**Additional file 4: Individual quality rating of studies included in the systematic review (SIGN-checklist)**

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| **Study ID: 1****Blumenthal et al. 1989** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | No |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 6.1% (Aerobic intervention)0.0% (Yoga Intervention)5.9% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Acceptable |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | yes  |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | 4-months of aerobic training improved several physical and cardiovascular measures; various neuropsychological tests were not unique to a particular group and changes were probably the result of practice & increased familiarity with the tasks |

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| **Study ID: 2****Sink et al. 2015** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | Can’t say |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | No |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 10.1% (Intervention)9.3 (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | Yes |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Yes  |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Acceptable |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | No improvement after 24 months of physical activity intervention |

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| **Study ID: 3****Stonnigton et al. 2020** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Can’t say |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | No |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 16.7% (Intervention) 36.1% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Low quality |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Participants already physically active at baseline; effects of Zumba on cognitive function at 3- or 6-months Follow-Up; observed improvements in QOL in IG compared to CG; visuospatial memory & response inhibition showed greater improvement in IG; differences between groups in APOE status, but controlled for in analysis |

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| **Study ID: 4****Voss et al. 2020** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Can’t say |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 2.9% (Intervention)0% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Acceptable |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Acute exercise (moderate > light) improved working memory in older adults; greater acute improvements predicted greater improvements at 12-week follow-up |

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| **Study ID: 5****Williams & Lord 1997** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Can’t say |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 24.5% (Intervention)16.1% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Acceptable |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Aerobic group exercise with improvements in cognitive functions, intervention incorporating psychological well-being |

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| **Study ID: 6****Liu-Ambrose et al. 2010** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | Yes |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 11.5% (Intervention once weekly) 13.0% (Intervention twice weekly) 14.3% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | Yes |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | High quality |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Resistance training, but not balance & tone exercise benefit executive function in older women |

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| **Study ID: 7****Antunes et al. 2015a** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Can’t say |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Can’t say |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 0 |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | Yes |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Acceptable |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes  |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Physical exercise using ergometers improves several cognitive domains in (sedentary) older men over a 6-months period |

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| **Study ID: 8****Antunes et al. 2015b** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes |
| * 1. The treatment and control groups are similar at the start of the trial
 | No |
| * 1. The only difference between groups is the treatment under investigation
 | No |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 0 |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | Can’t say |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Low quality |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Unsure |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Physical training improved cognitive function in sedentary older women; no effect for leisure activities; convenience sampling might have influenced intervention effects |

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| **Study ID: 9****Cassilhas et al. 2007** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Can’t say |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Can’t say |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 0 |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | Yes(no drop-out, definition of min. attendance necessary for completion (>75% of sessions) fulfilled by all participants) |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Acceptable |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | 24 weeks of moderate- or high-intensity physical exercise improved cognitive function and body composition in older men without cognitive impairment |

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| **Study ID: 10****Coelho-Junior et al. 2020** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| 1.2 Assignment of subjects to treatment groups is randomised | Yes |
| * 1. Adequate concealment method is used
 | Can’t say |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | No |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | No |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 33% (Resistance training intervention) 20% (power + resistance training intervention)6.7% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Low quality |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Both types of power training improved global cognition, memory and dual-task performance |

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| **Study ID: 11****Moreira et al. 2018** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Can’t say |
| * 1. Adequate concealment method is used
 | No  |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 0 |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | Yes |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Acceptable |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Multisensory exercise (3\*50 min/week) improved cognition, balance & functional performance in institutionalized women |

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| **Study ID: 12****Moreira et al. 2021**  |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | No |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 34.7% (Intervention)32.0% (Control)  |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Can’t say |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Low quality |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Both exergame and multicomponent physical exercise programs improved performance on MMSE & TMT; with slightly higher benefits for exergames; high drop-out rates; no discussion on why only women participated |

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| **Study ID: 13****Kleinloog et al. 2019** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes (prior to inclusion, not during intervention) |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 20.0% (Intervention)0.0% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Acceptable |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes  |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Executive function but not memory is improved by aerobic exercise for 8 weeks in sedentary, overweight or obese men  |

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| **Study ID: 14****Sipilä et al. 2021** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | Can’t say |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 7.7% (Intervention)6.9% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | Yes |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | High quality |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Cognitive training has no additional effect on physical activity in older (sedentary) adults; nevertheless beneficial for executive function  |

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| **Study ID: 15****Beauchet et al. 2019** |
| Internal validity |  |
| 1.1 Appropriate and clearly focused question | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | Yes |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 5.0% (Intervention)10.0% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | Yes |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply  |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | High quality |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Consumption of supplemented yogurt effective for cognitive performance in older women |

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| **Study ID: 16****Carral & Pérez 2007** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| 1.2 Assignment of subjects to treatment groups is randomised | Can’t say |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | No |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yey |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 12.9% (Intervention)6.5% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Low quality |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | No |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Improved levels of anxiety, cognitive function, QOL, social resources in women who took part in a high-intensity physical activity program; participants were already participating in regular physical activity, which might influence results |

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| **Study ID: 17****Garcia-Garro et al. 2020**  |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | Can’t say |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 5.5% (Intervention)0% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Acceptable |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | 12-week of Pilates improved verbal fluency, executive function, but not global cognition; high adherence and low drop-out |

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| **Study ID: 18****Klusmann et al. 2010** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | Can’t say |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 12.1% (Exercise intervention)12.0% (Computer course intervention) 9.2% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Acceptable |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Delayed recall & working memory improved for computer-group & physical activity group, compared to inactive control |

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| **Study ID: 19****Prehn et al. 2017**  |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Can’t say |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 33.3% (Intervention)26.9% (Control)  |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Acceptable |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Beneficial effect of caloric restriction on recognition memory & gray matter volume in post-menopausal obese women |

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| **Study ID: 20****Sindi et al. 2021** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | Yes |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 14% (Intervention)11% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | Yes |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Can’t say |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | High quality |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | 2-year multi-domain intervention resulted in small beneficial effect on global cognition, no difference in effectiveness between men and women |

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| **Study ID: 21****Vaughan et al. 2014** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | Yes |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes (single blinded) |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 0% (Intervention) 4.2% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | Yes |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | High quality |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Improvements on TMT-A & TMT-B after multimodal exercise program (+ verbal fluency & information processing); difference in BMI between groups at baseline |

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| **Study ID: 22****Tsai et al. 2017** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | No |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 4.5% (Closed-skill intervention)8.7% (Open-skill intervention)8.7% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Acceptable |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes  |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Open- & closed skill exercise improved cognitive performance on n-back-task in older (sedentary) men |

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| **Study ID: 23****Adriani et al. 2020** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Can’t say |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | No |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 0.0% (Intervention)18.8% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Low Quality  |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Unsure  |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Standardized exercise sessions over 12 weeks improved BDNF, but not cognitive function (MMSE) |

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| **Study ID: 24****Lu et al. 2016**  |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | No (age slightly different IG > CG) |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 13.1% (Intervention)12.5% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | Yes |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Acceptable |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | 16 weeks of Tai Chi improved performance on auditory Stroop-Test in older women; high adherence to intervention |

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| **Study ID: 25****Norouzi et al. 2019** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Can’t say |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | No |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 0 |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | Yes |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Acceptable |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Balance & working memory improved after 4 & 12 weeks of motor-cognitive training, smaller effect observed for motor-motor training |

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| **Study ID: 26****Baker et al. 2010** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Can’t say |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 17.0% (Intervention)0.0% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Acceptable |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Aerobic exercise more effective than stretching (CG) in older adults with amnestic MCI, while gains in cardiorespiratory fitness were similar for men & women; gains in cognitive function were greater for women; very small sample size |

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| **Study ID: 27****Barha et al. 2017b** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | Yes |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 13.9 % (Intervention)22.9% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Acceptable |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Gains in executive function for women, but not men; evidence for possible differences in physiological response to exercise provided; sustained effects even after 6 months FU |

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| **Study ID: 28****Nagamatsu et al. 2012** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Can’t say |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Can’t say |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 7.1% (Resistance training intervention)20% (Aerobic training intervention)3.6% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | Can’t say |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Low quality |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Resistance training improved selective attention and memory, while aerobic training had benefits only for physical functioning in older women with MCI. Little information on randomization and blinding procedures |

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| **Study ID: 29****Ten Brinke et al. 2015** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | Yes |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 20% (Intervention once weekly) 3.6% (Intervention twice weekly)7.1% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | Yes  |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | High quality |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Aerobic training improved hippocampal volume |

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| **Study ID: 30****Van Uffelen et al. 2008** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Yes |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 10.5% (Intervention) 19.4% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Acceptable |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Moderate intensity walking may improve aspects of cognition, especially memory in MCI; effects dependent on adherence to the intervention |

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| **Study ID: 31****Jurakic et al. 2017** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Can’t say |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | No |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | No |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 7.1% (Intervention) 14.3% (Control)  |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | Yes |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Can’t say |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Low Quality |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Global cognitive function, orientation & executive function improved in older women with MCI after 8 weeks of Pilates or core-training |

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| **Study ID: 32****Suzuki et al. 2019** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Yes |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Can’t say |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 0% (Intervention)11.4% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Acceptable |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | MCI diagnosed by MMSE-performance, not by established criteria (Petersen i.e.); no improvement of MMSE-score after 3 months of mold-fermented cheese |

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| **Study ID: 33****Yoon et al. 2016**  |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Can’t say |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Can’t say |
| * 1. The treatment and control groups are similar at the start of the trial
 | Can’t say |
| * 1. The only difference between groups is the treatment under investigation
 | Can’t say |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 30.0% (Power training intervention)52.6% (Strength training intervention)63.2% (Control) |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Low quality |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | High-speed & low-speed strength training effective for physical and cognitive function in women with MCI; high drop-out rates |

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| **Study ID: 34****Damirchi et al. 2018** |
| Internal validity |  |
| * 1. Appropriate and clearly focused question
 | Yes |
| * 1. Assignment of subjects to treatment groups is randomised
 | Can’t say |
| * 1. Adequate concealment method is used
 | No |
| * 1. The design keeps subjects and investigators ‘blind’ about treatment allocation
 | Can’t say |
| * 1. The treatment and control groups are similar at the start of the trial
 | Yes |
| * 1. The only difference between groups is the treatment under investigation
 | Yes |
| * 1. All relevant outcomes are measured in a standard, valid and reliable way
 | Yes |
| * 1. What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed
 | 20% (physical training intervention) 20% (Mental training intervention) 0% (Combined intervention)0% (Control)  |
| * 1. All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)
 | No |
| * 1. Where the study is carried out at more than one site, results are comparable for all sites
 | Does not apply |
| Overall assessment of the study |  |
| * 1. How well was the study done to minimise bias?
 | Low quality |
| * 1. Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention
 | Yes |
| * 1. Are the results of this study directly applicable to the patient group targeted by this guideline?
 | Yes |
| * 1. Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above
 | Mental training improved working memory and processing speed in sedentary older women with MCI; small sample, high drop-out in IG, little info on randomization |