny 2012												
Denmark	Y	38	NA	NA	N	Moderate	Exercise + SSRI	9	NA	NA	Post, 20 weeks	HAM-D
Denmark	Y	37	NA	NA	N	Moderate	Sleep deprivation + SSRI	9	NA	NA	Post, 20 weeks	HAM-D
McCann 1984												
USA	Y	16	100.0	NA	N	Mild	Waitlist control	10	NA	NA	Post	BDI
USA	Y	16	100.0	NA	N	Mild	Walking / Jogging	10	4	540	Post	BDI
USA	Y	15	100.0	NA	N	Mild	Relaxation	10	NA	NA	Post	BDI

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
McMurdo 2001												
UK	Y	43	NA	NA	N	Severe	Educational	10	NA	NA	Post, 24 weeks	GDS, HRSD
UK	Y	43	NA	NA	N	Severe	Educational	0	NA	NA	Post, 24 weeks	GDS, HRSD
UK	Y	43	NA	NA	N	Moderate	Aerobic + Strength	10	6	495	Post, 24 weeks	GDS, HRSD
Meleppurakkal 2021												
India	N	25	NA	NA	N	Mild	Placebo pill	NA	NA	NA	Post, 2 weeks	HAM-D
India	N	25	NA	NA	N	Mild	Yoga	4	2	NA	Post, 2 weeks	HAM-D
India	N	25	NA	NA	N	Mild	Yoga + Herbal Formula	4	2	NA	Post, 2 weeks	HAM-D
Meyer 2022												
USA	Y	5	80.0	46 (35–59)	Y	Unclear	Aerobic + Cognitive behavioural therapy	8	4	129	Post, 12 weeks	HAM-D, PHQ-9
USA	Y	5	100.0	44 (19–51)	Y	Unclear	Cognitive behavioural therapy	NA	NA	NA	Post, 12 weeks	HAM-D, PHQ-9
Minghetti 2018												
Switzerland	Y	29	79.0	NA	N	Severe	Cycling	4	7	735	Post	BDI-II
Switzerland	Y	30	77.0	NA	N	Severe	Cycling	4	5	567	Post	BDI-II
Mitchell 2012												
USA	Y	12	100.0	26.6 (NA)	N	Mild	Educational	12	NA	NA	Post	CES-D
USA	Y	12	100.0	26.6 (NA)	N	Severe	Yoga	12	2	100	Post	CES-D
Mitchell 2014												
UK	Y	95	44.0	NA	Y	Mild	Usual care	6	NA	NA	Post, 18 weeks	CES-D
UK	Y	89	47.0	NA	Y	Mild	Aerobic + Strength	6	4	790	Post, 18 weeks	CES-D
Moncrieft 2016												
USA	Y	54	73.0	54.81 (7.36)	N	Moderate	Usual care	52	NA	NA	Post	BDI-II

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	Y	57	69.0	54.81 (7.36)	N	Moderate	Aerobic + Therapy	52	NA	NA	Post	BDI-II
Moraes 2020												
Brazil	Y	7	NA	NA	Y	Moderate	Aerobic + Strength	12	3	168	Post	BDI, HAM-D
Brazil	Y	9	NA	NA	Y	Moderate	Mixed aerobic exercises	12	6	354	Post	BDI, HAM-D
Brazil	Y	9	NA	NA	Y	Moderate	Strength	12	4	210	Post	BDI, HAM-D
Mosquera-Valderrama 2012												
Colombia	Y	7	100.0	21 (3)	N	Severe	Educational	12	NA	NA	Post	CES-D
Colombia	Y	7	100.0	21 (3)	N	Severe	Mixed aerobic exercises	12	2	639	Post	CES-D
Mota-Pereira 2011												
Portugal	Y	10	80.0	45.33 (3.11)	N	Mild	Usual care	12	NA	NA	Post	BDI, HAM-D
Portugal	Y	19	58.0	48.68 (2.3)	N	Moderate	Walking / Jogging	12	4	817	Post	BDI, HAM-D
Motl 2020												
USA	Y	13	62.0	(18-64)	Y	Moderate	Waitlist control	26	NA	NA	Post	HADS
USA	Y	13	62.0	(18-64)	Y	Moderate	Walking / Jogging	26	NA	NA	Post	HADS
Mutrie 1986												
UK	Y	7	95.0	41.1 (NA)	N	Moderate	Waitlist control	4	NA	NA	Post	BDI
UK	Y	9	74.0	45.7 (NA)	N	Moderate	Mixed aerobic exercises	4	5	486	Post	BDI
UK	Y	8	83.0	38.9 (NA)	N	Moderate	Strength	4	2	285	Post	BDI
Nabkasorn 2006												
Japan	N	28	100.0	18.8 (0.1)	N	Mild	Usual care	NA	NA	NA	Post	CES-D
Japan	N	21	100.0	18.7 (0.2)	N	Mild	Walking / Jogging	8	4	1075	Post	CES-D
Nasstasia 2019												
Australia	Y	34	78.0	20.75 (2.59)	N	Severe	Waitlist control	NA	NA	NA	Post, 12 weeks	BDI-II

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Australia	Y	34	78.0	20.75 (2.59)	N	Severe	Aerobic + Strength	12	5	801	Post, 12 weeks	BDI-II
Naumann 2020												
Germany	Y	23	87.0	51 (9.8)	N	Severe	Aerobic + Strength	8	6	495	Post	BDI-II, HAM-D
Germany	Y	22	59.0	45.6 (12.3)	N	Severe	Hyperthermic bath	NA	NA	NA	Post	BDI-II, HAM-D
Newcombe 2023												
Canada	N	9	75.0	21.81 (3.78)	N	Moderate	Usual care	NA	NA	NA	Post	DASS
Canada	N	7	75.0	21.81 (3.78)	N	Moderate	Aerobic + Cognitive behavioural therapy	7	6	390	Post	DASS
Norouzi 2020												
Iran	Y	20	100.0	NA	Y	Severe	Social	12	NA	NA	Post	BDI
Iran	Y	20	100.0	NA	Y	Severe	Dance	12	7	1314	Post	BDI
Iran	Y	20	100.0	NA	Y	Severe	Walking / Jogging	12	5	972	Post	BDI
Norouzi 2023												
Iran	Y	17	59.0	33.21 (5.72)	N	Severe	Mixed aerobic exercises	8	8	752	Post, 4 weeks	BDI
Iran	Y	16	59.0	33.21 (5.72)	N	Severe	Aerobic + Meditation	8	5	450	Post, 4 weeks	BDI
Iran	Y	17	59.0	33.21 (5.72)	N	Severe	Mind-body + Therapy	8	1	117	Post, 4 weeks	BDI
Nyström 2017												
Sweden	Y	55	76.0	42 (13.5)	N	Moderate	Usual care	12	NA	NA	Post	PHQ-9
Sweden	Y	65	76.0	42 (13.5)	N	Moderate	Aerobic + Strength	12	NA	NA	Post	PHQ-9
Sweden	Y	71	76.0	42 (13.5)	N	Moderate	Cognitive behavioural therapy	12	NA	NA	Post	PHQ-9
Olson 2017												

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	Y	15	80.0	21.1 (2)	N	Moderate	Mixed aerobic exercises	8	5	616	Post		BDI-II
USA	Y	15	80.0	21.1 (2)	N	Moderate	Stretching	8	2	NA	Post		BDI-II
Oretzky 2007													
USA	N	24	50.5	25.6 (3.22)	N	Moderate	Waitlist control	5	NA	NA	Post		BDI-II, HRSD
USA	N	29	38.0	25.6 (3.22)	N	Moderate	Yoga	5	2	300	Post		BDI-II, HRSD
Ouyang 2001													
China	N	29	50.0	19.8 (NA)	N	Mild	Waitlist control	NA	NA	NA	Post		BDI
China	N	30	48.0	19.8 (NA)	N	Mild	Aerobic + Therapy	3	5	972	Post		BDI
Ozkan 2020													
Turkey	N	40	81.0	28.9 (4.83)	N	Moderate	Usual care	4	NA	NA	Post		EPDS
Turkey	N	40	81.0	28.9 (4.83)	N	Moderate	Aerobic + Strength	4	3	790	Post		EPDS
Pagoto 2013													
USA	Y	83	100.0	45.9 (10.8)	Y	Moderate	Educational	26	NA	NA	Post, 26 weeks		BDI-II, HRSD
USA	Y	78	100.0	45.9 (10.8)	Y	Moderate	Aerobic + Therapy	26	NA	NA	Post, 26 weeks		BDI-II, HRSD
Passmore 2006													
USA	N	11	70.0	35.1 (11.49)	N	Severe	Aerobic + Strength	3	4	642	Post, 6 weeks, 12 weeks		BDI-II
USA	N	10	64.0	35.1 (11.49)	N	Severe	Mixed aerobic exercises	3	5	651	Post, 6 weeks, 12 weeks		BDI-II
Patten 2017													
USA	Y	15	100.0	NA	Y	Moderate	Educational	12	NA	NA	Post		PHQ-9
USA	Y	13	100.0	NA	Y	Moderate	Mixed aerobic exercises	12	2	562	Post		PHQ-9
Patten 2018													
USA	Y	18	86.0	42.1 (10)	N	Moderate	Waitlist control	12	NA	NA	Post		BDI-II
USA	Y	18	86.0	42.1 (10)	N	Moderate	Aerobic + Strength	12	4	134	Post		BDI-II

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Pentecost 2015												
UK	Y	30	48.0	(18-65)	N	Moderate	Aerobic + Therapy	16	NA	NA	Post	PHQ-9
UK	Y	30	48.0	(18-65)	N	Moderate	Cognitive behavioural therapy	16	NA	NA	Post	PHQ-9
Phillips 2018												
USA	N	16	66.0	(18-30)	N	Moderate	Educational	NA	NA	NA	Post	BDI-II
USA	N	16	66.0	(18-30)	N	Moderate	Dance	4	8	234	Post	BDI-II
Pilu 2007												
Italy	Y	10	100.0	(40-60)	Y	Moderate	Exercise + SSRI	35	2	401	Post	HAM-D
Italy	Y	20	100.0	(40-60)	Y	Moderate	SSRI	35	NA	NA	Post	HAM-D
Prakhinkit 2014												
Thailand	Y	15	100.0	(60-90)	N	Mild	Waitlist control	12	NA	NA	Post	GDS
Thailand	Y	15	100.0	(60-90)	N	Mild	Aerobic + Meditation	12	NA	NA	Post	GDS
Prathikanti 2017												
USA	Y	18	68.0	43.4 (14.8)	N	Moderate	Educational	8	NA	NA	Post	BDI
USA	Y	20	68.0	43.4 (14.8)	N	Moderate	Yoga	8	2	300	Post	BDI
Puterman 2022												
Canada	Y	43	89.0	41 (12.1)	N	Mild	Waitlist control	NA	NA	NA	Post	CES-D
Canada	Y	43	87.0	41.2 (12.7)	N	Mild	Aerobic + Strength	6	6	480	Post	CES-D
Canada	Y	43	87.0	41.1 (12.6)	N	Mild	Aerobic + Strength + Yoga	6	4	340	Post	CES-D
Canada	Y	43	84.0	37.8 (12.3)	N	Mild	Yoga	6	2	200	Post	CES-D
Rashidi 2013												
Iran	N	20	100.0	(55-65)	N	Mild	Waitlist control	8	3	360	Post	BDI
Iran	N	20	100.0	(55-65)	N	Mild	Pilates	8	3	360	Post	BDI
Ravindran 2021												

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Canada	Y	19	74.0	40.58 (12.72)	Y	Mild	Educational	8	NA	NA	Post	HAM-D, MADRS
Canada	Y	53	81.0	39.36 (11.69)	Y	Mild	Yoga	8	2	450	Post	HAM-D, MADRS
Roh 2020												
South Korea	Y	38	74.0	NA	Y	Severe	Educational	12	4	NA	Post	MADRS
South Korea	Y	40	74.0	NA	Y	Severe	Social	12	NA	NA	Post	MADRS
Roshan 2011												
Iran	N	12	100.0	NA	N	Severe	Waitlist control	NA	NA	NA	Post	HAM-D
Iran	N	12	100.0	NA	N	Severe	Walking / Jogging	6	4	387	Post	HAM-D
Roy 2018												
India	Y	20	100.0	NA	N	Mild	Usual care	1	NA	NA	Post	DSS, HAM-D
India	Y	20	100.0	NA	N	Moderate	Mixed aerobic exercises	1	5	108	Post	DSS, HAM-D
Sadeghi 2006												
Iran	Y	14	24.0	NA	N	Moderate	Social	NA	NA	NA	Post	BDI-II
Iran	Y	16	21.0	NA	N	Moderate	Mixed aerobic exercises	8	5	842	Post	BDI-II
Iran	Y	16	21.0	NA	N	Moderate	Cognitive behavioural therapy	8	NA	NA	Post	BDI-II
Salchow 2021												
Germany	Y	21	100.0	51.52 (8.41)	Y	Severe	Waitlist control	NA	NA	NA	Post	HADS
Germany	Y	30	100.0	54.23 (7.85)	Y	Severe	Tai-chi / Qigong	24	4	666	Post	HADS
Salehi 2016												
Iran	Y	20	35.0	29.67 (5.81)	N	Severe	Mixed aerobic exercises	4	5	729	Post	BDI, HAM-D

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Iran	Y	20	35.0	29.67 (5.81)	N	Severe	Aerobic + Electroconvulsive therapy	4	NA	NA	Post	BDI, HAM-D
Iran	Y	20	35.0	29.67 (5.81)	N	Severe	Electroconvulsive therapy	4	NA	NA	Post	BDI, HAM-D
Sarubin 2014												
Germany	Y	31	24.0	40.25 (12.57)	N	Moderate	Waitlist control	5	NA	NA	Post	HAM-D
Germany	Y	22	34.0	40.25 (12.57)	N	Moderate	Yoga	5	2	150	Post	HAM-D
Schneider 2016												
USA	Y	14	100.0	53.4 (7.1)	N	Moderate	Usual care	24	NA	NA	Post	BDI, HAM-D
USA	Y	15	100.0	53.4 (7.1)	N	Moderate	Mixed aerobic exercises	24	5	972	Post	BDI, HAM-D
Schuch 2011												
Brazil	Y	11	NA	42.5 (13.5)	N	Severe	Usual care	NA	NA	NA	Post	HAM-D
Brazil	Y	15	NA	42.8 (12.4)	N	Severe	Mixed aerobic exercises	NA	5	486	Post	HAM-D
Schuch 2015												
Brazil	Y	25	74.0	NA	N	Severe	Usual care	NA	NA	NA	Post	HAM-D
Brazil	Y	25	74.0	NA	N	Severe	Mixed aerobic exercises	NA	5	648	Post	HAM-D
Schuver 2016												
USA	N	16	100.0	42.68 (4.95)	N	Moderate	Walking / Jogging	12	4	559	Post, 4 weeks	BDI
USA	N	18	100.0	42.68 (4.95)	N	Moderate	Yoga	12	2	340	Post, 4 weeks	BDI
Setaro 1986												
USA	N	25	74.0	(18-35)	N	Moderate	Social	10	NA	NA	Post	MMPI
USA	N	25	74.0	(18-35)	N	Moderate	Waitlist control	10	NA	NA	Post	MMPI
USA	N	25	74.0	(18-35)	N	Moderate	Dance	10	5	324	Post	MMPI

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	N	25	74.0	(18-35)	N	Moderate	Aerobic + Cognitive behavioural therapy	10	NA	NA	Post	MMPI
USA	N	25	74.0	(18-35)	N	Moderate	Cognitive behavioural therapy	10	NA	NA	Post	MMPI
USA	N	25	74.0	(18-35)	N	Moderate	Other behavioral therapies	10	NA	NA	Post	MMPI
Sexton 1989												
Norway	N	28	50.0	NA	Y	Moderate	Walking / Jogging	8	7	840	Post, 24 weeks	BDI
Norway	N	25	56.0	NA	Y	Moderate	Walking / Jogging	8	4	516	Post, 24 weeks	BDI
Shachar-Malach 2015												
Israel	Y	6	75.0	NA	N	Severe	Stretching	3	2	NA	Post, 1 week	BDI, HAM-D
Israel	Y	6	75.0	NA	N	Severe	Walking / Jogging	3	4	516	Post, 1 week	BDI, HAM-D
Shahidi 2011												
Iran	N	20	100.0	68.4 (6.3)	N	Mild	Waitlist control	NA	NA	NA	Post	GDS
Iran	N	20	100.0	65.7 (4.2)	N	Mild	Walking / Jogging	10	4	129	Post	GDS
Iran	N	20	100.0	65.5 (4.8)	N	Mild	Laughter yoga	10	2	NA	Post	GDS
Sims 2005												
Australia	Y	22	41.0	67.13 (15.23)	N	Severe	Usual care	10	NA	NA	Post, 14 weeks	CES-D
Australia	Y	23	39.0	67.13 (15.23)	N	Mild	Strength	10	2	366	Post, 14 weeks	CES-D
Sims 2009												
Australia	Y	22	41.0	66.27 (16.01)	N	Severe	Usual care	10	NA	NA	Post, 26 weeks	CES-D
Australia	Y	23	39.0	67.95 (14.76)	N	Mild	Strength	10	4	315	Post, 26 weeks	CES-D
Singh 1996												
USA	Y	15	33.0	NA	N	Moderate	Educational	10	NA	NA	Post	BDI, GDS, HRSD

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)		Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	Y	17	29.0	NA	N	Moderate	Strength	10	5	750		Post	BDI, GDS, HRSD
Singh 1997													
USA	Y	15	53.0	72 (2)	N	Moderate	Educational	NA	NA	NA		Post	BDI, HAM-D
USA	Y	17	71.0	70 (1.5)	N	Moderate	Strength	10	2	507		Post	BDI, HAM-D
Singh 2001													
Australia	Y	15	63.0	71 (2)	N	Moderate	Educational	10	NA	NA		Post, 84 weeks	BDI
Australia	Y	17	63.0	71 (2)	N	Moderate	Strength	10	5	750		Post, 84 weeks	BDI
Singh 2005													
Australia	N	19	53.0	69 (7)	Y	Moderate	Usual care	NA	NA	NA		Post	GDS, HAM-D
Australia	N	17	47.0	70 (7)	Y	Severe	Strength	8	2	664		Post	GDS, HAM-D
Australia	N	18	50.0	69 (5)	Y	Severe	Strength	8	2	934		Post	GDS, HAM-D
Siqueira 2016													
Brazil	Y	29	35.0	38.83 (10.72)	N	Severe	Exercise + SSRI	4	NA	NA		Post	BDI, HAM-D
Brazil	Y	28	37.0	38.83 (10.72)	N	Severe	SSRI	4	NA	NA		Post	BDI, HAM-D
Sjösten 2008													
Finland	Y	35	NA	NA	N	Mild	Usual care	NA	NA	NA		Post	GDS
Finland	Y	34	NA	NA	N	Mild	Aerobic + Therapy	52	NA	NA		Post	GDS
Streeter 2017													
USA	Y	15	NA	NA	N	Moderate	Yoga	12	2	1125		Post	BDI-II, PHQ-9
USA	Y	15	NA	NA	N	Moderate	Yoga	12	4	2835		Post	BDI-II, PHQ-9
Strom 2013													
Sweden	Y	24	83.0	49.2 (10.7)	N	Severe	Waitlist control	9	NA	NA		Post	BDI-II, MADRS
Sweden	Y	24	83.0	49.2 (10.7)	N	Moderate	Aerobic + Therapy	9	NA	NA		Post, 24 weeks	BDI-II, MADRS

	Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Sujatha 2019													
	India	N	6	NA	NA	Y	Severe	Mixed aerobic exercises	12	4	444	Post	HADS
	India	N	6	NA	NA	Y	Severe	Strength	12	4	388	Post	HADS
Sun 2022a													
	China	Y	30	43.0	65.23 (6.29)	Y	Mild	Rehabilitation exercise	3	2	966	Post, 1 week	HAM-D 24
	China	Y	30	43.0	62.03 (7.37)	Y	Mild	Qigong + Rehabilitation exercise	3	2	1050	Post, 1 week	HAM-D 24
Sun 2022b													
	China	Y	145	81.0	33.1 (5.9)	Y	Mild	Strength	12	4	420	4 weeks	BDI
	China	Y	141	83.0	34.5 (6.3)	Y	Mild	Relaxation	12	NA	NA	4 weeks	BDI
Szuhany 2018													
	USA	Y	15	78.0	33.7 (13.4)	N	Moderate	Mixed aerobic exercises	12	5	486	Post, 4 weeks	BDI-II, MADRS
	USA	Y	16	78.0	33.7 (13.4)	N	Moderate	Stretching	12	2	NA	Post, 4 weeks	BDI-II, MADRS
Szuhany 2020													
	USA	Y	15	77.0	34.2 (13.4)	N	Moderate	Mixed aerobic exercises	12	5	810	Post, 4 weeks	BDI-II, MADRS
	USA	Y	16	77.0	34.2 (13.4)	N	Moderate	Stretching	12	2	NA	Post, 4 weeks	BDI-II, MADRS
Taheri 2018													
	Iran	N	8	100.0	45 (5.1)	N	Mild	Placebo pill	8	NA	NA	Post	BDI
	Iran	N	8	100.0	45 (5.1)	N	Mild	Walking / Jogging	8	4	860	Post	BDI
	Iran	N	8	100.0	45 (5.1)	N	Mild	Aerobic + Supplementation	8	NA	NA	Post	BDI
	Iran	N	8	100.0	45 (5.1)	N	Mild	Omega 3	8	NA	NA	Post	BDI
Tolahunase 2018													
	India	Y	89	47.0	38 (9)	N	Severe	Yoga	12	2	1500	Post	BDI-II
	India	Y	89	48.0	40 (8)	N	Severe	SSRI	NA	NA	NA	Post	BDI-II

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Tsang 2006												
China	Y	34	97.0	NA	Y	Mild	Educational	16	NA	NA	1 week, 4 weeks, 8 weeks	GDS-15
China	Y	48	69.0	NA	Y	Mild	Tai-chi / Qigong	16	2	300	1 week, 4 weeks, 8 weeks	GDS-15
Uebelacker 2016												
USA	Y	8	62.0	28.4 (5.8)	N	Moderate	Educational	9	NA	NA	Post	EPDS, QIDS-CR
USA	Y	12	42.0	28.4 (5.8)	N	Moderate	Yoga	9	2	188	Post	EPDS, QIDS-CR
Uebelacker 2017												
USA	Y	45	84.0	46.5 (12.16)	N	Moderate	Yoga	10	2	400	Post, 12 weeks, 25 weeks	QIDS-CR
USA	Y	45	84.0	46.5 (12.16)	N	Moderate	Mind-body + Education	10	NA	NA	Post, 12 weeks, 25 weeks	QIDS-CR
Veale 1992												
UK	Y	35	64.0	35.5 (NA)	N	Moderate	Waitlist control	12	NA	NA	Post	BDI
UK	Y	48	64.0	35.5 (NA)	N	Moderate	Walking / Jogging	12	4	810	Post	BDI
UK	Y	26	64.0	35.5 (NA)	N	Moderate	Yoga	12	2	450	Post	BDI
Verrusio 2014												
Italy	N	12	54.0	75.5 (7.4)	Y	Moderate	Aerobic + Strength	24	2	515	Post	GDS-15
Italy	N	12	54.0	75.5 (7.4)	Y	Moderate	SSRI	24	NA	NA	Post	GDS-15
Vickers 2009												
USA	Y	30	100.0	41.8 (12.1)	N	Mild	Educational	10	NA	NA	Post, 14 weeks	HRSD
USA	Y	30	100.0	40.9 (11.8)	N	Mild	Physical activity counselling	10	4	600	Post, 14 weeks	HRSD
Vieira 2007												
Brazil	N	9	100.0	43.66 (NA)	N	Severe	Usual care	12	NA	NA	Post, 24 weeks	HAM-D

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Brazil	N	9	100.0	43.66 (NA)	N	Severe	Mixed aerobic exercises	12	7	700	Post, 24 weeks	HAM-D

Vollbehr 2022

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
The Netherlands	Y	83	100.0	24.9 (4.36)	Y	Severe	Usual care	NA	NA	NA	4 weeks, 17 weeks, 43 weeks	DASS, HDRS
The Netherlands	Y	87	100.0	25.2 (4.9)	Y	Severe	Yoga + psychoeducation	9	2	225	4 weeks, 17 weeks, 43 weeks	DASS, HDRS

Wadden 2014

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	Y	452	60.0	58.7 (6.8)	Y	Mild	Educational	NA	NA	NA	Post, 208 weeks	BDI
USA	Y	480	60.0	58.7 (6.8)	Y	Mild	Mixed aerobic exercises	208	4	387	Post, 208 weeks	BDI

Walter 2023

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	Y	48	46.0	29.3 (6.2)	N	Moderate	Surfing	6	3	3780	Post, 6 weeks	MADRS, PHQ-9
USA	Y	48	58.0	27 (4.8)	N	Moderate	Walking / Jogging	6	6	7560	Post, 6 weeks	MADRS, PHQ-9

Weinstock 2016

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	Y	5	100.0	NA	N	Moderate	Educational	10	NA	NA	Post	QIDS-CR
USA	Y	9	56.0	NA	N	Moderate	Yoga	10	2	400	Post	QIDS-CR

Whiddon 2013

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	N	14	82.0	NA	N	Severe	Waitlist control	8	NA	NA	Post	BDI-II
USA	N	12	96.0	NA	N	Severe	Yoga	8	2	675	Post	BDI-II

Williams 2008

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	Y	12	89.0	87.9 (5.95)	N	Moderate	Social	16	NA	NA	Post	CSDD
USA	Y	16	89.0	87.9 (5.95)	N	Moderate	Aerobic + Strength	16	5	692	Post	CSDD
USA	Y	17	89.0	87.9 (5.95)	N	Moderate	Walking / Jogging	16	4	645	Post	CSDD

Woolery 2004

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
USA	Y	13	79.0	21.5 (3.23)	N	Mild	Waitlist control	NA	NA	NA	Post	BDI
USA	Y	10	79.0	21.5 (3.23)	N	Mild	Yoga	5	2	300	Post	BDI

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities		Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
Wunram 2018													
Germany	Y	22	70.0	15.9 (1.1)	N	Moderate		Usual care	6	NA	NA	Post, 8 weeks, 20 weeks	DIKJ
Germany	Y	20	77.0	15.9 (1.1)	N	Moderate		Cycling	6	5	648	Post, 8 weeks, 20 weeks	DIKJ
Germany	Y	21	73.0	15.9 (1.1)	N	Moderate		Whole body vibration	6	4	NA	Post, 8 weeks, 20 weeks	DIKJ
Yagli 2015													
Turkey	N	10	100.0	NA	N	Moderate		Aerobic + Strength	8	5	534	Post	BDI
Turkey	N	10	100.0	NA	N	Moderate		Yoga	8	2	300	Post	BDI
Yang 2021													
China	Y	40	42.0	NA	Y	Mild		Usual care	NA	NA	NA	Post	SDS
China	Y	40	40.0	NA	Y	Mild		Tai-chi / Qigong	4	2	188	Post	SDS
Yeung 2012													
USA	Y	13	NA	55 (10)	N	Mild		Waitlist control	12	NA	NA	Post	HAM-D
USA	Y	26	58.0	55 (10)	N	Moderate		Tai-chi / Qigong	12	2	300	Post	HAM-D
Yeung 2017													
USA	Y	22	36.0	54 (13)	N	Moderate		Educational	12	NA	NA	Post	BDI, HAM-D
USA	Y	22	36.0	54 (13)	N	Moderate		Waitlist control	NA	NA	NA	Post	BDI, HAM-D
USA	Y	23	35.0	54 (13)	N	Moderate		Tai-chi / Qigong	12	2	300	Post	BDI, HAM-D
Zeibig 2021													
Germany	Y	36	75.0	34.33 (12.39)	Y	Unclear		Waitlist control	NA	NA	NA	Post, 40 weeks	SCL-90-R
Germany	Y	36	69.0	37.33 (14.23)	Y	Unclear		Mixed aerobic exercises	12	8	619	Post, 40 weeks	SCL-90-R
Zhao 2023													

Country	Funded	n	% Female	Mean Age (SD/Range)	Comorbidities	Baseline Depression	Treatment	Length (weeks)	Intensity prescribed (METs)	Exercise dose (METs/week)	Timepoints available	Outcomes measured
China	Y	28	71.0	21.21 (2.25)	N	Moderate	Waitlist control	NA	NA	NA	Post, 4 weeks	SDS
China	Y	29	72.0	20.72 (2.05)	N	Moderate	Mixed aerobic exercises	12	7	840	Post, 4 weeks	SDS
China	Y	29	69.0	21.66 (1.97)	N	Moderate	Strength	12	5	600	Post, 4 weeks	SDS
Zou 2005												
China	N	31	NA	(65-80)	N	Severe	Yoga	8	4	1670	Post, 24 weeks	BDI, HAM-D, SCL-90-R
China	N	30	NA	(65-80)	N	Severe	SSRI	8	NA	NA	Post, 24 weeks	BDI, HAM-D, SCL-90-R

S4 Characteristics of treatments meeting participant threshold

Treatment	k	n	Countries	Percent of studies with					Mean (SD)			
				Participants with comorbidities	Group exercise prescriptions	Mild baseline depression	Moderate baseline depression	Severe baseline depression	Age	Percent Female	Intensity (METs)	Duration (mins/week)
Active control	114	3,593	Australia, Brazil, Canada, China, Colombia, Croatia, Denmark, Finland, France, Germany, Hong Kong, India, Iran, Israel, Italy, Japan, Malaysia, New Zealand, Nigeria, Norway, Portugal, Saudi Arabia, South Korea, Spain, Sweden, Switzerland, Taiwan, The Netherlands, Turkey, UK, USA	28.07	NA	32	44	24	44.75 (17.78)	72.72 (22.54)	NA	NA
Aerobic + Strength	28	1,036	Australia, Brazil, Canada, China, Germany, Greece, Italy, South Korea, Sweden, Taiwan, The Netherlands, Turkey, UK, USA	25.00	64.29	36	46	18	49.78 (19.6)	68.64 (21.94)	4.71 (1.63)	137.53 (60.84)
Aerobic + Therapy	15	404	China, Finland, Germany, Iran, South Korea, Sweden, UK, USA	20.00	NA	27	67	7	46.12 (16.34)	68.96 (21.04)	NA	145 (38.73)
Cognitive behavioural therapy	20	712	Germany, Iran, Sweden, Taiwan, UK, USA	30.00	NA	15	65	10	47.02 (16.46)	66.06 (19.75)	NA	NA

Treatment	k	n	Countries	Percent of studies with					Mean (SD)			
				Participants with comorbidities	Group exercise prescriptions	Mild baseline depression	Moderate baseline depression	Severe baseline depression	Age	Percent Female	Intensity (METs)	Duration (mins/week)
Cycling	11	243	Denmark, Germany, Switzerland, USA	9.09	72.73	27	18	55	26.4 (11.52)	53.18 (31.58)	5.57 (1.44)	138.27 (35.26)
Dance	5	107	China, Iran, South Korea, USA	20.00	80.00	20	40	20	30.83 (19.19)	88.02 (16.71)	5.88 (1.72)	155.97 (136.02)
Exercise + SSRI	11	268	Brazil, China, Denmark, Iran, Italy, Portugal, USA	27.27	NA	9	45	45	57.67 (14.63)	70.25 (21.79)	NA	222.84 (155.88)
Mixed aerobic exercises	49	1,253	Australia, Brazil, Canada, China, Colombia, Denmark, France, Germany, India, Iran, Italy, New Zealand, Norway, Spain, Sweden, Switzerland, Turkey, UK, USA	18.37	63.27	18	55	24	36.65 (11.77)	75.25 (24.27)	5.68 (1.5)	139.11 (50.88)
Physical activity counselling	4	256	Switzerland, UK, USA	50.00	0.00	25	50	25	41.19 (0.51)	78.44 (20.05)	4 (0)	150 (0)
Relaxation	6	234	China, Denmark, Germany, USA	16.67	NA	50	0	50	38.91 (16.08)	78.12 (20.28)	NA	NA
SSRI	16	432	Brazil, China, France, India, Iran, Italy, Portugal, USA	31.25	NA	25	31	44	58.1 (14.19)	68.8 (19.13)	NA	NA
Strength	21	625	Australia, Brazil, China, Denmark, Germany, India, Japan, Norway, UK, USA	38.10	61.90	24	52	24	50.66 (21.28)	58.96 (24.85)	3.68 (0.96)	147.5 (54.15)

Treatment	k	n	Countries	Percent of studies with					Mean (SD)			
				Participants with comorbidities	Group exercise prescriptions	Mild baseline depression	Moderate baseline depression	Severe baseline depression	Age	Percent Female	Intensity (METs)	Duration (mins/week)
Tai-chi / Qigong	12	343	China, Germany, Malaysia, Taiwan, USA	50.00	83.33	33	50	17	59.43 (18.1)	59.64 (18.15)	2.6 (0.35)	150.02 (92.02)
Waitlist control	53	1,303	Australia, Brazil, Canada, China, France, Germany, Greece, India, Iran, South Korea, Sweden, Taiwan, Thailand, Turkey, UK, USA	18.87	NA	30	45	19	40.6 (16.99)	76.46 (24.45)	NA	NA
Walking / Jogging	50	1,200	Australia, China, France, Germany, Hong Kong, Iran, Israel, Japan, Nigeria, Norway, Portugal, Saudi Arabia, The Netherlands, UK, USA	14.00	44.00	28	58	12	44.08 (16.99)	75.44 (25.69)	4.57 (0.82)	156.2 (177.86)
Yoga	33	1,047	Australia, Canada, China, Croatia, Germany, India, Sweden, Taiwan, Turkey, UK, USA	27.27	90.91	27	52	18	38.55 (12.51)	76.55 (22.07)	2.71 (0.59)	202.61 (169.84)

S5 Risk of bias ratings for individual studies

Author, Year	Sequence generation	Allocation concealment	Blinding participants	Blinding personnel	Blinding outcome assessment	Incomplete outcome	Selective reporting	Other bias	Overall bias
Abdelbasset 2019	Low	Unclear	Unclear	Unclear	Low	Low	Unclear	High	High
Abdelbasset 2020	Low	Low	Unclear	Unclear	Low	Low	Unclear	Low	Unclear
Abdollahi 2017	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear	Unclear	Unclear
Abedi 2015	High	High	High	High	Unclear	Low	Low	Low	High
Abt 2006	Unclear	Low	Low	High	Low	Unclear	Unclear	Low	High
Aguinaga 2018	Low	Low	Unclear	Unclear	Unclear	Unclear	Low	Low	Unclear
Armstrong 2003	Low	Low	High	High	High	Unclear	Unclear	Low	High
Armstrong 2004	Low	Low	High	High	High	Low	Unclear	High	High
Balchin 2016	Unclear	Unclear	High	Unclear	Low	High	Unclear	Unclear	High
Beffert 1994	Unclear	Unclear	High	Unclear	Unclear	Low	Unclear	Low	High
BelvederiMurri 2015	Low	Low	High	High	Low	Unclear	Unclear	Low	High
Bhandari 2022	Low	Unclear	Unclear	Unclear	Unclear	Low	Low	Low	Unclear
Bieber 2021	Low	Unclear	Unclear	Low	Low	Unclear	Unclear	Low	Unclear
Blumenthal 1999	Unclear	Low	Unclear	Unclear	Low	Low	Low	Low	Unclear
Blumenthal 2007	Low	Low	High	High	Low	Low	Low	Low	High
Blumenthal 2012	Low	Low	Unclear	Low	Low	Low	High	Low	High
Bombardier 2013	Low	Low	High	High	Low	Low	Unclear	Low	High
Bonnet 2006	Unclear	Unclear	Unclear	High	High	High	Unclear	Low	High
Bosscher 1993	Unclear	Unclear	High	High	High	High	Unclear	Low	High
Brenes 2007	Low	Unclear	Unclear	Unclear	Low	Unclear	Unclear	Low	Unclear
Bressington 2019	Low	Low	Unclear	Unclear	Unclear	Low	Low	Low	Unclear
Briggs 2017	Low	Low	Unclear	Low	Low	Low	Low	Low	Unclear
Brown 1992	Unclear	Unclear	Unclear	Unclear	Unclear	High	Unclear	High	High
Brush 2022	Low	Low	Unclear	Unclear	Unclear	Low	Unclear	Low	Unclear
Buschert 2018	Unclear	Unclear	Unclear	Unclear	Unclear	High	Unclear	Low	High
Butler 2008	High	High	High	High	Low	Unclear	Unclear	Low	High
Buttner 2015	Low	Low	Unclear	Unclear	Low	Low	Low	High	High

Author, Year	Sequence generation	Allocation concealment	Blinding participants	Blinding personnel	Blinding outcome assessment	Incomplete outcome	Selective reporting	Other bias	Overall bias
Callaghan 2011	Low	Low	Unclear	High	High	Low	Low	Low	High
Carneiro 2015	Low	Low	High	High	High	High	Low	Low	High
Carter 2015	Low	Low	High	High	Low	Low	Low	Low	High
Cecchini-Estrada 2015	Unclear	Unclear	Low	Unclear	Unclear	Unclear	Unclear	Low	Unclear
Chalder 2012	Low	Low	High	High	High	Low	Low	Low	High
Chan 2012	Unclear	Low	Unclear	Low	Low	High	Low	Low	High
Chang 2018	Low	Unclear	Unclear	Unclear	Low	Low	High	Low	High
Cheng 2012	Unclear	Unclear	High	High	Unclear	Low	Low	Low	High
Cheng 2016	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear
Cheung 2018	Unclear	Low	High	High	Low	Low	Low	Low	High
Chin 2022	Low	Low	Unclear	Unclear	Low	High	Unclear	Low	High
Chou 2004	Unclear	Unclear	High	Unclear	Low	Low	Unclear	Low	High
Chu 2009	Low	Unclear	Unclear	High	High	High	Unclear	Low	High
Chu 2017	Low	Unclear	High	Low	Low	Low	Low	Low	High
Chu 2018	Unclear	Unclear	High	High	High	High	Low	Low	High
Ciccolo 2022	Low	Low	High	High	Low	Low	Low	Low	High
Cody 2023	Low	Low	Low	High	High	High	Low	Low	High
Cohen-Kahn 1995	Unclear	Unclear	Unclear	Unclear	High	High	Unclear	Low	High
Cooney 2018	High	High	High	High	Unclear	Low	Low	Low	High
Craft 2007	Unclear	Unclear	Unclear	Low	Unclear	Low	Low	Low	Unclear
D'Amato 1990	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear	Low	Unclear
Da Costa 2009	Low	Low	High	Unclear	Low	Unclear	Unclear	High	High
Daley 2008	Low	Low	Unclear	High	Unclear	Low	Unclear	Low	High
Daley 2015	Low	Low	High	High	High	Low	Unclear	High	High
DanHauer 2022	Low	Unclear	High	Unclear	Unclear	Low	Low	Low	High
Danielsson 2014	Unclear	Low	Low	Low	Low	Low	Unclear	Low	Unclear
Davis 2014	Low	Low	High	Unclear	High	Low	Unclear	Low	High
de Groot 2019	Low	Low	Unclear	Unclear	Low	High	Low	Low	High

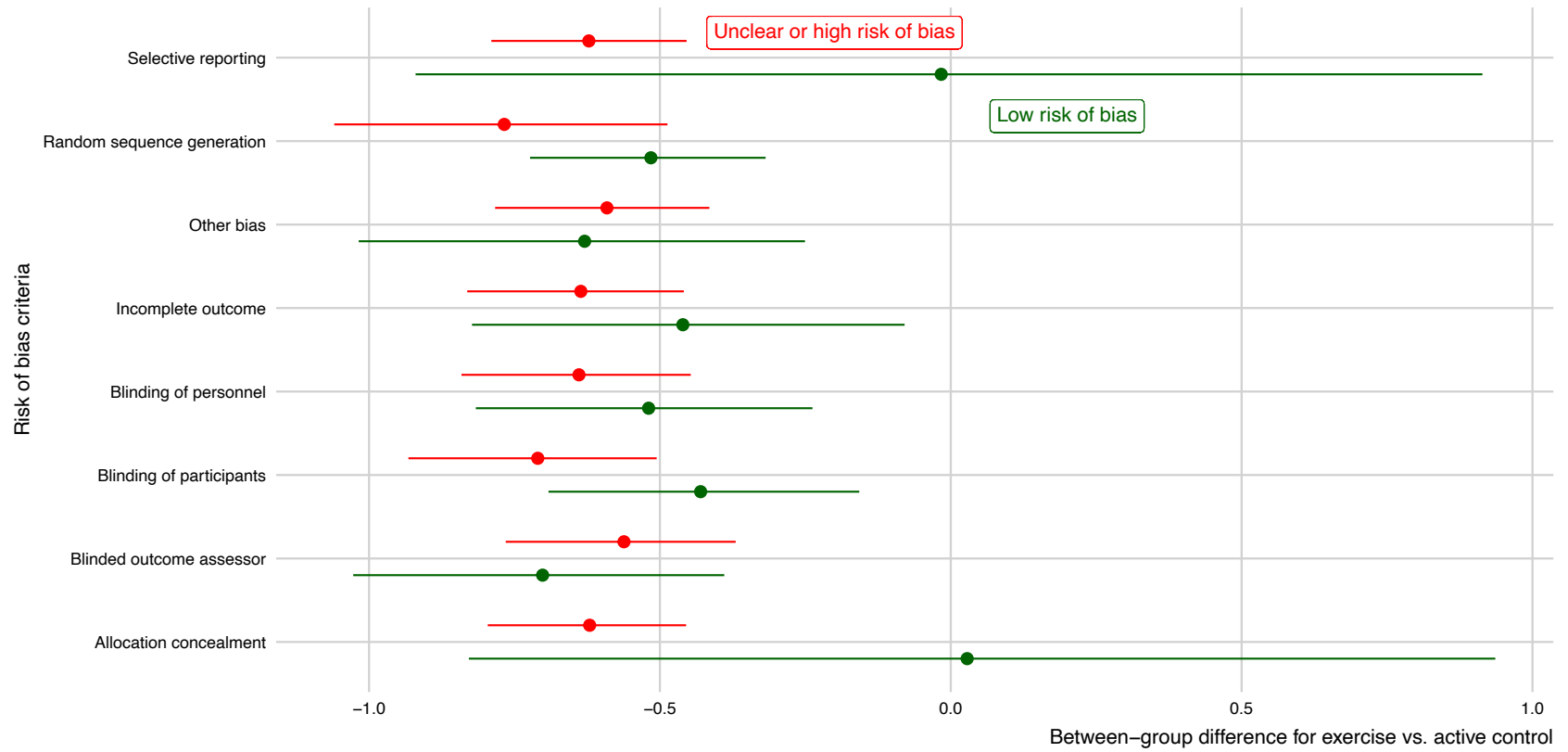| Author, Year	Sequence generation	Allocation concealment	Blinding participants	Blinding personnel	Blinding outcome assessment	Incomplete outcome	Selective reporting	Other bias	Overall bias
de Manincor 2016	Low	Low	Low	Low	Low	Low	Low	Low	Low
Deus 2021	Low	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear
Dopp 2018	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear
Doyne 1987	Unclear	High	High	Unclear	High	High	Unclear	Low	High
Dunn 2002	Low	Low	High	Unclear	Low	High	Low	Low	High
Epstein 1986	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear
Euteneuer 2017	Low	Low	Low	Low	Low	Low	Unclear	Low	Unclear
Fetsch 1980	Low	High	High	High	High	High	Unclear	Low	High
Field 2012	Unclear	Unclear	Unclear	Unclear	Low	High	Unclear	Low	High
Field 2013	Low	Unclear	Unclear	Unclear	Low	Unclear	Unclear	Low	Unclear
Foley 2008	Unclear	Unclear	High	Unclear	High	High	Unclear	Unclear	High
Forsyth 2017	Low	Low	Unclear	Unclear	Low	Low	Unclear	Low	Unclear
Fremont 1987	Unclear	Unclear	High	High	High	High	Unclear	Low	High
Gao 2016	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Low	Low	Unclear
García-Toro 2012	High	Low	Unclear	Unclear	High	Unclear	Low	High	High
Gary 2010	Unclear	Unclear	Unclear	High	Low	Low	Unclear	Low	High
Gautam 2019	Low	Low	Unclear	Low	Unclear	Low	Unclear	Low	Unclear
Goracci 2016	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Low	Low	Unclear
Greer 2015	Unclear	Unclear	Unclear	Unclear	Low	Low	Low	Low	Unclear
Gujral 2019	Unclear	Unclear	Unclear	Unclear	Low	High	Unclear	Low	High
Guo 2020	Low	Low	Unclear	Unclear	Unclear	Low	Low	Low	Unclear
Hallgren 2015	Low	Low	High	Unclear	Low	High	Low	High	High
Hanssen 2018	Low	Unclear	Unclear	Unclear	Unclear	High	Unclear	High	High
Haussleiter 2020	Unclear	Unclear	Unclear	Unclear	High	Low	Unclear	Low	High
Heh 2008	High	High	Unclear	Unclear	Low	Low	Unclear	Low	High
Heinzel 2022	Low	Low	Low	High	Unclear	Low	Low	Low	High
Heissel 2015	Unclear	Unclear	High	Unclear	Unclear	Low	Unclear	Unclear	High
Hemat-Far 2012	Unclear	Unclear	Unclear	Unclear	High	Unclear	Low	High	High

Author, Year	Sequence generation	Allocation concealment	Blinding participants	Blinding personnel	Blinding outcome assessment	Incomplete outcome	Selective reporting	Other bias	Overall bias
Hess-Homeier 1981	Unclear	High	High	High	High	High	Unclear	Low	High
Ho 2014	Low	Low	High	High	Low	Low	Unclear	High	High
Hoffman 2010	Low	Low	Unclear	Unclear	High	Low	Unclear	Low	High
Huang 2015	Low	Low	Unclear	Unclear	Low	Low	Unclear	Low	Unclear
Hughes 2013	Low	Low	Unclear	Unclear	Low	High	Low	Low	High
Imboden 2020	Low	Low	Low	Low	Low	Unclear	Unclear	Low	Unclear
Irandoust 2019	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear	High	High
Jelalian 2019	Low	Low	Unclear	Unclear	Unclear	High	High	Unclear	High
Jeong 2005	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear	Low	Unclear
Jin 2019	Unclear	Unclear	Unclear	Unclear	High	Unclear	Unclear	Low	High
Jing 2022	Unclear	Unclear	Unclear	Unclear	Unclear	High	Low	Low	High
Joyce 2021	Low	Low	High	High	High	Low	Low	Low	High
Kanner 1991	Unclear	Unclear	Low	Unclear	High	High	Unclear	Low	High
Kerling 2015	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear	Unclear	Unclear
Khoshnab 2017	Unclear	High	High	Unclear	High	Unclear	Unclear	High	High
Kim 2022	Low	Low	High	Unclear	Low	Low	Unclear	Low	High
Klein 1984	Unclear	High	Unclear	Unclear	High	High	Unclear	Unclear	High
Knubben 2007	Low	Low	Unclear	Unclear	Low	Unclear	Unclear	Low	Unclear
Kouidi 2010	Unclear	Unclear	Unclear	Unclear	High	Low	Unclear	Low	High
Krogh 2009	Low	Low	Unclear	Unclear	Low	Low	Low	Low	Unclear
Krogh 2012	Low	Low	High	High	Low	Unclear	Unclear	High	High
Kruisdijk 2019	Low	Low	High	Unclear	Low	Unclear	Unclear	High	High
Kuvačić 2018	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear	Low	Unclear
Lanza 2018	Low	Low	High	Unclear	High	Low	Unclear	Low	High
LaRocque 2021	Low	Low	High	Unclear	Low	Low	Low	Low	High
Lavretsky 2011	Low	Low	High	Unclear	Low	Low	Unclear	Low	High
Lavretsky 2022	Low	Unclear	Low	Low	Low	Low	Low	Low	Unclear
Lee 2020	Low	Low	Unclear	Unclear	Unclear	Low	Unclear	Low	Unclear

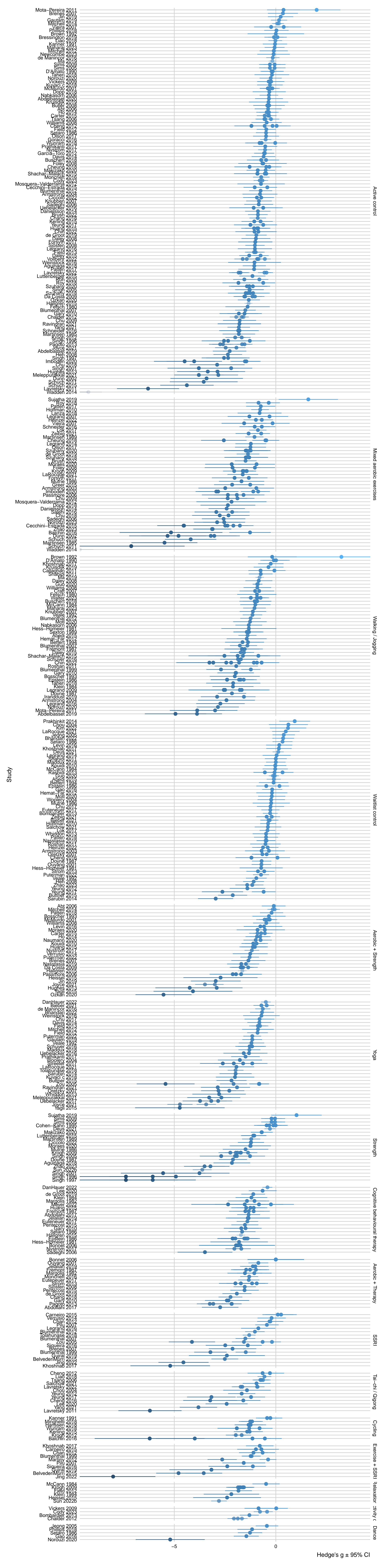| Author, Year	Sequence generation	Allocation concealment	Blinding participants	Blinding personnel	Blinding outcome assessment	Incomplete outcome	Selective reporting	Other bias	Overall bias
Legrand 2007	Unclear	Unclear	High	Unclear	High	Low	Unclear	Low	High
Legrand 2009	Unclear	Unclear	Unclear	High	High	High	Unclear	Low	High
Legrand 2014	Low	Low	High	Unclear	Unclear	High	Unclear	Low	High
Legrand 2016	Low	Unclear	High	High	High	Low	Low	Low	High
Levin 2016	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear
Liao 2018	Low	Low	High	Unclear	High	Low	Low	Low	High
Lok 2017	Low	Low	Low	High	High	Low	Unclear	Low	High
Lu 2022	Low	High	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	High
Luttenberger 2015	Low	High	Unclear	Unclear	Unclear	Low	Low	Low	High
Ma 2019	Low	Low	Unclear	Low	Low	High	Low	Low	High
Maddux 2018	Unclear	Low	High	Low	Unclear	Low	Unclear	Low	High
Maharaj 2023	Low	Unclear	High	High	Low	Low	Unclear	Low	High
Makizako 2020	Low	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Low	Unclear
Margolis 1982	Unclear	High	High	Unclear	High	Low	Unclear	Low	High
Martinsen 1985	Unclear	Unclear	High	High	High	Unclear	Unclear	Low	High
Martinsen 1989	Unclear	Unclear	Unclear	Unclear	Low	Low	Unclear	Low	Unclear
Martiny 2012	Low	Low	High	Low	Low	Low	Low	High	High
McCann 1984	Unclear	Unclear	Unclear	Unclear	High	High	Unclear	Low	High
McMurdo 2001	Low	Low	Unclear	Unclear	Low	Low	Unclear	Low	Unclear
Meleppurakkal 2021	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear
Meyer 2022	Low	Low	High	Unclear	Low	Low	Unclear	High	High
Minghetti 2018	Unclear	Unclear	Low	Unclear	High	Low	Unclear	Low	High
Mitchell 2012	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear	Unclear	Unclear
Mitchell 2014	Low	High	High	High	Unclear	Low	Low	Low	High
Moncrieft 2016	Low	Unclear	High	Unclear	High	High	Unclear	Unclear	High
Moraes 2020	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Low	Low	Unclear
Mosquera-Valderrama 2012	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear	Low	Unclear

Author, Year	Sequence generation	Allocation concealment	Blinding participants	Blinding personnel	Blinding outcome assessment	Incomplete outcome	Selective reporting	Other bias	Overall bias
Mota-Pereira 2011	Unclear	Unclear	Unclear	High	Low	Low	Low	High	High
Motl 2020	Low	Low	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear
Mutrie 1986	Low	Unclear	Low	High	Unclear	High	Unclear	Low	High
Nabkasorn 2006	Unclear	Unclear	Unclear	Unclear	High	High	Unclear	Low	High
Nasstasia 2019	Low	Low	Unclear	Low	Low	Unclear	Low	Low	Unclear
Naumann 2020	Low	Low	Unclear	Unclear	High	High	Low	Low	High
Newcombe 2023	Low	Unclear	High	Unclear	High	Low	Unclear	Low	High
Norouzi 2020	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear	Low	Unclear
Norouzi 2023	Low	Low	Low	High	High	Low	High	Low	High
Nyström 2017	Low	Low	Unclear	High	High	Low	Low	Low	High
Olson 2017	Low	Low	Unclear	Unclear	High	Low	Unclear	Low	High
Oretzky 2007	Unclear	High	High	High	High	Low	Unclear	Low	High
Ouyang 2001	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear
Ozkan 2020	Low	Unclear	Unclear	Unclear	Unclear	High	Low	Unclear	High
Pagoto 2013	Low	Low	Unclear	Unclear	Low	Low	Low	Unclear	Unclear
Passmore 2006	Unclear	Unclear	High	High	High	Low	Unclear	Unclear	High
Patten 2017	Unclear	Low	High	High	High	Low	Low	Low	High
Patten 2018	Unclear	Unclear	Unclear	Unclear	High	High	Unclear	Low	High
Pentecost 2015	Low	Low	High	Low	High	High	High	Low	High
Phillips 2018	Low	Unclear	Low	Unclear	Low	Low	Unclear	Low	Unclear
Pilu 2007	Unclear	Unclear	Unclear	Unclear	Unclear	Low	High	Low	High
Prakhinkit 2014	Low	Low	Unclear	Unclear	Unclear	Low	Unclear	Low	Unclear
Prathikanti 2017	Low	Low	High	High	High	Low	Low	Low	High
Puterman 2022	Low	Low	Unclear	Unclear	Unclear	Low	Low	Low	Unclear
Rashidi 2013	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear
Ravindran 2021	Low	Unclear	High	Unclear	Low	Low	Unclear	High	High
Roh 2020	Low	Low	Low	High	Low	Low	Unclear	Low	High
Roshan 2011	Unclear	Unclear	Unclear	Unclear	Unclear	High	Low	Low	High

Author, Year	Sequence generation	Allocation concealment	Blinding participants	Blinding personnel	Blinding outcome assessment	Incomplete outcome	Selective reporting	Other bias	Overall bias
Roy 2018	Unclear	Unclear	High	High	High	Low	Unclear	Low	High
Sadeghi 2006	Unclear	Unclear	High	High	High	Unclear	Low	Low	High
Salchow 2021	Low	Unclear	High	Unclear	Unclear	High	Low	Low	High
Salehi 2016	Low	Low	High	Low	High	Low	High	Low	High
Sarubin 2014	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear
Schneider 2016	Low	Low	High	High	High	Low	High	High	High
Schuch 2011	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear	Low	Unclear
Schuch 2015	Unclear	Low	High	High	Low	Low	Low	Low	High
Schuver 2016	Low	Unclear	High	Low	High	Unclear	Low	Low	High
Setaro 1986	Unclear	Unclear	Unclear	Unclear	High	High	Unclear	High	High
Sexton 1989	Unclear	Unclear	Unclear	Unclear	High	High	Unclear	Low	High
Shachar-Malach 2015	Low	Low	High	Unclear	Low	Low	Low	Low	High
Shahidi 2011	Unclear	Unclear	Unclear	Unclear	High	High	Unclear	Low	High
Sims 2005	Low	Low	Unclear	Unclear	Unclear	Low	Unclear	Low	Unclear
Sims 2009	Low	Low	Unclear	Unclear	High	Low	Unclear	High	High
Singh 1996	Low	Unclear	Low	High	Low	Low	Unclear	High	High
Singh 1997	Low	Low	Unclear	Unclear	High	Low	Unclear	Low	High
Singh 2001	Low	Low	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear
Singh 2005	Low	Low	Low	Unclear	Low	Low	Unclear	Low	Unclear
Siqueira 2016	Low	Unclear	Unclear	Low	High	Unclear	Unclear	High	High
Sjösten 2008	Low	Low	Unclear	Unclear	Unclear	Low	High	Low	High
Streeter 2017	Low	Low	Unclear	Unclear	Unclear	Low	Unclear	Low	Unclear
Strom 2013	Low	Low	High	High	High	High	Low	Low	High
Sujatha 2019	Unclear	Unclear	Unclear	Unclear	High	Unclear	Unclear	High	High
Sun 2022a	Low	Low	High	Unclear	Low	Low	High	Low	High
Sun 2022b	Unclear	Unclear	High	Unclear	Low	Low	Unclear	Low	High
Szuhany 2018	Low	Low	Unclear	Unclear	Unclear	Low	Unclear	Low	Unclear
Szuhany 2020	Unclear	Unclear	Unclear	Unclear	Low	Low	Low	Low	Unclear

Author, Year	Sequence generation	Allocation concealment	Blinding participants	Blinding personnel	Blinding outcome assessment	Incomplete outcome	Selective reporting	Other bias	Overall bias
Taheri 2018	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear	Low	Unclear
Tolahunase 2018	Low	Low	High	Unclear	Low	Low	Unclear	Low	High
Tsang 2006	Unclear	Unclear	Unclear	Unclear	Low	Unclear	Unclear	High	High
Uebelacker 2016	Unclear	Unclear	Unclear	Unclear	High	High	Unclear	Low	High
Uebelacker 2017	Low	Low	High	High	Low	Low	Low	Low	High
Veale 1992	Unclear	Unclear	Unclear	Unclear	High	High	Unclear	Low	High
Verrusio 2014	Low	Low	High	Unclear	High	Low	Unclear	Low	High
Vickers 2009	Low	Low	Unclear	Unclear	Unclear	Low	Unclear	Low	Unclear
Vieira 2007	Unclear	Unclear	High	Unclear	Unclear	Low	High	Low	High
Vollbehr 2022	Low	Low	High	Low	Low	High	Low	Low	High
Wadden 2014	Low	Low	Unclear	Unclear	High	Low	Low	High	High
Walter 2023	Low	Unclear	Unclear	Unclear	Low	Low	Low	Low	Unclear
Weinstock 2016	Low	Unclear	High	High	Low	High	Unclear	Low	High
Whiddon 2013	Unclear	Unclear	High	Unclear	High	Low	Unclear	Low	High
Williams 2008	Unclear	Low	Unclear	Unclear	Low	Unclear	Unclear	Low	Unclear
Woolery 2004	Unclear	Unclear	Unclear	Unclear	High	Unclear	Unclear	Low	High
Wunram 2018	Low	Low	High	High	High	High	Low	High	High
Yagli 2015	High	Unclear	Unclear	Unclear	Unclear	Low	Unclear	Low	High
Yang 2021	Low	Low	High	Unclear	Unclear	Low	Low	Low	High
Yeung 2012	Low	Low	High	High	Low	Low	Unclear	Low	High
Yeung 2017	Low	Unclear	High	Unclear	Unclear	High	Low	Low	High
Zeibig 2021	Low	Low	High	High	Low	Unclear	Low	Low	High
Zhao 2023	Low	Unclear	High	Unclear	Low	Low	Unclear	Low	High
Zou 2005	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear	Unclear	Unclear

S6 Sensitivity Analyses for Risk of Bias

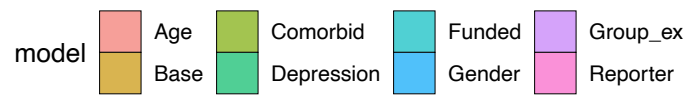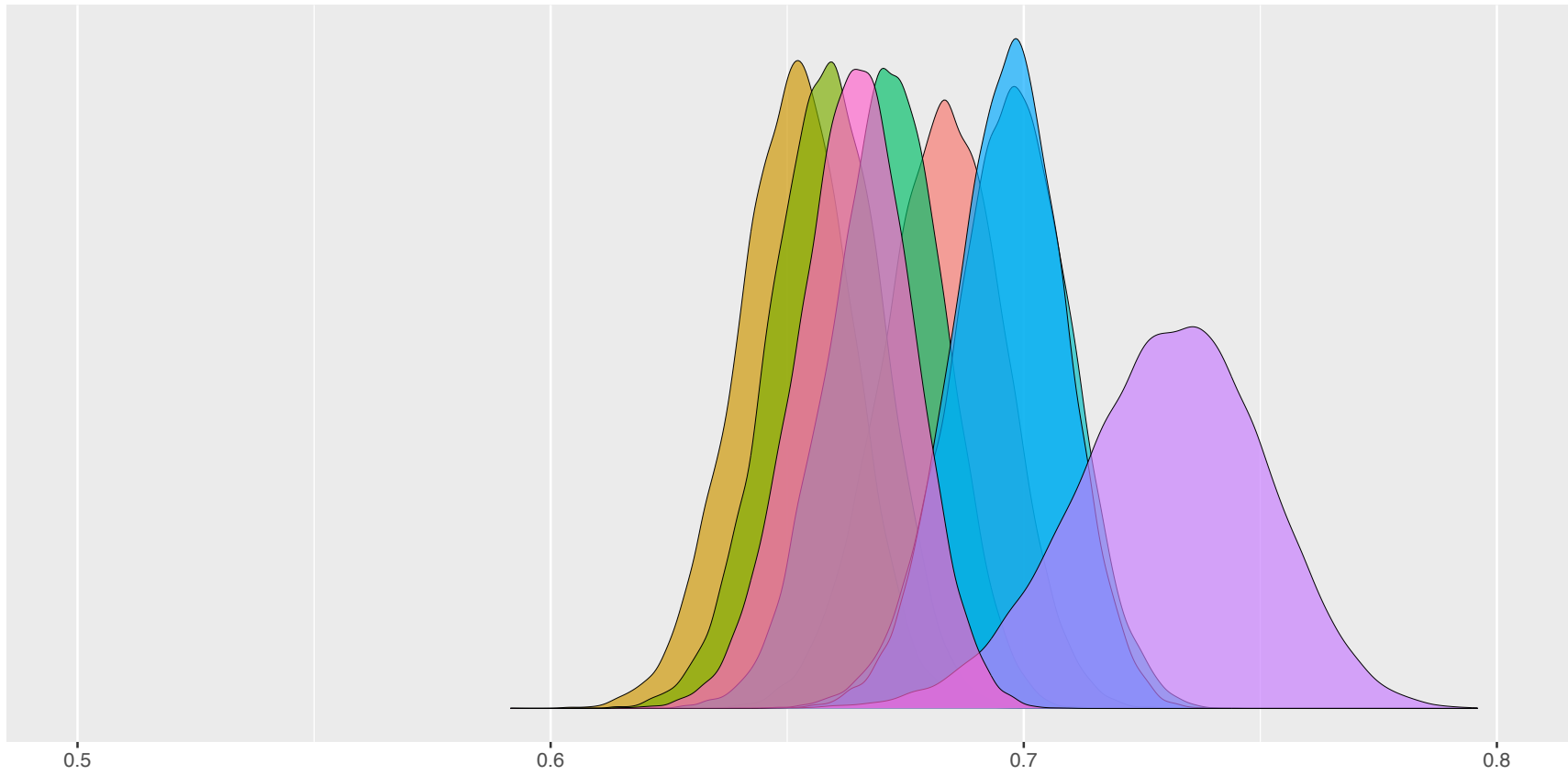**S7 Forest plot of each data point informing each arm**

Figure: Forest plot of Hedge's g ± 95% CI across studies, grouped by intervention type (Active control, Mixed aerobic exercises, Walking / Jogging, Waitlist control, Aerobic + Strength, Yoga, Strength, Cognitive behavioural therapy, Aerobic + Therapy, SSRI, Tai-chi / Qigong, Cycling, Exercise + SSRI, Relaxation / study control, Dance).

S8 Acceptability by treatment arm

Treatment	Direct Comparisons	Number of Participants	Comparison vs Active Control (Mantel-Haenszel Method)	OR	95%-CI
Relaxation	0	100		1.67	[0.90; 3.10]
Aerobic + Therapy	5	346		1.13	[0.76; 1.67]
Tai-chi / Qigong	3	178		1.05	[0.65; 1.72]
Physical activity counselling	3	325		0.99	[0.71; 1.38]
Aerobic + Strength	3	443		0.98	[0.69; 1.39]
Walking / Jogging	7	710		0.91	[0.66; 1.26]
Mixed aerobic exercises	10	841		0.90	[0.69; 1.17]
Cognitive behavioural therapy	3	616		0.84	[0.62; 1.15]
Exercise + SSRI	0	91		0.67	[0.30; 1.48]
SSRI	2	173		0.66	[0.33; 1.30]
Waitlist control	1	370		0.67	[0.44; 1.01]
Cycling	2	42		0.51	[0.20; 1.31]
Yoga	4	264		0.57	[0.35; 0.94]
Strength	6	247		0.55	[0.31; 0.99]

0.2   0.5   1   2   5

S9 Density plots for R^2 from models with interactions between treatment and moderators

R^2 distribution

model
Age
Base
Comorbid
Depression
Funded
Gender
Group_ex
Reporter
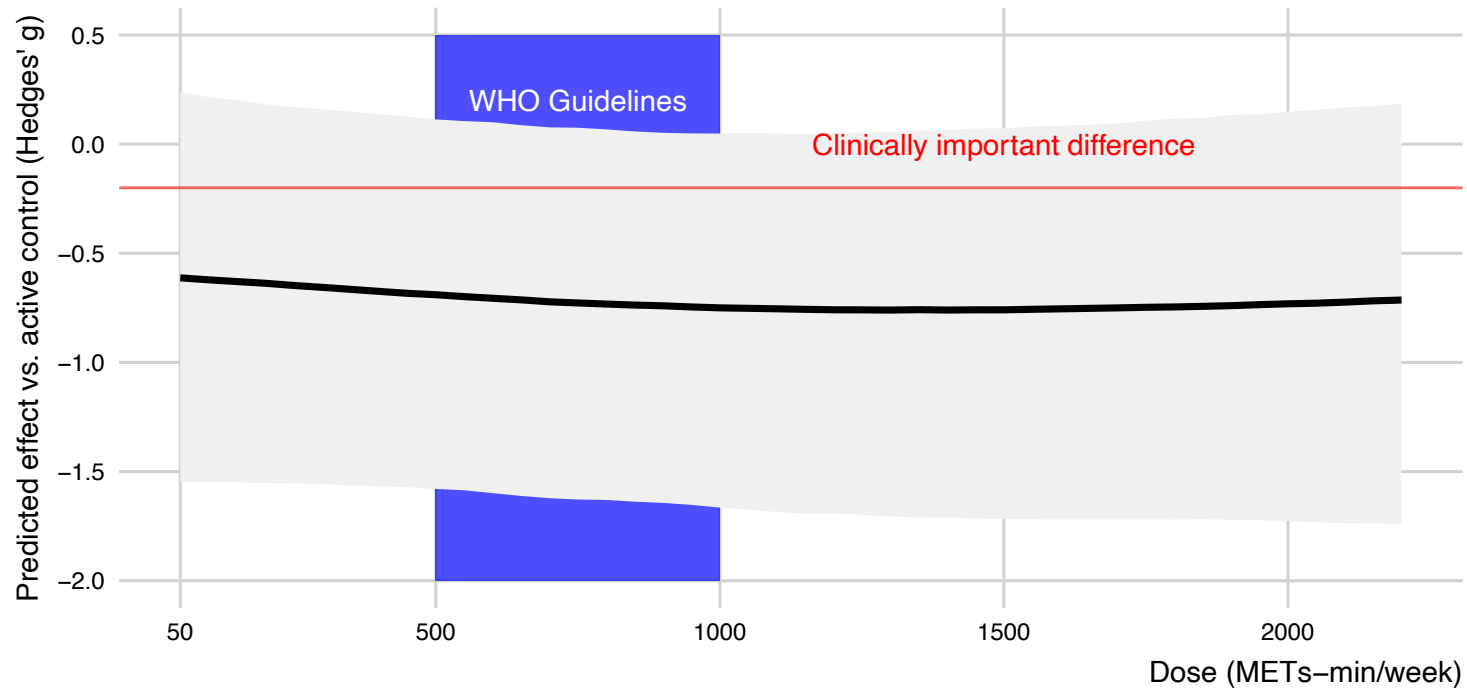
S11 Moderation for intervention effects by length of intervention in weeks

Clinically important difference

Predicted effect size (g)

Length of exercise program (weeks)
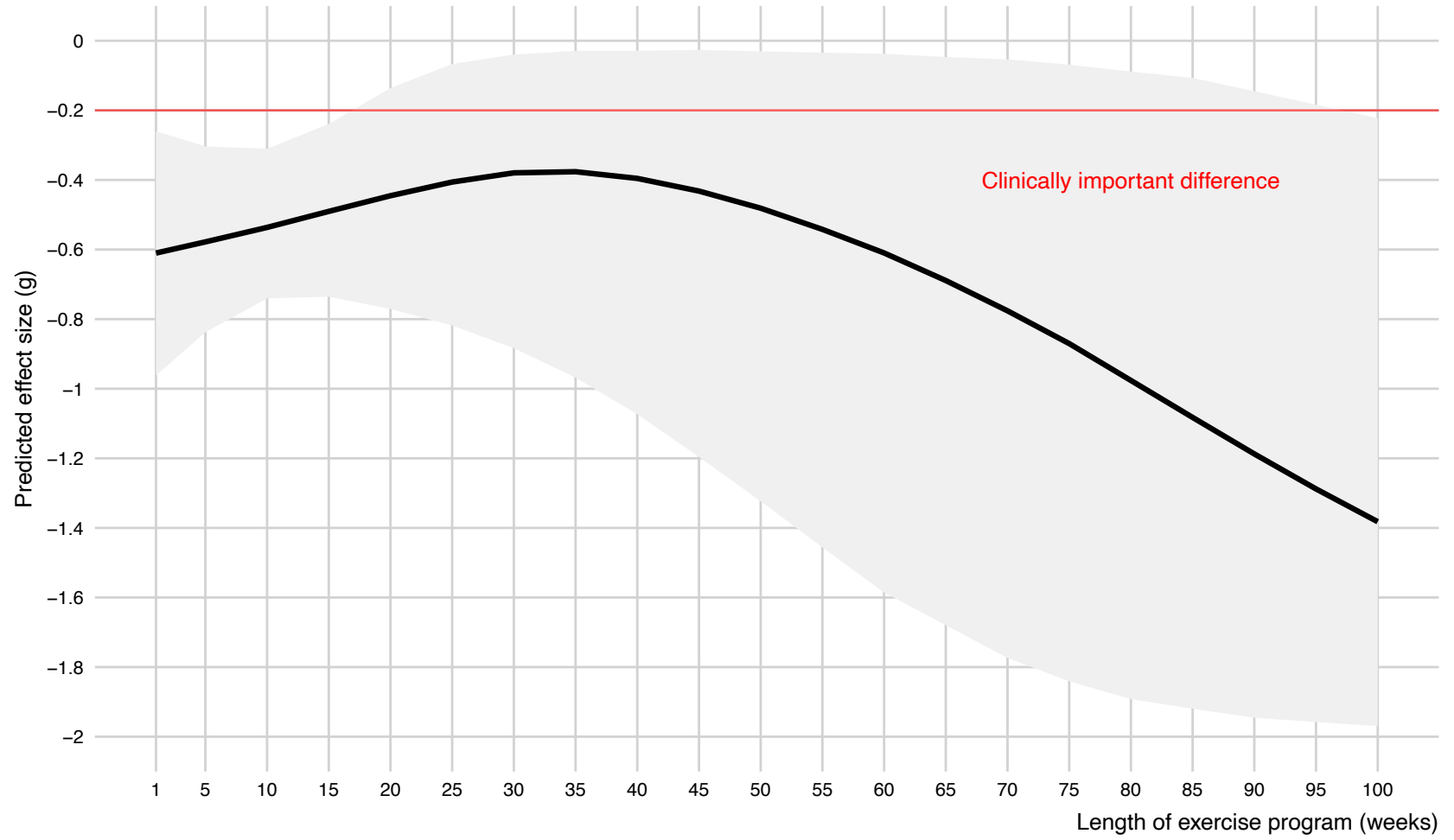
S12 Moderation for intervention effects by measurement lag
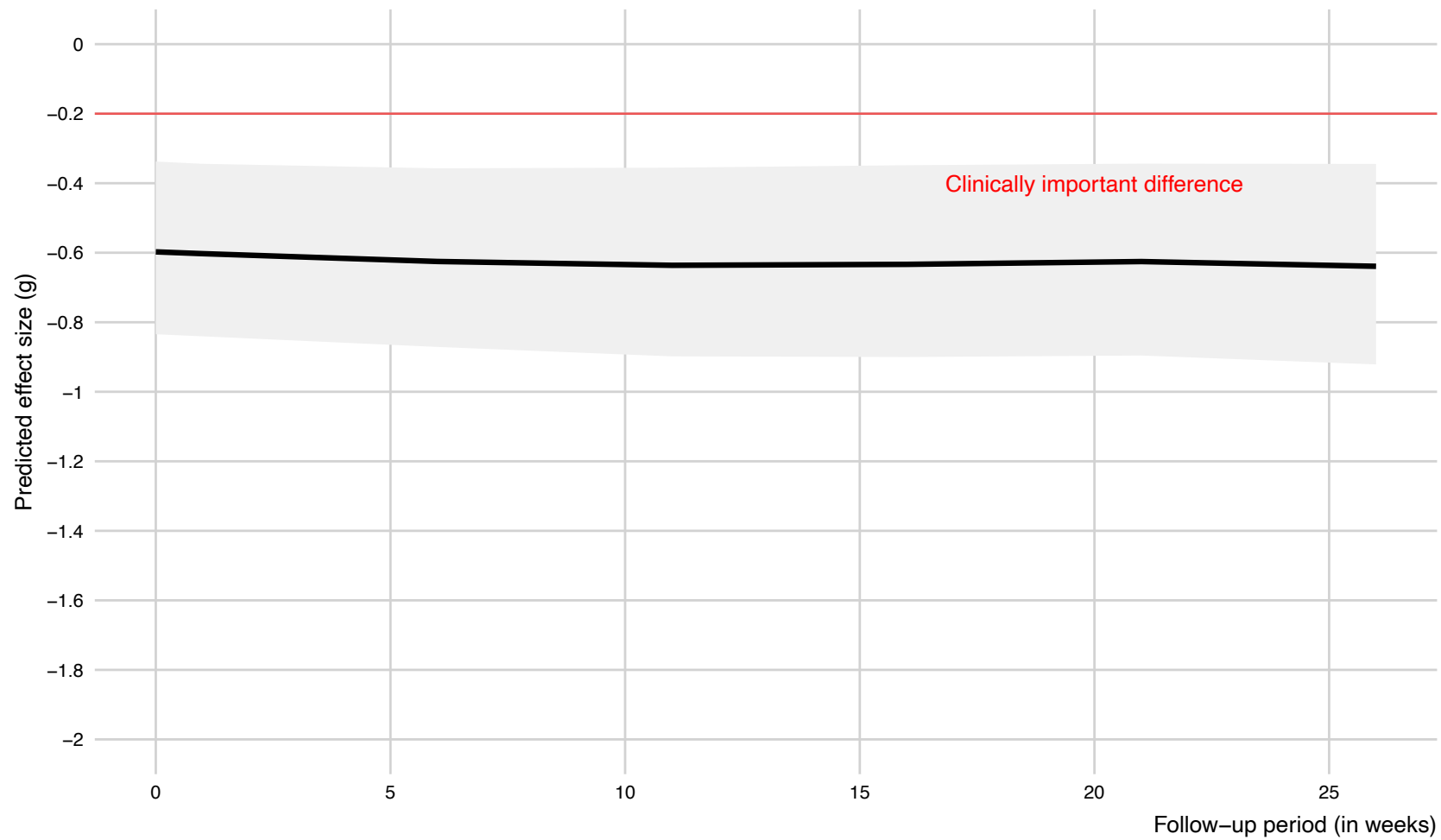
S13 Behaviour Change Techniques of Each Exercise Arm

See file on https://osf.io/nzw6u/

S14 Moderation for level of autonomy described in the method
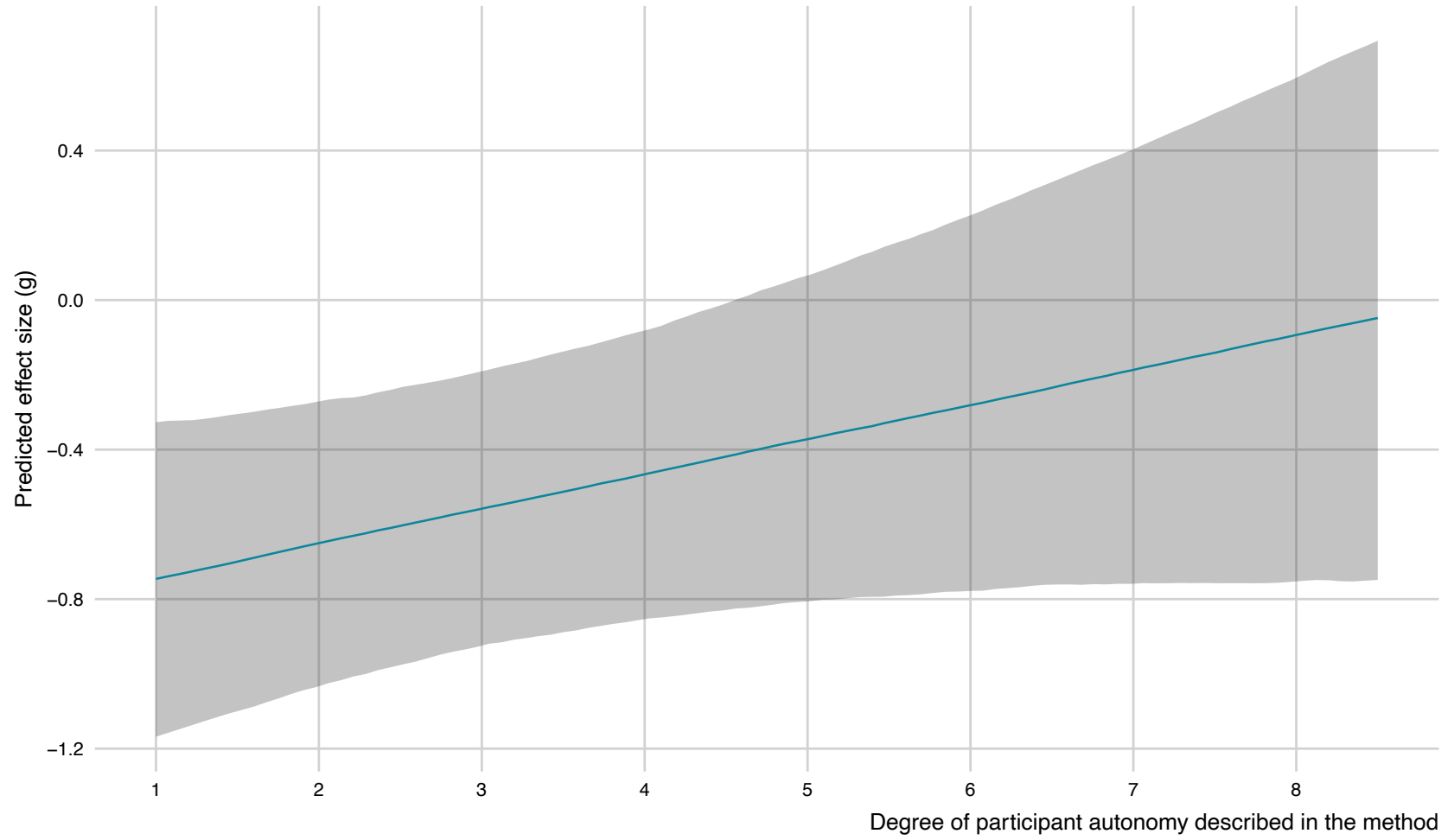
S15 Moderation by group exercise

Effect on depression vs. active control (lower is better)
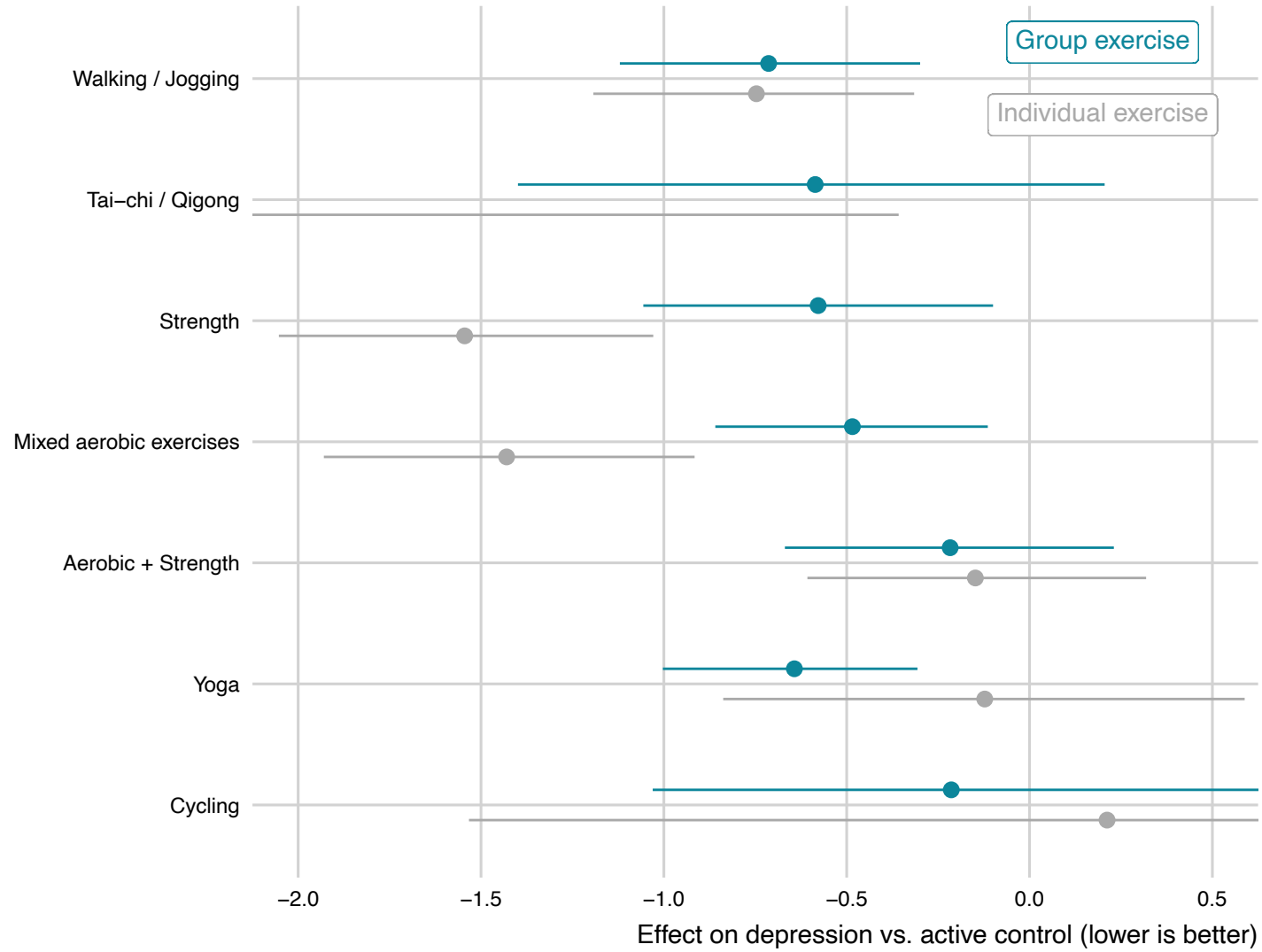
S16 Funnel plot for all exercise arms vs active control