**Appendix Table R1. Characteristics of eligible studies: other interventions in adults with normal cognition**

| **Intervention Type** | **Study**  **Design Country**  **RoB** | **N=** | **Population**  **Inclusion**  **Age (mean)**  **Sex**  **Race**  **Education**  **Baseline Cog** | **Intervention**  **Mode**  **Components**  **Frequency**  **Duration** | **Comparison**  **Mode**  **Components**  **Frequency**  **Duration** | **Outcome**  **timing** | **Outcome**  **Domain [Instrument]** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Other Medications** | Newhouse 20121  RCT  US  Medium | 74 | Non-smoking adults >55 with MCI (determined by subjective and objective impairments in cognitive function)  Age, Mean (SD)  76 (7.6)  39% Female  Race NR  Years of Education, Mean (SD)  15.9 (2.7)  MMSE, Mean (SD)  27.4 (2.0) | Transdermal nicotine patch 15 mg/day for 6 months | Placebo | 6 months | Diagnosis [CDR]  Multidomain Neuropsychological Test Performance [Cognitive Drug Research Battery]  Executive/Attention/Processing Speed [Connors Continuous Performance Test]  [Immediate and Delayed Paragraph Recall Test, NYU Version] [DSST] |
| Forlenza 20112  RCT  Brazil  Medium | 45 | Community-dwelling adults >60 diagnosed with amnestic MCI per Mayo criteria  Age, Mean (SD)  72.5 (5.9)  Sex NR  Race NR  Years of education, Mean (SD)  10.5 (5.3)  ADAS-Cog Score, Mean (SD)  10.9 (5.9) | Lithium titrated to serum levels 0.25-0.5 mmol/l (lower than dose for affective disorders); daily doses for 12 months | Placebo | 12 months | Diagnosis [CDR, Sum of Boxes]  Biomarker [Amyloid-Beta] [Phosphorylated Tau At Threonine] [Total Tau]  Multidomain Neuropsychological Test Performance [ADAS-Cog]  Executive/Attention/Processing Speed [TMT A] [TMT B]  Memory [CERAD Delayed Recall] [CERAD Figure Recall]  Memory [Sequence of Letters and Numbers Score]  (Cognitive Performance outcomes compared only baseline to endpoint within group, not between group) |
| **Music Interventions** | Hars 20143  Secondary analysis of RCT  Switzerland  Medium | 134 | Adults >65 at increased risk of falling  Age, Mean (SD)  75 (7)  96.5% Female  Race NR  Education, 15% primary, 67% middle, 18% highschool  MMSE, Mean (SD)  26.1 (2.9) | Weekly 1 hour supervised group class; multitask exercises to rhythm | Inactive control | 6 months | Brief Cognitive Test Performance [MMSE]  Executive/Attention/Processing Speed [TMT A]  Visuospatial [CLOX-1] |
| Bugos 20074  US  RCT  High | 31 | Musically naïve older adults  Age, Mean (SD)  70.5 (5.6)  81% Females  Race NR  Years of Education, Mean (SD)  16.4 (NR)  No baseline cognitive screen | Individualized piano instruction ½ hour per week and independent practice 3 hours per week for 6 months. (Music theory instruction component) | Inactive control | 9 months | Multidomain Neuropsychological Test Performance [WAIS]  Executive/Attention/Processing Speed [TMT A] [TMT B] |
| **Sleep interventions** | Lucassen 20145  US  RCT  High | 121 | Short-sleeping (<6.5 hours/night), obese (BMI 30-55 kg/m2) adults  Age, Mean (SD)  41.1 (7)  76% Female  60% Black  Years of Education NR  No baseline cognitive screen | Sleep extension (up to 7.5 hours/night) with life-style modifications using personalized sleep plans | Continue current sleep habits; habits reviews every 2 months | Median 14 months | Multidomain Neuropsychological Test Performance [WAIS]  Executive/Attention/Processing Speed [TMT A] [TMT B] [Wisconsin Card Sort Test]  Memory [RCFT] [CVLT]  Language [Verbal Fluency]  Visuospatial [RCFT]  Motor [Grooved Peg Board] |
| Sun 20136  RCT  China  High | 80 | Adults >60 years with reduced sleep quality (Pittsburgh Sleep Quality Index >5)  Age, Mean (SD)  69 (8)  74.7% Female  Race NR  1.3% high school or above  MMSE, Mean (SD)  24.2 (3.7) | Sleep hygiene educational pamphlet; guided progressive muscle relaxation tape (unclear frequency and duration; presumably daily for 12 months) | Sleep hygiene educational pamphlet | 12 months | Brief Cognitive Test Performance [MMSE]  Memory [Weschler Memory Scale, Chinese Revised] |
| **Social Engagement** | Lam 20157  RCT  China  High | 276 | Older adults with MCI (determined by subjective and objective impairments in cognitive function) and without dementia  Age, Mean (SD)  75.4 (6.5)  78.2% Female  Race NR  Education Level (Years), Mean (SD)  3.9 (3.6)  Catonese MMSE. Mean (SD)  25.6 (2.3) | Cognitive group (board games, reading/discussing newspapers) at least 3, 1-hr sessions/week | Social activities -At least 3, 1-hr sessions/week | 12 months | Diagnosis [CDR, Sum of Boxes]  Brief Cognitive Test Performance [MMSE]  Multidomain Neuropsychological Test Performance [ADAS-Cog, Chinese Version]  Memory [Delayed Recall]  Language [CVFT] |
| Mortimer 20128  RCT  China  High | 74 | Adults age 60-79 with an education-adjusted Chinese MMSE score greater than 26  Age, Mean (SD)  67.8 (5.8)  67% Female  Race NR  Years of Education, Mean (SD)  11.7 (3.4)  Mattis Dementia Scale Score, Mean (SD)  137.6 (7.6) | Group social interaction for 1 hour 3 times per week at a neighborhood community center | Inactive control with 4 check-in calls over 40 weeks | 40 weeks | Biomarker [Whole Brain Volume, % of Total Intracranial Volume]  Multidomain Neuropsychological Test Performance [Mattis Dementing Rating Scale, Total Score]  Executive/Attention/Processing Speed [DS Forward] [DS Backward] [SCWT, Word] [SCWT, Color] [SCWT, Color-Word] [WAIS Similarities] [TMT A] [TMT B] [Mattis Attention Score] [Mattis Initiation Score] [Mattis Conceptualization Score]  Memory [RCFT, Copying] [RCFT, Recall] [AVLT, Immediate Recall] [AVLT, Delayed Recall] [AVLT, Delayed Recognition] [Mattis Memory Score]  Language [Category Verbal Fluency, Animals] [BNT]  Visuospatial [Bell Cancellation Test] [RCFT, Copying] [RCFT, Recall] [CLOX-1] [Mattis Construction Score] |
| **Transcranial random noise stimulation** | Snowball, 2013{Snowball, 2013 #795}  United Kingdom  RCT  High | 29 (4 excluded due to drop-out) | Adults with normal or corrected-to-normal vision, no history of psychiatric illness.  Mean age (SD): 21 (SD~2.7)  59% Female  Race: NR  Education: NR  No baseline cognition | Transcranial random noise stimulation by DC stimulator-Plus device, noise in high-frequency band, for 20 minutes per day for 5 days | Sham procedure: current applied for 30 seconds after upward ramping and then terminated for 5 days | 6 months | Executive/Attention/Processing Speed [Arithmetic Calculation And Drill] [Mental Rotation Task] [Attention Network Test] |

3MSE=Modified Mini Mental Status Examination; AD=Alzheimer’s disease; ADAS-Cog=Alzheimer’s Disease Assessment Scale-Cognitive Subscale; CERAD=Consortium to Establish a Registry for Alzheimer’s Disease; CVLT=California Verbal Learning Test; CDR=Change in Dementia Rating; COWAT= Controlled Oral Word Association Test; DSM=Diagnostic and Statistical Manual of Mental Disorders; MMSE=Mini-Mental State Examination; NINCDS-ADRDA=National Institute of Neurological and Communicative Disorders and Stroke-Alzheimer’s Disease and Related Disorders Association; N=sample size; NR=not reported; RCT=randomized controlled trial;RoB=risk of bias; SD=standard deviation; TMT=Trails Making Test (A and/or B); WAIS=Wechsler Adult Intelligence Scale; WMS=Wechsler Memory Scale