| Title | Author/Year | | Objectives | Participants (Characteristics/Total No/Sex) | | | Neuro disease | Setting/Context/Stage of disease | Description of interventions/phenomena of interest | Search details | Sources searched | Range (yrs) of included studies | Number of studies included | Types of studies included | Country of origin of included studies | Appraisal/Appraisal Instruments/Appraisal Rating | Method of analysis | Outcome assessed (relevant to study) | Significance/direction | Heterogeneity (I^2) |
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| Balance and Falls in Parkinson's Disease: A Meta-analysis of the Effect of Exercise and Motor Training | Allen et al. | #### | To examine if exercise has an effect on balance-related activity and/or falls in people with PD. Meta-regression used to evaluate what effect that total dose of exercise and presence of highly challenging balance activity has. | Synthesis NR | 747 | NR | PD | Stages of PD: mild - moderate | Intervention:exercise (aerobic, resistance, Tai Chi, dance)<br>Control: no intervention, TAU, education classes, flexibility exercise | Not available. | MEDLINE, EMBASE, AMED, PsycINFO, Cochrane Central Register of Controlled Trials, CINAHL. Supplemented with searches of Physiotherapy Evidence Database and search of citations. | 1996-2009 | 19 | RCT, quasi-randomized controlled trials | NR | Cochrane risk of bias tool<br>Mod-high quality: 7<br>Insufficient info: 8<br>Eggers: 1.69<br>Funnel plot: evidence of publication bias | Random-effects meta-analysis<br>Hedge's g (SMD) calculated using pre-/post-mean and SD | BBS, single leg stand time, tandem stance, TUG, sit to stand time, turning time, step length, cadence, gait time, gait velocity | Significant positive effect on balance. Non-significant positive effect on functional mobility and gait. | Balance: 0-72%<br>Turning time: 0%<br>Functional mobility: 0-37%<br>Gait: 6%<br>(Dependent on outcome measure) |
| Complementary physical therapies for movement disorders in Parkinson's disease: a systematic review | Alves Da Rocha et al. | #### | Evaluate the effect that complementary physical therapy has on motor disabilities in people with PD. | NR | NR | NR | PD | NR | Intervention: dance<br>Control: no intervention | Parkinson's disease, rehabilitation, non-conventional physical therapies, alternative therapies, complementary physical therapies, exercise therapy, socio environmental therapy | Medline, Embase, Cinahl, The Cochrane Library, Pedro | 2006-2014 | 2 | RCT | NR | PEDro scale<br><br>Good: 1<br>Fair: 1 | Descriptive analysis with interventions and variables<br>Meta-analysis of RCTs conducted when possible | BBS, UPDRS III, 6mWT | Positive effect on for gait, balance and motor function | Balance: NA<br>Motor function: 97%<br>Gait: 91% |
| Dance as an intervention for people with Parkinson's disease: A systematic review and meta-analysis | Sharp et al. | #### | Evaluate how effectivce dance is compared to no intervention and other exercise interventions. | Mean age: 66.6, 69.9 | NR | NR | PD | Mean Hoehn and Yahr stage: 2.1, 2.6 | Intervention: any form of dance<br>Control: no intervention, other exercise interventions | Parkinson*, danc*, Random* | AMED, BNI, CINAHL, EMBASE, HBE, HMIC, MEDLINE, PscyhINFO, Cochrane Central Registeer of COntrolled Trials, Web of Knowledge, OTseeker, PEDro, SpeechBITE, PsychBITE, Rehabdata, LILACS, IMEMR, MedCarib, DART, Electronic Thesis online service, Networked digital library of Theses, Cochrane controlled trials register, clinicaltrials.gov, National institute for health research, Trialsjournal.com . | 2007-2013 | 2 | RCT | NR | Cochrane Collaborations risk of bias assessment tool<br>Individual reports not available. | Mean difference w/95% CI were calculated<br>Fixed effects invariance model | BBS, UPDRS III, FoG, 6mWT, gait velocity | Significant positive effect on motor function, balance, gait velocity. No effect on functional mobility. | Balance: 0%<br>Motor function: 0%<br>Functional mobility: 0%<br>Gait: 0-45%<br>(Dependent on outcome measure) |
| Doe Tai Chi improve balance and reduce falls incidence in neurological disorders? A systematic review and meta-analysis | Winser et al. | #### | Determine whether Tai Chi can improve balance and reduce fall rate in people with neurological disorders, comparing to no intervention and other active treatments. | NR | 96 | NR | PD | NR | Intervention: Tai Chi<br>Control: no intervention, other active treatments | Specifics NR | AMED, Embase, Web of Science, SCOPUS, EBSCO, and Medline | 2008-2015 | 2 | RCT | Hong Kong, China, Republic of Korea, United States, Korea, Taipei, Taiwan | PEDro: high<br><br>GRADE: high | Pooled estimate of treatment effect, 95% CI<br>OR or WMD<br>Random or fixed effects based on heterogeneity | TUG | Significant effect | NR |
| Drug and exercise treatment of Alzheimer's disease and mild cognitive impairment: a systematic review and meta-analysis of effects on cognition in randomized controlled trials | Ströhle et al. | #### | To directly compare drug therapy and exercise treatments for people with MCI or AD. | NR | 119 | NR | AD | MMSE scores: 13-22 | Intervention: exercise treatment<br>Control: TAU, daily organized activities, home safety assessment sessions | Combinations of: RCT, mild cognitiv*, Alzheimer's disease, physical activity, (drug) | The Cochrane Library, EBSCO, OVID, Web of Science, and FDA. | 1996-2013 | 4 | RCT | NR | Cochrane Collaboration's tool for assessing risk of bias<br>Synthesis NR | SMCR, pooled ES | Cognitive function | Moderate to strong effect. | 61.60% |
| Effect of exercise on cognitive function in chronic disease patients: a meta-analysis and systematic review of randomised controlled trials | Cai et al. | #### | Assess the effect of exercise on cognitive function in people with chronic diseases. | Age range: 72.4-81.8 | 958 | NR | AD | MMSE scores: 5.8-22 | Intervention: exercise (aerobic, resistance, combined)<br>Control: no exercise | Combinations of: Cognition, cognitive function, MMSE, exercise, mscule stretching exercises, resistance training, running or swimming, walking, cycling, physical activity, aerobic, yoga, tai chi, qigong, RCT | PubMed, Web of Science, Embase, the Cochrane Library, CINAHL, PscyINFO, CNKI, WanFang Datam and VIP. | NR | 13 | RCT | NR | Downs and Black Quality Index: mean score 22.05<br>5: good<br>7: moderate<br>1: poor | SMD, 95% CI<br>Random effects model | Global cognitive function | Positive overall random effect on cognitive function | AD: 77% |
| Effects of dance practice on functional mobility, motor symptoms, and quality of life in people with Parkinson's disease: a systematic review with meta-analysis | Santos Delebary et al. | #### | Deteremine the effects that dance classes have on mobility, motor symptoms, and QoL in people with PD when compared to other interventions or no intervention. | Age range: 66.5+/-2.8 to 69.3+/-1.9 | 83 | NR | PD | H&Y stage range 1-4 | Intervention: dance classes<br>Control: no dance classes, no intervention | Parkinson's disease, dancing, and specific filter for randomized controlled trials | MEDLINE, LILACS, SciELO, Cochrane and PsychINFO. | 2007-2015 | 2 | RCT | NR | Cochrane criteria<br>Synthesis NR | Pooled effect size, WMD, SD<br>Fixed or random effects depending on heterogeneity | UPDRS III, FoG, 6mWT, gait velocity – forward, backward | Significant positive effect on motor function. Non-significant positive effect on gait and functional mobility. | 0% (for data included) |
| Effects of mind-body exercises on the physiological and psychosocial well-being of ondividuals with Parkinson's disease: A systematic review and meta-analysis | Kwok et al. | #### | Evaluate the effect of mind-body exercises on the physiological and psychological outcomes for people with PD. | Mean age range: 60.8-74.9 | NR | NR | PD | Mild - moderate | Intervention: mind-body exercise treatment<br>Control: no intervention, placebo, waitlist, usual care, non-exercise control | Parkinson, Mind body, Tai Chi, Qigong, Yoga, Dance, Pilates | EMBASE, Ovid Medline, Psych Info, Cochrane Library | NR | 10<br>RCT: 6<br>CCT: 4 | RCT, CCT | United States, Aisa, Europe | EPHPP<br>1: strong<br>5: moderate<br>4: weak | Means & std dev for absolute change<br>Random effects if high heterogeneity | BBS, UPDRS III, TUG, 6mWT | Large significant effect on motor symptoms, balance and postural instability. Moderate significant effect on functional mobility | Balance: 0%-89%<br>Motor function: 0-60%<br>Functional mobility: NA-95%<br>Gait: NA-0%<br>(Dependent on intervention mode) |
| Home-based prescribed exercise improves balance-related activities in people with Parkinson's disease and has benefits similar to centre-based exercise: a systematic review | Flynn et al. | #### | Determine if home-based exercise can improev balance and QoL in people with PD, and determine if the effects are comparable to centre-based exercise programs. | Mean age: 60-72 | 1496 | NR | PD | Mild-moderate | Intervention: home-based exercise<br>Control: TAU, placebo | Parkinson's disease, physiotherapy, exercise home-based therapy, group-based therapy, supervision, gait, mobility, balance, quality of life, randomised and quasi-randomised | CINAHL, CENTRAL, EMBASE, Physiotherapy Evidence Database | 2005-2018 | 12 | RCT, qRCT | NR | PEDro<br>10: good<br>2: fair | Pooled effect size, Hedges g<br>Fixed or random effects depending on heterogeneity<br>Pairwise & subgroup analyses for dose/supervision effect analysis | SPPB, BBS, miniBESTest, time taken to walk, preferred gait speed, fast gait speed, TUG, FGA, 180 deg. turn test | Positive effect on balance and gait speed | Balance: 0%<br>Gait speed: 0% |
| Physiotherapy intervention in Parkinson's disease: a systematicc review and meta-analysis | Tomlinson et al. | #### | Provide an overall assessment of the effect physiotherapy has on people with PD. | Range: 65-69 | 1570 | NR | PD | Range of H&Y: 2.1-2.6 | Intervention: physiotherapy, exercise, treadmill, dance, martial arts<br>Control: no intervention, placebo | Physiotherapy, physical therapy, exercise, rehabilitation, Parkinson, Parkinson's disease, parkinsonism | Medline, Embase, Cumulative Index to Nursing and Allied Health Literature, Web of Science, Allied and Complimentary Medicine Database, REHABDATA, REHADAT, GEROLIT, Latin American and Caribbean Health Sciences Literature, MedCarib, Index medicus for the Eastern Mediterranean region, conference databases, and trial registries. Specific journals were also hand searched. | 1998-2012 | 20 | RCT | NR | Synthesis NR | WMD, 95% CI | BBS, UPDRS III, gait speed, TUG | Significant positive effect on balance, gait and motor function. | Balance: NA-75%<br>Motor function: 0%-87%<br>Functional mobility: 0%-48%<br>Gait: 0%-34%<br>(Dependent on intervention mode) |
| Tai Chi for Improvement of Motor Function, Balance, and Gait in Parkinson's Disease: A Systematic Review and Meta-Analysis | Yang et al. | #### | Evaluate the efficacy of Tai Chi on people with PD. | Range: 63-69 | 190 | NR | PD | Range of H&Y: 1.5-4 | Intervention: Tai Chi<br>Control: placebo, no intervention, other therapies | Parkinson's disease, Parkinson, Tai Chi, taiji, shadowboxing | PubMed, EMBASE, Cochrane Library, China Knowledge Integrated Database, Wejpu Database for Chinese Technical Perioidicals, Wan Fang Data. ProQuest Dissertations and Cinese dissertation database, WHO International Clinical Trials Registry Platform | 2008-2014 | 5<br>RCT: 4<br>NRCT: 1 | RCT, NRCT | China, Korea, US | Cochrane Collaboration tools<br>Synthesis NR | Pooled estimate of efficacy, SMD, 95% CI | BBS, 1 leg stance, tandem stance, UPDRS III, TUG, gait velocity, 6mWT | Significant positive effect on balance, motor function and functional mobility. Insufficient evidence of effect on gait. | Balance: 0-68%<br>Motor function: 57%<br>Functional mobility: 0%<br>Gait: 0%<br>(Dependent on outcome measure) |
| The effect of exercise interventions on cognitive outcome in Alzheimer's disease: a systematic review | Farina et al. | #### | To assess how effective exercise is in attenuating cognitive decline in people with AD. | NR | NR | 171 | AD | MMSE range: 5-29 | Intervention: exercise<br>Control: no exercise, home safety assessment, daily activity, organized conversation, TAU, support group | Exercise, physical, trianing, walk*, danc*, movement, Alzheimer's, dementia, intervention, program | PubMed, Science Direct, Web of Knowledge, PsychINFO | 2004-2012 | 6 | RCT | NR | Quality Assessment tool for Quantitative Studies: moderate-strong<br>Funnel plot for publication bias: none found | Effect size, 95% CI | ERFC, MMSE, ADAS-cog, ADS-6, BNT, HVLT, CANTAB-Expedio | Significant positive effect | 69% |