

Supplementary Material

Appendix 1: Search strategy

PubMed – 28 Jun. 21

(exercis[Title] OR sport*[Title] OR physical activity[Title] OR train*[Title] OR aerobic[Title] OR resistance[Title] OR physical training[Title] OR active[Title] OR move*[Title] OR rehab*[Title]) AND (cert[TiAb] OR tidier[TiAb] OR "template for intervention description and replication"[TiAb] OR report*[Title] OR complet*[TiAb] OR describ*[TiAb] OR replic*[TiAb] OR characteristics[TiAb] OR design[TiAb] OR program[TiAb]) OR (consensus on exercise reporting template)*

- *Filter systematic review, humans*

EMBASE – 22 Jun. 21

((exercis or sport* or physical activity or train* or aerobic or resistance or physical training or active or move* or rehab*) and (cert or "consensus on exercise reporting template" or tidier or "template for intervention description and replication" or report* or complet* or describ* or replic* or characteristics or design or program) and systematic review).m_titl.*

CINAHL & SPORTDiscus – 22 Jun. 21

TI (exercise or physical activity or fitness) AND TI (report or cert or tidier or "consensus on exercise reporting template" or "template for intervention description and replication") AND TI systematic review*

PSYCHInfo – 28 Jun. 21

ab(systematic review) AND ab(exercise OR physical activity OR fitness) AND ab(report OR cert OR tidier OR "consensus on exercise reporting template" OR "template for intervention description and replication")*

Filter -systematic review

Appendix 2. Modified AMSTAR 2 tool used in this overview of reviews

1. Did the research questions and inclusion criteria for the review include the components of PICO?

For Yes:	Optional (recommended)	
Population	Timeframe for follow up	Yes
Intervention		No
Comparator group		
Outcome		

2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol?

For Partial Yes:	For Yes:	
The authors state that they had a written protocol or guide that included ALL the following:	As for partial yes, plus the protocol should be registered and should also have specified:	
review question(s)	a meta-analysis/synthesis plan, if appropriate, and	Yes Partial Yes No
a search strategy	a plan for investigating causes of heterogeneity	
inclusion/exclusion criteria	a plan for investigating causes of heterogeneity	
a risk of bias assessment		

3. Did the review authors explain their selection of the study designs for inclusion in the review?

For Yes, the review should satisfy ONE of the following:

Explanation for including only RCTs	Yes
OR Explanation for including only NRSI	No
OR Explanation for including both RCTs and NRSI	

4. Did the review authors use a comprehensive literature search strategy?

For Partial Yes (all the following):	For Yes, should also have (all the following):	
searched at least 2 databases (relevant to research question)	searched the reference lists / bibliographies of included studies	Yes Partial Yes No
provided key word and/or search strategy	searched trial/study registries	
justified publication restrictions (e.g. language)	included/consulted content experts in the field	
	where relevant, searched for grey literature	
	conducted search within 24 months of completion of the review	

5. Did the review authors perform study selection in duplicate?

For Yes, either ONE of the following:

at least two reviewers independently agreed on selection of eligible studies and achieved consensus on which studies to include	Yes No
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OR two reviewers selected a sample of eligible studies and achieved good agreement (at least 80 percent), with the remainder selected by one reviewer.

6. Did the review authors perform data extraction in duplicate?

For Yes, either ONE of the following:

at least two reviewers achieved consensus on which data to extract from included studies	Yes No
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OR two reviewers extracted data from a sample of eligible studies and achieved good agreement (at least 80 percent), with the remainder extracted by one reviewer.

7. Did the review authors provide a list of excluded studies and justify the exclusions?

For Partial Yes:

provided a list of all potentially relevant studies that were read in full-text form but excluded from the review

For Yes, must also have:

Justified the exclusion from the review of each potentially relevant study	Yes Partial Yes No
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8. Did the review authors describe the included studies in adequate detail?

For Partial Yes (ALL the following):

described populations
described interventions
described comparators
described outcomes
described research designs

For Yes, should also have ALL the following:

described population in detail	Yes Partial Yes No
described intervention in detail (including doses where relevant)	
described comparator in detail (including doses where relevant)	
described study's setting	
timeframe for follow-up	

10. Did the review authors report on the sources of funding for the studies included in the review?

For Yes

Must have reported on the sources of funding for individual studies	Yes
included in the review. Note: Reporting that the reviewers looked for	No
this information but it was not reported by study authors also qualifies	

16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?

For Yes:

The authors reported no competing interests OR	Yes
The authors described their funding sources and how they managed	No
potential conflicts of interest	

Appendix 3. Rating overall confidence in the results of the systematic review (AMSTAR 2)High

- No or one non-critical weakness: the systematic review provides an accurate and comprehensive summary of the results of the available studies that address the question of interest

Moderate

- More than one non-critical weakness*: the systematic review has more than one weakness but no critical flaws. It may provide an accurate summary of the results of the available studies that were included in the review

Low

- One critical flaw with or without non-critical weaknesses: the review has a critical flaw and may not provide an accurate and comprehensive summary of the available studies that address the question of interest

Critically low

- More than one critical flaw with or without non-critical weaknesses: the review has more than one critical flaw and should not be relied on to provide an accurate and comprehensive summary of the available studies

* Multiple non-critical weaknesses may diminish confidence in the review and it may be appropriate to move the overall appraisal down from moderate to low confidence.

Note: A critical flaw was a rating was deemed a 'no' in any of the critical domains, as specified by the AMSTAR 2 guidance document. These domains were Items 2, 4, 7. A non-critical weakness was a no, or partial yes in any other domain.

Appendix 4: Excluded studies, with reasonsWrong outcomes:

- Allen NE, Paul SS, Song J, et al. A systematic review of participant characteristics, intervention delivery, retention rates, adherence and adverse events in clinical trials of exercise and motor training in people with Parkinson's disease. *Neurorehabilitation and Neural Repair* 2012;26(6):703. doi: <http://dx.doi.org/10.1177/1545968312449454>
- Allen NE, Suriyarachchi GD, Paul SS, et al. Exercise and motor training in people with parkinson's disease: A systematic review of participant characteristics, intervention delivery, retention rates, adherence, and adverse events in clinical trials. *Parkinson's Disease* 2012((Allen, Suriyarachchi, Paul, Song, Canning) Clinical and Rehabilitation Research Group, Faculty of Health Sciences, University of Sydney, P.O. Box 170, Lidcombe, Sydney, NSW 1825, Australia(Sherrington) Musculoskeletal Division, George Institute for Globa):854328. doi: <http://dx.doi.org/10.1155/2012/854328>
- Ammann BC, Knols RH, Baschung P, et al. Application of principles of exercise training in sub-acute and chronic stroke survivors: a systematic review. *BMC Neurol* 2014;14:167. doi: 10.1186/s12883-014-0167-2
- Baschung Pfister P, de Bruin ED, Tobler-Ammann BC, et al. The relevance of applying exercise training principles when designing therapeutic interventions for patients with inflammatory myopathies: a systematic review. *Rheumatol Int* 2015;35(10):1641-54. doi: 10.1007/s00296-015-3343-9
- Billany RE, Vadaszy N, Lightfoot CJ, et al. Characteristics of effective home-based resistance training in patients with noncommunicable chronic diseases: a systematic scoping review of randomised controlled trials. *J Sports Sci* 2021;39(10):1174-85. doi: 10.1080/02640414.2020.1861741
- Birkett ST, Harwood AE, Caldow E, et al. A systematic review of exercise testing in patients with intermittent claudication: A focus on test standardisation and reporting quality in randomised controlled trials of exercise interventions. *PLoS ONE* 2021;16(5 May):e0249277. doi: <http://dx.doi.org/10.1371/journal.pone.0249277>
- Bonafiglia JT, Islam H, Preobrazenski N, et al. Risk of bias and reporting practices in studies comparing VO2max responses to sprint interval vs. continuous training: A systematic review and meta-analysis. *Journal of Sport and Health Science* 2021((Bonafiglia, Islam, Preobrazenski, Gurd) School of Kinesiology and Health Studies, Queen's University, Kingston, ON K7L 3N6, Canada) doi: <http://dx.doi.org/10.1016/j.jshs.2021.03.005>
- Boniface G, Gandhi V, Williamson E, et al. A systematic review exploring the evidence reported to underpin exercise dose in clinical trials of rheumatoid arthritis. *Revmatologiia (Bulgaria)* 2020;59(11):3147-57. doi: <http://dx.doi.org/10.1093/rheumatology/keaa150>
- Farlie MK, Robins L, Keating JL, et al. Intensity of challenge to the balance system is not reported in the prescription of balance exercises in randomised trials: a systematic review. *Journal of physiotherapy* 2013;59(4):227-35.
- Goff AJ, Page WS, Clark NC. Reporting of acute programme variables and exercise descriptors in rehabilitation strength training for tibiofemoral joint soft tissue

- injury: A systematic review. *Physical Therapy in Sport* 2018;34((Goff) Health and Social Sciences, Singapore Institute of Technology, 10 Dover Drive 138683, Singapore(Page, Clark) Faculty of Sport, Health and Applied Sciences, St Mary's University, Waldegrave Road, Twickenham TW1 4SX, United Kingdom):227-37. doi: <http://dx.doi.org/10.1016/j.ptsp.2018.10.012>
- Hendrey G, Holland AE, Mentiplay BF, et al. Do Trials of Resistance Training to Improve Mobility After Stroke Adhere to the American College of Sports Medicine Guidelines? A Systematic Review. *Arch Phys Med Rehabil* 2018;99(3):584-97.e13. doi: [10.1016/j.apmr.2017.06.021](https://doi.org/10.1016/j.apmr.2017.06.021)
- Minshull C, Gleeson N. Considerations of the Principles of Resistance Training in Exercise Studies for the Management of Knee Osteoarthritis: A Systematic Review. *Arch Phys Med Rehabil* 2017;98(9):1842-5doi: [10.1016/j.apmr.2017.02.026](https://doi.org/10.1016/j.apmr.2017.02.026)
- Neil-Sztramko SE, Medysky ME, Campbell KL, et al. Attention to the principles of exercise training in exercise studies on prostate cancer survivors: a systematic review. *BMC Cancer* 2019;19(1):32doi: [10.1186/s12885-019-5520-9](https://doi.org/10.1186/s12885-019-5520-9)
- Neil-Sztramko SE, Winters-Stone KM, Bland KA, et al. Updated systematic review of exercise studies in breast cancer survivors: attention to the principles of exercise training. *Br J Sports Med* 2019;53(8):504-12. doi: [10.1136/bjsports-2017-098389](https://doi.org/10.1136/bjsports-2017-098389)
- Pascoe MC, Bailey AP, Craike M, et al. Poor reporting of physical activity and exercise interventions in youth mental health trials: A brief report. *Early Interv Psychiatry* 2020 doi: [10.1111/eip.13045](https://doi.org/10.1111/eip.13045)
- Sauzet O, Kleine M, Exner A-K, et al. Longitudinal randomised controlled trials in rehabilitation post-stroke: A systematic review on the quality of reporting and use of baseline outcome values. *BMC Neurology* 2015((Sauzet, Kleine, Exner) AG Epidemiology and International Public Health, School of Public Health, Bielefeld University, PO. Box 10 01 31, Bielefeld, 33501 Germany(Menzel-Begemann) Faculty of Nursing and Health, University of Applied Science, Munster, Leon) doi: [http://dx.doi.org/10.1186/s12883-015-0344-y](https://dx.doi.org/10.1186/s12883-015-0344-y)
- Schulz JM, Birmingham TB, Atkinson HF, et al. Are we missing the target? Are we aiming too low? What are the aerobic exercise prescriptions and their effects on markers of cardiovascular health and systemic inflammation in patients with knee osteoarthritis? A systematic review and meta-analysis. *Br J Sports Med* 2020;54(13):771-75. doi: [10.1136/bjsports-2018-100231](https://doi.org/10.1136/bjsports-2018-100231)
- Stanton R, Happell B. A systematic review of the aerobic exercise program variables for people with schizophrenia. *Current Sports Medicine Reports* 2014;13(4):260-66. doi: [http://dx.doi.org/10.1249/JSR.0000000000000069](https://dx.doi.org/10.1249/JSR.0000000000000069)
- Stanton R, Reaburn P. Exercise and the treatment of depression: a review of the exercise program variables. *J Sci Med Sport* 2014;17(2):177-82. doi: [10.1016/j.jsams.2013.03.010](https://doi.org/10.1016/j.jsams.2013.03.010)
- Wu Y, MacDonald HV, Pescatello LS. Evaluating Exercise Prescription and Instructional Methods Used in Tai Chi Studies Aimed at Improving Balance in Older Adults: A Systematic Review. *J Am Geriatr Soc* 2016;64(10):2074-80. doi: [10.1111/jgs.14242](https://doi.org/10.1111/jgs.14242)

Reporting not primary aim

- Bearne LM, Sekhon M, Grainger R, et al. Smartphone Apps Targeting Physical Activity in People With Rheumatoid Arthritis: Systematic Quality Appraisal and Content Analysis. *JMIR Mhealth Uhealth* 2020;8(7):e18495. doi: 10.2196/18495
- Bo K, Fernandes A, Duarte TB, et al. Is pelvic floor muscle training effective for symptoms of overactive bladder in women? A systematic review. *Physiotherapy* 2020;106:65-76. doi: 10.1016/j.physio.2019.08.011
- Depiazzi JE, Forbes RA, Gibson N, et al. The effect of aquatic high-intensity interval training on aerobic performance, strength and body composition in a non-athletic population: systematic review and meta-analysis. *Clin Rehabil* 2019;33(2):157-70. doi: 10.1177/0269215518792039
- Jones MD, Wewege MA, Hackett DA, et al. Sex Differences in Adaptations in Muscle Strength and Size Following Resistance Training in Older Adults: A Systematic Review and Meta-analysis. *Sports Med* 2021;51(3):503-17. doi: 10.1007/s40279-020-01388-4
- Jos Kraal JJ, Van Engen-Verheul MM, Wiggers JMR, et al. Exercise training program characteristics and prescription methods in cardiac rehabilitation: A systematic review. *European Journal of Preventive Cardiology* 2013;20(1 SUPPL. 1):S69. doi: <http://dx.doi.org/10.1177/2047487314530052>
- Klempel N, Blackburn NE, McMullan IL, et al. The Effect of Chair-Based Exercise on Physical Function in Older Adults: A Systematic Review and Meta-Analysis. *Int J Environ Res Public Health* 2021;18(4) doi: 10.3390/ijerph18041902
- Loaiza-Betancur AF, Pérez Bedoya E, Montoya Dávila J, et al. Effect of Isometric Resistance Training on Blood Pressure Values in a Group of Normotensive Participants: A Systematic Review and Meta-analysis. *Sports Health* 2020;12(3):256-62. doi: 10.1177/1941738120908070
- Madden SK, Ahuja K, Hills AP, et al. The effect of workplace lifestyle programmes on diet, physical activity, and weight-related outcomes for working women: A systematic review using the TiDieR checklist. *Obesity Reviews* 2020;21(10):e13027. doi: <http://dx.doi.org/10.1111/obr.13027>
- Martland R, Mondelli V, Gaughran F, et al. Can high intensity interval training improve health outcomes among people with mental illness? A systematic review and preliminary meta-analysis of intervention studies across a range of mental illnesses. *J Affect Disord* 2020;263:629-60. doi: 10.1016/j.jad.2019.11.039
- Moore SA, Hrisos N, Flynn D, et al. How should long-term free-living physical activity be targeted after stroke? A systematic review and narrative synthesis. *Int J Behav Nutr Phys Act* 2018;15(1):100. doi: 10.1186/s12966-018-0730-0
- Santos P, Scaldaferri G, Santos L, et al. Effects of the Nintendo Wii training on balance rehabilitation and quality of life of patients with Parkinson's disease: A systematic review and meta-analysis. *NeuroRehabilitation* 2019;44(4):569-77. doi: 10.3233/nre-192700

Not systematic review

Slade, S. C., Underwood, M., McGinley, J. L., & Morris, M. E. (2019). Exercise and Progressive Supranuclear Palsy: the need for explicit exercise reporting. *BMC Neurol*, 19(1), 305. doi:10.1186/s12883-019-1539-4

Wrong intervention

Cano Porras D, Siemonsma P, Inzelberg R, et al. Advantages of virtual reality in the rehabilitation of balance and gait: Systematic review. *Neurology* 2018;90(22):1017-25. doi: 10.1212/wnl.0000000000005603

Mhizha-Murira JR, Drummond A, Klein OA, et al. Reporting interventions in trials evaluating cognitive rehabilitation in people with multiple sclerosis: a systematic review. *Clinical rehabilitation* 2018;32(2):243-54. doi: <http://dx.doi.org/10.1177/0269215517722583>

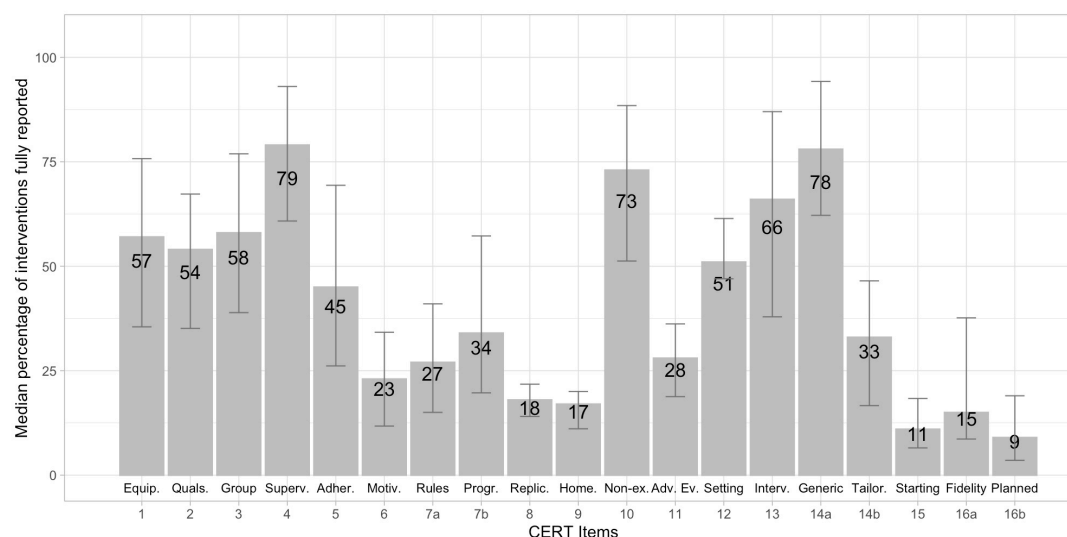
Weber H, Barr C, Gough C, et al. How Commercially Available Virtual Reality-Based Interventions Are Delivered and Reported in Gait, Posture, and Balance Rehabilitation: A Systematic Review. *Physical therapy* 2020;100(10):1805-15. doi: <http://dx.doi.org/10.1093/ptj/pzaa123>

Appendix 5: AMSTAR Assessment

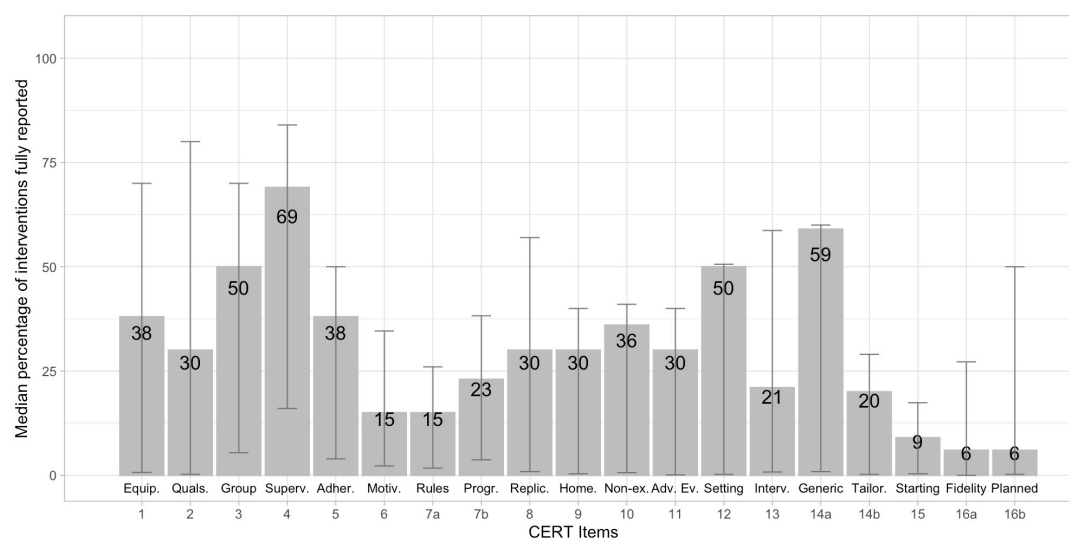
Study	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 10	Item 16	Overall Quality
Abell 2015	+	-	-	/	-	-	-	-	-	+	Critically Low
Barros 2020	+	-	-	/	+	+	/	-	-	+	Low
Bartholdy 2019	-	+	+	/	+	+	/	+	-	+	Moderate
Berti 2020	-	/	-	/	+	+	/	/	-	+	Moderate
Burgess 2021	-	+	-	/	-	+	/	-	-	+	Low
Charlton 2017	-	+	-	/	+	+	/	+	-	+	Moderate
Davidson 2021	-	+	-	/	+	+	/	+	-	-	Moderate
Dischiavi 2021	+	+	-	+	+	+	-	/	-	+	Low
Giagio 2021	+	+	-	+	+	+	+	-	-	+	Moderate
Hall 2018	-	+	+	/	+	+	+	+	-	+	Moderate
Holden 2018	-	+	-	+	+	+	+	+	-	+	Moderate
Kattackal 2020	+	-	-	+	+	+	/	-	-	+	Low
Keene 2020	+	+	-	/	+	+	+	+	-	+	Moderate
Knols 2018	+	/	+	/	+	-	+	+	-	-	Moderate
Knols 2019	+	-	+	/	+	+	-	+	-	+	Critically Low
Lohse 2018	+	/	+	/	+	+	-	/	-	-	Low
Mack 2018	-	-	-	/	-	+	-	-	-	+	Critically Low
Major 2019	+	-	-	+	+	+	-	-	-	+	Critically Low
McEwen 2019	-	-	-	+	+	+	+	-	-	-	Low
McGregor 2018	+	+	+	+	+	+	-	+	-	+	Low
Meneses-Echavez 2019	+	+	-	/	+	+	-	-	-	-	Low

Neele 2016	-	-	-	-	-	-	-	-	-	-	Critically Low
Raje 2021	+	-	-	+	+	+	/	-	-	-	Low
Tew 2016	+	-	-	/	-	+	-	/	-	+	Critically Low
Torres-Pareja 2019	-	-	-	-	-	-	-	+	-	+	Critically Low
Vasquez-Araneda 2021	-	+	-	/	-	-	-	-	-	+	Low
Yamato 2016	-	-	-	-	-	+	-	-	-	+	Critically Low
Zhang 2021	+	-	-	/	+	+	/	-	-	+	Low

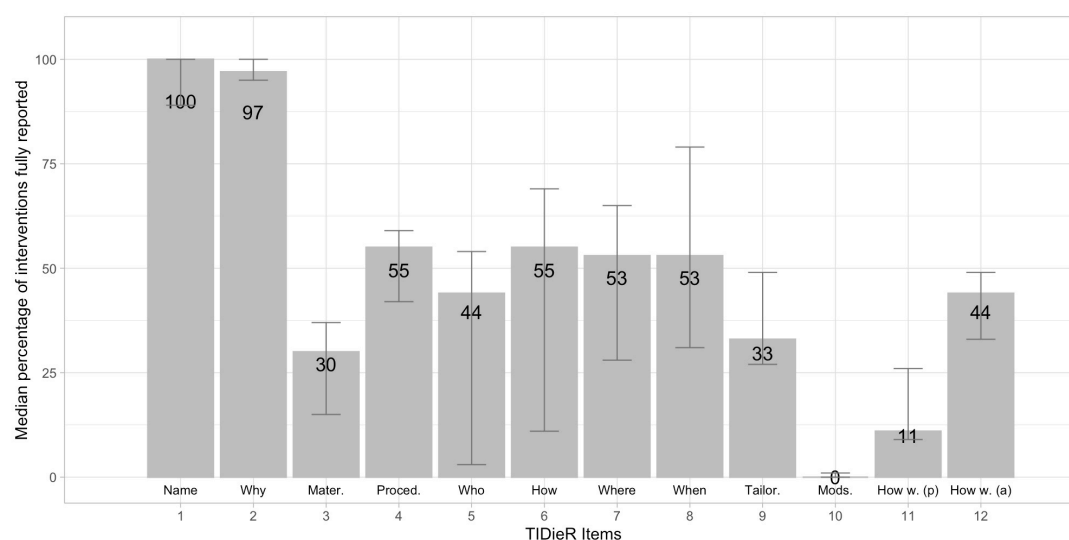
+ Yes, / Partial yes, - No

Appendix 6: CERT Subgroups

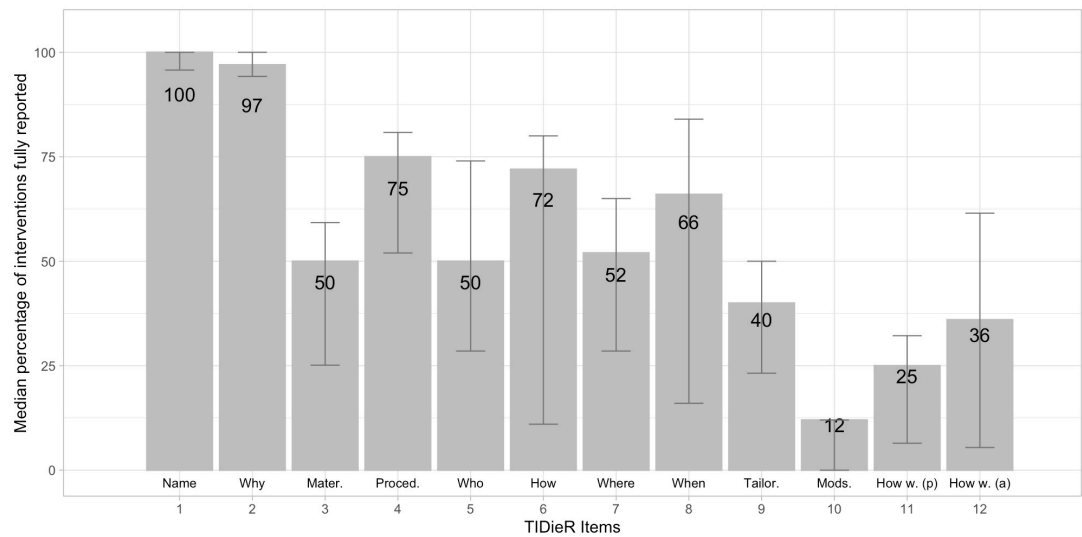
6a. Consensus on Exercise Reporting Template (CERT) summary of reviews which included participants with 'other' health conditions (n=4). Items names are fully described in Appendix 2. Equip = description of exercise equipment, Quals = description of qualifications of instructor, Group = description of whether exercise performed in group or individually, Superv. = description of whether exercises are supervised and how they are delivered, Adher = description of how adherence is measured and reported, Motiv = description of motivation strategies, Rules = description of rules for determining exercise progression, Prog = description of how exercise was progressed, Replic = description of exercise to enable replication, Home = description of any home program, Non-ex = description of non-exercise components, Adv. Ev = description of type and number of adverse events, Setting = description of setting of exercise, Interv = description of exercise intervention (i.e. sets, reps, duration etc.), Generic = description of whether exercises are generic or tailored, Tailor = description of how exercises are tailored, Starting = description of rule for the starting level of participants, Fidelity = how adherence or fidelity to intervention is measured, Planned = description of the extent to which the intervention was delivered as planned.



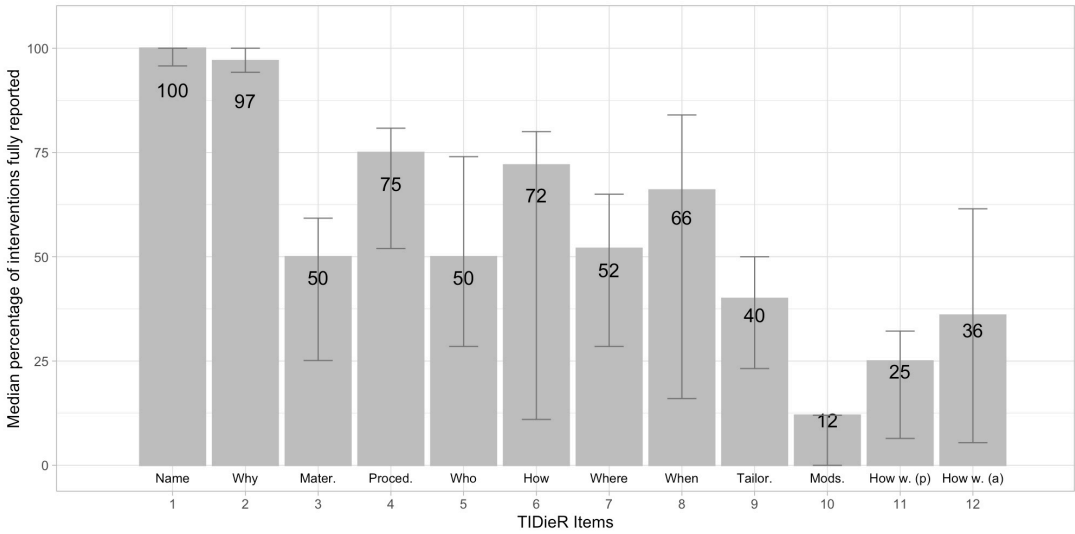
6b. Consensus on Exercise Reporting Template (CERT) summary of reviews which included participants with musculoskeletal health conditions (n=10). Items names are fully described in Appendix 2. Equip = description of exercise equipment, Quals = description of qualifications of instructor, Group = description of whether exercise performed in group or individually, Superv. = description of whether exercises are supervised and how they are delivered, Adher = description of how adherence is measured and reported, Motiv = description of motivation strategies, Rules = description of rules for determining exercise progression, Prog = description of how exercise was progressed, Replic = description of exercise to enable replication, Home = description of any home program, Non-ex = description of non-exercise components, Adv. Ev = description of type and number of adverse events, Setting = description of setting of exercise, Interv = description of exercise intervention (i.e. sets, reps, duration etc.), Generic = description of whether exercises are generic or tailored, Tailor = description of how exercises are tailored, Starting = description of rule for the starting level of participants, Fidelity = how adherence or fidelity to intervention is measured, Planned = description of the extent to which the intervention was delivered as planned.

Appendix 7: TIDieR Subgroups

7a. Template for intervention description and replication (TIDieR) summary of reviews which included participants with cardiovascular health conditions (n=5). Items names are fully described in Appendix 2. Mater = what (materials), Proced = what (procedures), When = when and how much, Tailor = tailoring, Mods = modifications, How w. (p) = How well (planned), How w. (a) = How well (actual)



7b. Template for intervention description and replication (TIDieR) summary of reviews which included participants with musculoskeletal health conditions (n=7). Items names are fully described in Appendix 2. Mater = what (materials), Proced = what (procedures), When = when and how much, Tailor = tailoring, Mods = modifications, How w. (p) = How well (planned), How w. (a) = How well (actual)



7c. Template for intervention description and replication (TIDieR) summary of reviews which included participants with neurological health conditions (n=3). Items names are fully described in Appendix 2. Mater = what (materials), Proced = what (procedures), When = when and how much, Tailor = tailoring, Mods = modifications, How w. (p) = How well (planned), How w. (a) = How well (actual)