Supplementary materials

Systematic Searches conducted December 2019 without publication date limits

PubMed

(Dementia [MH] OR dementia OR “cognitive dysfunction” [MH] OR “cognitive dysfunction” OR “cognitive impairment” OR “cognitive impairment” OR “cognitive decline” OR Alzheimer Disease [MH] OR Alzheimer* OR Vascular Dementia [MH] OR “Vascular dementia” OR “posterior cortical atrophy” OR Lewy Body Disease [MH] OR “lewy body disease” OR “lewy body dementia” OR “lewy bod*” OR “fronto-temporal dementia” OR “dementia with lewy bodies” OR “lewy body” OR “mixed dementia” OR Creutzfeldt-Jakob Syndrome [MH] OR “Creutzfeldt-Jakob” OR “Huntington’s disease” OR “corticobasal degeneration” OR “senile dementia” )

AND

Exercise [MH] OR exercise OR aerobic* OR running [MH] OR running OR walking [MH] OR walk* OR swimming [MH] OR swim* OR sports [MH] OR sport* OR bicycling [MH] OR bicycl* OR cycling OR “physical activity” OR Fitness OR Resistance training [MH] OR “resistance training” OR yoga [MH] OR yoga

- Title and abstracts
- Limit to meta-analysis: 146

Embase

Dementia OR cognitive dysfunction OR cognitive impairment OR cognitive decline OR Alzheimer Disease OR Alzheimer* OR Vascular dementia OR posterior cortical atrophy OR lewy body disease OR lewy body dementia OR lewy bod* OR fronto-temporal dementia OR dementia with lewy bodies OR lewy body OR mixed dementia OR Creutzfeldt-Jakob Syndrome OR Creutzfeldt-Jakob OR Huntingtons disease OR corticobasal degeneration OR senile dementia

AND

Exercise OR aerobic* OR running OR walking OR walk* OR swimming OR swim* OR sports OR sport* OR bicycling OR bicycl* OR cycling OR physical activity OR Fitness OR resistance training OR yoga

- Title and abstracts
- Limit to meta-analysis and Medline: 51 hits

PsychInfo

Dementia OR cognitive dysfunction OR cognitive impairment OR cognitive decline OR Alzheimer Disease OR Alzheimer* OR Vascular dementia OR posterior cortical atrophy OR lewy body disease OR lewy body dementia OR lewy bod* OR fronto-temporal dementia OR dementia with lewy bodies OR lewy body OR mixed dementia OR Creutzfeldt-Jakob Syndrome OR Creutzfeldt-Jakob OR Huntingtons disease OR corticobasal degeneration OR senile dementia

AND

Exercise OR aerobic* OR running OR walking OR walk* OR swimming OR swim* OR sports OR sport* OR bicycling OR bicycl* OR cycling OR physical activity OR Fitness OR resistance training OR yoga

Limit to meta-analysis: 77
Cochrane

(Dementia OR cognitive dysfunction OR cognitive impairment OR cognitive decline OR Alzheimer Disease OR Alzheimer* OR Vascular dementia OR posterior cortical atrophy OR lewy body disease OR lewy body dementia OR lewy bod* OR fronto-temporal dementia OR dementia with lewy bodies OR lewy body OR mixed dementia OR Creutzfeldt-Jakob Syndrome OR Creutzfeldt-Jakob OR Huntingtons disease OR corticobasal degeneration OR senile dementia) AND (Exercise OR aerobic* OR running OR walking OR walk* OR swimming OR swim* OR sports OR sport* OR bicycling OR bicycl* OR cycling OR physical activity OR Fitness OR resistance training OR yoga)

- **Title and abstracts**
- **Limit to reviews:** 91 hits

**TOTAL:** **365 citations**
| AMSTAR-2 criteria                                                                 | Angevaren et al., 2008 | Gates et al., 2013 | Heyn et al., 2004 | Kelly et al., 2014 | Northey et al., 2018 | Sanders et al., 2019 | Scherder et al., 2014 | Song et al., 2010 | Wang et al., 2015 | Young et al., 2015 | Zheng et al, 2016 |
|---------------------------------------------------------------------------------|------------------------|--------------------|-------------------|-------------------|----------------------|----------------------|---------------------|------------------|-----------------|------------------|------------------|
| Did the research question and inclusion criteria include components of PICO?       | Y                      | Y                  | Y                 | Y                 | Y                    | Y                    | Y                   | Y                | Y               | Y                | Y                |
| Were the review methods were established prior to the conduct of the review?     | N                      | N                  | N                 | Y                 | Y                    | Y                    | N                   | Y                | Y               | N                | Y                |
| Did the authors explain their selection of the study designs for inclusion?       | Y                      | Y                  | Y                 | Y                 | Y                    | Y                    | Y                   | Y                | Y               | Y                | Y                |
| Was a comprehensive literature search strategy used?                              | Y                      | Y                  | Y                 | Y                 | Y                    | Y                    | Y                   | Y                | Y               | Y                | Y                |
| Was study selection performed in duplicate?                                       | Y                      | N                  | N                 | Y                 | Y                    | Y                    | Y                   | N                | Y               | N                | Y                |
| Was data extraction performed in duplicate?                                       | Y                      | Y                  | N                 | Y                 | Y                    | N                    | Y                   | Y                | Y               | Y                | Y                |
| Was a list of excluded studies and justification for exclusions provided?        | Y                      | N                  | N                 | Y                 | Y                    | Y                    | Y                   | Y                | Y               | Y                | Y                |
| Were the included studies described in detail?                                    | Y                      | Y                  | Y*                | Y                 | Y                    | Y*                   | Y                   | Y                | Y               | Y*               | Y*               |
| Was a satisfactory technique used to assess RoB?                                   | Y                      | Y                  | Y                 | Y                 | Y                    | Y                    | Y                   | Y                | Y               | Y                | Y                |
| Were sources of funding of the included studies reported?                         | N                      | N                  | N                 | N                 | N                    | N                    | N                   | N                | N               | N                | N                |
| Were appropriate methods used to statistical combine results for the meta-analyses?| Y                      | Y                  | N                 | Y                 | N                    | Y                    | Y                   | Y                | Y               | Y                | Y                |
| Was potential impact of RoB in individual studies on the results of the meta-analyses assessed? | N                      | N                  | Y                 | N                 | Y                    | Y                    | Y                   | Y                | Y               | N                | N                |
| Was RoB in individual studies accounted for when interpreting/discussing the results? | N                      | N                  | Y                 | N                 | Y                    | Y                    | Y                   | Y                | Y               | Y                | Y                |
| Was a satisfactory explanation for, and discussion of, any heterogeneity observed in the results provided? | N                      | Y                  | N                 | Y                 | Y                    | Y                    | Y                   | Y                | Y               | N                | Y                |
| Was an adequate investigation of publication bias carried out?                    | N                      | N                  | N                 | N                 | Y                    | Y                    | N                   | N                | N               | N                | N                |
| Did the authors report any potential sources of conflict of interest?             | N                      | Y                  | Y                 | Y                 | Y                    | Y                    | Y                   | N                | Y               | Y                | Y                |

**Note.** * denotes partial yes or no.