NKR 53 Demens og adfærdsforstyrrelser PiCO 6 reminiscence vs. no therapy

Review information

Authors

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[1][Empty affiliation]

Citation example: S. NKR 53 Demens og adfærdsforstyrrelser PiCO 6 reminiscence vs. no therapy. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

Characteristics of studies

Characteristics of included studies

Asiret 2016

Methods	
Participants	
Interventions	
Outcomes	
Identification	
Notes	Data obtained from: Folkerts AK, Roheger M, Franklin J, Middelstädt J, Kalbe E. Cognitive interventions in patients with dementia living in long-term care facilities: Systematic review and meta-analysis. Arch Gerontol Geriatr. 2017 Nov;73:204-221. doi: 10.1016/j.archger.2017.07.017. Epub 2017 Jul 29.

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	High risk	reference: Folkerts et al., 2017
Allocation concealment (selection bias)	Unclear risk	reference: Folkerts et al., 2017
Blinding of participants and personnel (performance bias)	Unclear risk	reference: Folkerts et al., 2017
Blinding of outcome assessment (detection bias)	Unclear risk	reference: Folkerts et al., 2017
Incomplete outcome data (attrition bias)	Low risk	reference: Folkerts et al., 2017
Selective reporting (reporting bias)	Unclear risk	reference: Folkerts et al., 2017
Other bias	Low risk	reference: Folkerts et al., 2017

Goldwasser 1987

Methods	
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Notes	Data obtained from: Folkerts AK, Roheger M, Franklin J, Middelstädt J, Kalbe E. Cognitive interventions in patients with dementia living in long-term care facilities: Systematic review and meta-analysis. Arch Gerontol Geriatr. 2017 Nov;73:204-221. doi: 10.1016/j.archger.2017.07.017. Epub 2017 Jul 29.

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Blinding of participants and personnel (performance bias)	Unclear risk	reference: Folkerts et al., 2017

Blinding of outcome assessment (detection bias)	Low risk	reference: Folkerts et al., 2017
Incomplete outcome data (attrition bias)	Low risk	reference: Folkerts et al., 2017
Selective reporting (reporting bias)	Unclear risk	reference: Folkerts et al., 2017
Other bias	High risk	reference: Folkerts et al., 2017

Haight 2006

Methods	
Participants	
Interventions	
Outcomes	•
Identification	
Notes	Data obtained from: NHMRC Partnership Centre for Dealing with Cognitive and Related Functional Decline in Older People Clinical practice guidelines and principles of care for people with dementia in Australia2016;(Report):NHMRC Partnership Centre for Dealing with Cognitive and Related Functional Decline in Older People 2016.

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Judgement Comment: Not described Unclear how the participants were randomized.
Allocation concealment (selection bias)	Unclear risk	Quote: "The managers of the facilities volunteered participants who were then assigned randomly to either an experimental or control group by the researchers."
Blinding of participants and personnel (performance bias)	High risk	Judgement Comment: Not possible to blind participants or personnel

Blinding of outcome assessment (detection bias)	High risk	Judgement Comment: Not blinded
Incomplete outcome data (attrition bias)	High risk	Judgement Comment: Number randomized not stated. The total included numbers were 30, only 24 had complete information on all test measures. From tabel 1 it looks like there is 15 in each group but for MMSE there is 14/16 participants in each group and for CSDD the distribution is 15/16=31. Distribution between control and intervention is unclear.
Selective reporting (reporting bias)	Low risk	Judgement Comment: None detected
Other bias	Low risk	Judgement Comment: No other apparent sources of bias

Hsieh 2010

Methods	
Participants	
Interventions	
Outcomes	•
Identification	
Notes	Data obtained from: Huang, Hui-Chuan; Chen, Yu-Ting; Chen, Pin-Yuan; Huey-Lan Hu, Sophia; Liu, Fang; Kuo, Ying-Ling; Chiu, Hsiao-Yean. Reminiscence Therapy Improves Cognitive Functions and Reduces Depressive Symptoms in Elderly People With Dementia: A Meta-Analysis of Randomized Controlled Trials. Journal of the American Medical Directors Association 2015;16(12):1087-1094. United States 2015

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Blinding of participants and personnel (performance bias)	High risk	reference: Huang et al., 2015

Blinding of outcome assessment (detection bias)	Unclear risk	reference: Huang et al., 2015
Incomplete outcome data (attrition bias)	High risk	reference: Huang et al., 2015
Selective reporting (reporting bias)	Unclear risk	reference: Huang et al., 2015
Other bias	Unclear risk	Not assesed

Ito 2007

Methods	
Participants	
Interventions	
Outcomes	•
Identification	
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Blinding of participants and personnel (performance bias)	High risk	reference: Huang et al., 2015
Blinding of outcome assessment (detection bias)	Low risk	reference: Huang et al., 2015
Incomplete outcome data (attrition bias)	High risk	reference: Huang et al., 2015
Selective reporting (reporting bias)	Unclear risk	reference: Huang et al., 2015

Other bias	Unclear risk	Not assesed

Lai 2004

Methods	
Participants	
Interventions	
Outcomes	
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Notes	Data obtained from: Folkerts AK, Roheger M, Franklin J, Middelstädt J, Kalbe E. Cognitive interventions in patients with dementia living in long-term care facilities: Systematic review and meta-analysis. Arch Gerontol Geriatr. 2017 Nov;73:204-221. doi: 10.1016/j.archger.2017.07.017. Epub 2017 Jul 29.

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Selective reporting (reporting bias)	Unclear risk	reference: Folkerts et al., 2017
Other bias	Low risk	reference: Folkerts et al., 2017

Meguro 2008

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Interventions	
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Blinding of outcome assessment (detection bias)	Unclear risk	reference: Folkerts et al., 2017
Incomplete outcome data (attrition bias)	Low risk	reference: Folkerts et al., 2017
Selective reporting (reporting bias)	Unclear risk	reference: Folkerts et al., 2017
Other bias	Low risk	reference: Folkerts et al., 2017

Morgan 2000

Methods	
Participants	
Interventions	
Outcomes	
Identification	
Notes	Data obtained from: Woods B, Spector AE, Jones CA, Orrell M, Davies SP. Reminiscence therapy for dementia (Review). Cochrane Database of Systematic Reviews 2005, Issue 2. Art. No.: CD001120. DOI: 10.1002/14651858.CD001120.pub2.

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: Group Assignment. The initial participants were randomly assigned alternately to the groups. Subsequent participants were allocated to the groups according to a procedure called randomisation by minimisation which took into account the participant's age and relationship to their caregiver. This is a randomisation method which seeks to minimise inter-group differences on key demographic variables, of especial importance with a small sample size.
Allocation concealment (selection bias)	Unclear risk	Quote: Subsequent participants were allocated to the groups according to a procedure called randomisation by minimisation which took into account the participant's age and relationship to their caregiver. This is a randomisation method which seeks to minimise inter-group differences on key demographic variables, of especial importance with a small sample size. Judgement comment: no information on allocation concealment.

Blinding of participants and personnel (performance bias)	High risk	Quote: All scales were administered in person with the researcher asking the questions directly. The order of presentation of the scales was random from participant to participant, to maximise co-operation. Furthermore, if possible, the researcher met in person with the individual's carer beforehand to gain some information about the person's life, and to corroborate information obtained from the AMI. The preintervention assessments were carried out by the researcher who also guided participants through the life review Almost half of the follow-up assessments were carried out by an assistant psychologist who was blind to the allocation of participants to the groups. Fifty per cent of the assistant's assessment individuals were from the experimental group and fifty from the control group. The remaining assessments were carried out by the primary researcher. Independent t-tests were carried out on the data collected by the primary researcher and those collated by the assistant psychologist. The tests revealed that there were no significant differences between the scores obtained by the two assessors on all of the primary and secondary dependent variables. This suggests that the primary researcher did not appear to bias responses provided by participants at the follow up assessment sittings. Judgement comment: Blinding is not feasable.
Blinding of outcome assessment (detection bias)	High risk	The preintervention assessments were carried out by the researcher who also guided participants through the life review Almost half of the follow-up assessments were carried out by an assistant psychologist who was blind to the allocation of participants to the groups. Fifty per cent of the assistant's assessment individuals were from the experimental group and fifty from the control group. The remaining assessments were carried out by the primary researcher. Independent t-tests were carried out on the data collected by the primary researcher and those collated by the assistant psychologist. The tests revealed that there were no significant differences between the scores obtained by the two assessors on all of the primary and secondary dependent variables. This suggests that the primary researcher did not appear to bias responses provided by participants at the follow up assessment sittings. Judgement comment: Blinding is not feasable.

Incomplete outcome data (attrition bias)	Low risk	Judgement comment: No missing data reported The study reported on the four main dependent variables described in the methods section including, self-esteem, depression, life satisfaction and autobiographical memory all raw data are available in Appendix H, starting at page 157, on all the 17 included participants.
Selective reporting (reporting bias)	Unclear risk	No pre-specified study protocol available. The study reported on the four main dependent variables described in the methods section including, self-esteem, depression, life satisfaction and autobiographical memory all raw data are available in Appendix H, starting at page 157, on all the 17 included participants.
Other bias	High risk	Quote: It should be noted that in this pilot study, the groups were not balanced for amount of therapist contact. It was impossible within the time constraints of the study to have a control group receive contact comparable with the experimental group. Quote: At the end of the meetings these individuals said that they would agree to participate or continue to participate if they were resident at the care home the following week, but would be trying to find a way out of there to go to their previous home if possible. It is also possible that some residual anger at being placed at the home was directed at the researcher. One individual in particular assumed that the researcher was part of a conspiracy to keep them at the home, the individual subsequently dropped out of the project. This could have been especially difficult if the researcher had developed a relationship with a relative who may have initiated the move to residential care for the person. Consequently, similar considerations to those made in family and couple therapeutic work could be important, that is, there *is* a need to be aware of the person's fantasies regarding the researcher's relationship with the relative or with staff and if possible then to hold all sessions with partners present. In reality this was not possible *as* relatives had other commitments. Quote: 27.5 percent (n=11) of the total number of individuals met with, decided not to take part in the study. Quote: In this study, it would have been useful to follow-up those individuals who had dropped out of the intervention at this crucial point in time, however, one must obviously respect their decision for no further

		involvement.

Morgan 2010

Methods	
Participants	
Interventions	
Outcomes	
Identification	
Notes	Data obtained from: Folkerts AK, Roheger M, Franklin J, Middelstädt J, Kalbe E. Cognitive interventions in patients with dementia living in long-term care facilities: Systematic review and meta-analysis. Arch Gerontol Geriatr. 2017 Nov;73:204-221. doi: 10.1016/j.archger.2017.07.017. Epub 2017 Jul 29.

Risk of bias table

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Blinding of participants and personnel (performance bias)	Unclear risk	reference: Folkerts et al., 2017
Blinding of outcome assessment (detection bias)	High risk	reference: Folkerts et al., 2017
Incomplete outcome data (attrition bias)	Unclear risk	reference: Folkerts et al., 2017
Selective reporting (reporting bias)	Unclear risk	reference: Folkerts et al., 2017
Other bias	High risk	reference: Folkerts et al., 2017

SerraniAzcurra 2012

Methods	
Participants	
Interventions	
Outcomes	•
Identification	
Notes	Data obtained from: NHMRC Partnership Centre for Dealing with Cognitive and Related Functional Decline in Older People Clinical practice guidelines and principles of care for people with dementia in Australia2016;(Report):NHMRC Partnership Centre for Dealing with Cognitive and Related Functional Decline in Older People 2016.

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Quote: "The subjects were randomly assigned to one of the three groups (intervention, active control and passive control). The" Judgement Comment: No information on sequence generation has been provided.
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: No information on allocation concealment has been provided
Blinding of participants and personnel (performance bias)	Low risk	Quote: "The outcome was precisely defined, and the investigators remained ‘blind’ to the participants’ exposure to the intervention and to other confounding and prognostic factors. The theoretical framework of the use of reminiscence therapy" Judgement Comment: Complete blinding of the participants is not possible but they include an active control group.
Blinding of outcome assessment (detection bias)	Low risk	Quote: "The psychologists were blinded to the outcome measures. The" Judgement Comment: Outcome assessors were blinded

Incomplete outcome data (attrition bias)	Low risk	Judgement Comment: Described dropout and use Multiple Inputation to handle missing data
Selective reporting (reporting bias)	Low risk	Quote: "ClinicalTrials.gov Identifier: NCT01295957" Judgement Comment: Pre-registered protocol
Other bias	Low risk	Quote: "No conflicts of interests are declared." Judgement Comment: The study appears to be free of other sources of bias

Tadaka 2007

Methods	
Participants	
Interventions	
Outcomes	
Identification	
Notes	Data obtained from: Huang, Hui-Chuan; Chen, Yu-Ting; Chen, Pin-Yuan; Huey-Lan Hu, Sophia; Liu, Fang; Kuo, Ying-Ling; Chiu, Hsiao-Yean. Reminiscence Therapy Improves Cognitive Functions and Reduces Depressive Symptoms in Elderly People With Dementia: A Meta-Analysis of Randomized Controlled Trials. Journal of the American Medical Directors Association 2015;16(12):1087-1094. United States 2015

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Incomplete outcome data (attrition bias)	High risk	reference: Huang et al., 2015

Selective reporting (reporting bias)	Unclear risk	reference: Huang et al., 2015
Other bias	Unclear risk	Not assesed

Thorgrimsen 2002

Methods	
Participants	
Interventions	
Outcomes	
Identification	
Notes	Data obtained from: Woods B, Spector AE, Jones CA, Orrell M, Davies SP. Reminiscence therapy for dementia (Review). Cochrane Database of Systematic Reviews 2005, Issue 2. Art. No.: CD001120. DOI: 10.1002/14651858.CD001120.pub2. and Huang, Hui-Chuan; Chen, Yu-Ting; Chen, Pin-Yuan; Huey-Lan Hu, Sophia; Liu, Fang; Kuo, Ying-Ling; Chiu, Hsiao-Yean. Reminiscence Therapy Improves Cognitive Functions and Reduces Depressive Symptoms in Elderly People With Dementia: A Meta-Analysis of Randomized Controlled Trials. Journal of the American Medical Directors Association 2015;16(12):1087-1094. United States 2015

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Blinding of participants and personnel (performance bias)	High risk	reference: Huang et al., 2015
Blinding of outcome assessment (detection bias)	Low risk	reference: Huang et al., 2015
Incomplete outcome data (attrition bias)	Low risk	reference: Huang et al., 2015

Selective reporting (reporting bias)	Unclear risk	reference: Huang et al., 2015
Other bias	Unclear risk	not assessed

Tolson 2016

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Age*: 84 (median) ● *MMSE mean (SD)*: Not reported Control ● *Age*: 84 (median) ● *MMSE mean (SD)*: Not reported Overall ● *Age*: 84 (median) ● *MMSE mean (SD)*: Not reported **Included criteria:** All study participants were aged≥ 60 and were residents of a study nursing home, diagnosed with major neuro cognitive disorder according to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) criteria (American Psychiatric Association 2013) and had a Mini-Mental State Examination (MMSE) between24 and10. We consider older adults with mild and moderate dementia based on a MMSE between24 and>18 and between≤ 18 and>10 respectively (Van Bogaertet al.2013) **Excluded criteria:** Based on the opinion of the nursing home physician/nursing staff, residents with unstable medical conditions and/or limited in their capacity to communicate verbally were not eligible to participate in the study **Pretreatment:** Both intervention and control groups showed no differences,except for memory games and antidepressant use. In the intervention group, 69% of the residents were treated with antidepressants in comparison with 42% in the control group (P0.037). In the latter group, 55% of the residents played memory games in comparison with 28% in the intervention group (P0.034)

Interventions	**Intervention Characteristics** Intervention ● *Duration of intervention (weeks)*: 8 ● *Follow-up after end of treatment*: No follow-up ● *Description of intervention*: The standardized individual reminiscence intervention was based on the SolCos model (Soltys Coats 1994)delivered for each study participant by one facilitator. The intervention protocol contained the three elements of the SolCos model, namely process, items and outcomes. The process component describes the standard approach for facilitator(s) to use to interview participants with a raising awareness of their own characteristics and perspectives as well as the personalized context of the participants (e.g.family, home, community and life role). The items component has two subcomponents: stimuli and responses. During structured sessions interviewed items evoke recollections used by the facilitator to focus and stimulate the reminiscence process. Intense verbalization and/or sensory stimulation can focus on family, home, community or life role. The outcome components focus on the participants' and the facilitators' outcomes aiming to impact participants' cognition, well-being and behaviour as well as to increase facilitators' supportive role and experiences as a change agent in the reminiscence process.The reminiscence sessions were strictly structured,starting with an introduction interview to prepare the sessions (e.g. characteristics and particular life events and experiences of participants). The sessions were administered two times per week during 8 weeks (week 1 until week 8 of the study). Each session lasted 45 min... ach session was structured with an introduction and round-off phase of 15 min and a reminiscence phase of 30 min. The sessions took place in the resident's room or a small private lounge in the nursing home. These places were familiar places to the participants and had a homely decor. ● *Description of therapists/facilitators*: We selected and trained 18 nursing home volunteers as facilitators. The majority of the facilitators were female (n=16) who were involved in residents' social activities. Their mean age was 43 years (range=20–67). Eight had received higher education (e.g. bachelor degree or higher), six facilitators received secondary education and four facilitators received basic education. One researcher responsible for the intervention performed the training programme. Moreover, the researcher has provided sup-port and advice to the facilitators. Each resident of the intervention group received the reminiscence sessions by one of the trained nursing home volunteer facilitators uniquely. Control ● *Duration of intervention (weeks)*: 8 ● *Follow-up after end of treatment*: No follow-up ● *Description of intervention*: Not described ● *Description of therapists/facilitators*:

Outcomes	*Cognition Mean* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: MMSE ● **Unit of measure**: Points ● **Direction**: Higher is better ● **Data value**: Endpoint *Quality of life / wellbeing mean* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: Life Satisfaction Index ● **Unit of measure**: Points ● **Direction**: Higher is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** SE was funded in part by the University of Antwerp Research Fund, the Alzheimer Research Foundation (SAO-FRA, http://alzh.org), the Institute Born-Bunge, the Belgian Science Policy Office Interuniversity Attraction Poles (IAP) program (BELSPO, www.belspo.be), the Flemish Government-initiated Methusalem excellencegrant (EWI, www.ewi-vlaanderen.be), the Flanders Impulse Program on Networks for Dementia Research(VIND), the Agency for Innovation by Science and Technology (IWT, www.iwt.be) and the Research Foundation Flanders (FWO, www.fwo.be). **Country:** Belgium **Setting:** Nursing homes **Comments:** Trial ID ISRCTN74355073 **Authors name:** P. Van Bogaert **Institution:** Division of Nursing and Midwifery SciencesFaculty of Medicine and Health Sciences Centre for Research and Innovation in Care (CRIC) **Email:** peter.vanbogaert@uantwerpen.be **Address:** University of Antwerp Universiteitsplein 1B-2610 Wilrijk Belgium
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Judgement Comment: Just described as randomly, no details on sequence generation
Allocation concealment (selection bias)	Low risk	Quote: "approved by the ethical committee. Participants were randomly selected into the interven- tion group or control group by using sequentially num- bered, opaque sealed envelope for each resident (n = 72), establishing two equal study groups before the trial started (Doigs & Simpson 2005). A person not involved with the study divided the envelopes into two blinded boxes manually and randomly. No participants were added after the randomization and/or during the trial. Based on our previous study"
Blinding of participants and personnel (performance bias)	High risk	Judgement Comment: Not possible to blind the participants
Blinding of outcome assessment (detection bias)	High risk	Quote: "A second researcher, who was not involved with any aspect of the intervention programme, has collected the study participants' assessments scales and other data (week 0 and 10 before and after the trial respectively). Therefore, this researcher was blinded to the assignment of the participants to the intervention or to the control groups." Judgement Comment: The participants are outcome assessors
Incomplete outcome data (attrition bias)	Low risk	Judgement Comment: Intervention: allocated 36, discontinued: dead=2, palliative care=1, withdrawal of consent=2 and adverse events 2Control: allocated 36, discontinued: dead=4, hospital admission=1,
Selective reporting (reporting bias)	Low risk	Judgement Comment: Match to protocol
Other bias	Low risk	Judgement Comment: No other apparent sources of bias

VanBogaert 2013

Methods	
Participants	
Interventions	
Outcomes	•

Identification	
Notes	Data obtained from: Huang, Hui-Chuan; Chen, Yu-Ting; Chen, Pin-Yuan; Huey-Lan Hu, Sophia; Liu, Fang; Kuo, Ying-Ling; Chiu, Hsiao-Yean. Reminiscence Therapy Improves Cognitive Functions and Reduces Depressive Symptoms in Elderly People With Dementia: A Meta-Analysis of Randomized Controlled Trials. Journal of the American Medical Directors Association 2015;16(12):1087-1094. United States 2015

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Incomplete outcome data (attrition bias)	Unclear risk	reference: Huang et al., 2015
Selective reporting (reporting bias)	Unclear risk	reference: Huang et al., 2015
Other bias	Unclear risk	not assessed

Wang 2007

Methods	
Participants	
Interventions	
Outcomes	
Identification	

Notes	Data obtained from: Folkerts AK, Roheger M, Franklin J, Middelstädt J, Kalbe E. Cognitive interventions in patients with dementia living in long-term care facilities: Systematic review and meta-analysis. Arch Gerontol Geriatr. 2017 Nov;73:204-221. doi: 10.1016/j.archger.2017.07.017. Epub 2017 Jul 29.

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Incomplete outcome data (attrition bias)	Low risk	reference: Folkerts et al., 2017
Selective reporting (reporting bias)	Unclear risk	reference: Folkerts et al., 2017
Other bias	Low risk	reference: Folkerts et al., 2017

Wang 2009

Methods	
Participants	
Interventions	
Outcomes	•
Identification	
Notes	Data obtained from: Dallas P. Seitz MDa,*, Sarah Brisbin MSc a, Nathan Herrmann MDb,c, Mark J. Rapoport MDb,c, Kimberley Wilson MSWd, Sudeep S. Gill MDe, Jenna Rines a, Ken Le Clair MDa, David Conn MBc, f. Efficacy and Feasibility of Nonpharmacological Interventions for Neuropsychiatric Symptoms of Dementia in Long Term Care: A Systematic Review. JAMDA 13 (2012) 503-506.

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	High risk	reference: Seitz et. al., 2012
Allocation concealment (selection bias)	High risk	reference: Seitz et. al., 2012
Blinding of participants and personnel (performance bias)	High risk	reference: Seitz et. al., 2012
Blinding of outcome assessment (detection bias)	Unclear risk	Not assesed
Incomplete outcome data (attrition bias)	High risk	reference: Seitz et. al., 2012
Selective reporting (reporting bias)	High risk	reference: Seitz et. al., 2012
Other bias	High risk	reference: Seitz et. al., 2012

Woods 2012

Methods	
Participants	
Interventions	
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Selective reporting (reporting bias)	Low risk	reference: Huang et al., 2015
Other bias	Unclear risk	Not assessed

Wu 2016

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Age*: 73.5 (7.3) (mean(SD)) ● *MMSE mean (SD)*: 23.1 (1.31) Control ● *Age*: 73.6 (7.6) (mean(SD)) ● *MMSE mean (SD)*: 22.9 (1.57) Overall ● *Age*: 73.6 (7.4) (mean(SD)) ● *MMSE mean (SD)*: 23 (1.44) **Included criteria:** Patients were eligible if they were 65y ears of age or more, had clinical diagnosis of mild or moderate dementia, were able to communicate in Mandarin or Taiwanese, had no discernible cognitive impairment, and were willing to participate in a weekly spiritual reminiscence for 6 weeks if being allocated to the intervention group or willing to participate in two interviews 6 weeks apart if being allocated to the control group. Mini Mental State Examination was used to screen potential participants.Scores between 21 to 24 indicate mild dementia and those between 13 to 20

	indicate moderate dementia **Excluded criteria:** **Pretreatment:** None detected
Interventions	**Intervention Characteristics** Intervention ● *Duration of intervention (weeks)*: 6 ● *Follow-up after end of treatment*: No follow-up ● *Description of intervention*: The spiritual reminiscence intervention consisted of six weekly sessions. Each session lasted for 1h, which included warm-up greetings for 5 min, group activities for 50 min, and conclusion with blessings by the group leader for 5 min. The greeting period was used to in-troduce the theme of each session and to review the one from previous session. The sessions were carried out in an activity room of the study hospital. The activity room was a brightly lit, size able space with a warm and relaxed atmosphere.Patients were arranged to sit in a circle to allow them to have eye contact and communicate with others. Each group consisted of three to six patients.The group activities consisted of scrapbooks, handicraft, autobiographical writing, observing the growth of plants, storytelling, and singing. These activities were constructed around six different themes based on MacKinlay's spiritual tasks of aging model(MacKinlay, 2001a; MacKinlay, 2001b;).The content of each session was developed based on the spiritual model of dementia by MacKinlay andTrevitt (2012) and a package designed for health care professionals to undertake spiritual reminiscence on patients with dementia (MacKinlay and Trevitt,2006). All the interviews were administered outside the intervention setting by L. F. W., who were unaware of group allocation. Participants were provided with a manual containing written materials covered in each of the six sessions for their review. ● *Description of therapists/facilitators*: Not described Control ● *Duration of intervention (weeks)*: 6 ● *Follow-up after end of treatment*: No follow-up ● *Description of intervention*: Not described ● *Description of therapists/facilitators*:
Outcomes	*Cognition* ● **Outcome type**: ContinuousOutcome ● **Reporting**: *Median and IQR,* SD calculated from IQR (IQR/1.35) ● **Scale**: MMSE

	● **Unit of measure**: Points ● **Direction**: Higher is better ● **Data value**: Endpoint *BPSD median and IQR* ● **Outcome type**: ContinuousOutcome ● **Reporting**: *Median and IQR,* SD calculated from IQR (IQR/1.35) ● **Scale**: NPI ● **Unit of measure**: Points ● **Direction**: Lower is better ● **Data value**: Endpoint *Depression Median IQR* ● **Outcome type**: ContinuousOutcome ● **Reporting**: *Median and IQR,* SD calculated from IQR (IQR/1.35) ● **Scale**: CSDD ● **Unit of measure**: Points ● **Direction**: Lower is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** This study was partially supported by a grant from the Ministry of Science and Technology, Taiwan (NSC102-2320-B-025-001). **Country:** Taiwan **Setting:** Medical center **Comments:** **Authors name:** M. Koo **Institution:** 2Department of Medical Research, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan and Dalla Lana School of Public Health, University of Toronto, Toronto, ON, Canada **Email:** m.koo@utoronto.ca **Address:** Not reported
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Judgement Comment: Only described as 'randomly allocated' no further details
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: Only described as 'randomly allocated' no further details
Blinding of participants and personnel (performance bias)	High risk	Judgement Comment: Participants can not be blinded
Blinding of outcome assessment (detection bias)	High risk	Judgement Comment: participants are outcome assessors
Incomplete outcome data (attrition bias)	Low risk	Judgement Comment: Intervention: 53 out of 53 completedControl: 50 out of 53 completed, reason not stated
Selective reporting (reporting bias)	Low risk	Judgement Comment: No apparent bias
Other bias	Low risk	Judgement Comment: No other apparent sources of bias

Footnotes

Characteristics of excluded studies

Amieva 2016

Reason for exclusion	Wrong intervention

Bailey 2017

Reason for exclusion	Wrong intervention

Baines 1987

Reason for exclusion	Wrong comparator

Barban 2016

Reason for exclusion	Wrong intervention

Bohlken 2017

Reason for exclusion	Wrong study design

Burnell 2016

Reason for exclusion	Wrong study design

Deponte 2007

Reason for exclusion	Wrong study design

Han 2017

Reason for exclusion	Wrong intervention

Haslam 2010

Reason for exclusion	Wrong comparator

Hsu 2009

Reason for exclusion	Wrong patient population

Huang 2009

Reason for exclusion	Wrong study design

Kim 2015

Reason for exclusion	Wrong intervention

Kim 2016

Reason for exclusion	Wrong intervention

Kwai 2017

Reason for exclusion	Only abstract

Lalanne 2015

Reason for exclusion	Wrong intervention

LiMo 2014

Reason for exclusion	Not english

Lopes 2016

Reason for exclusion	Wrong patient population

Meguro 2008a

Reason for exclusion	Wrong study design

Nakamae 2014

Reason for exclusion	Wrong intervention

Nakatsuka 2015

Reason for exclusion	Wrong comparator

Orrell 2016

Reason for exclusion	Wrong patient population

Panerai 2016

Reason for exclusion	Wrong intervention

Subramaniam 2014

Reason for exclusion	Wrong comparator

Tabourne 1995

Reason for exclusion	Wrong intervention

Footnotes

Characteristics of studies awaiting classification

Footnotes

Characteristics of ongoing studies

Footnotes

References to studies

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[Empty]

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[Empty]

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[Empty]

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Unpublished data only

[Empty]

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[Empty]

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Data and analyses

1 Reminiscence vs. no treatment

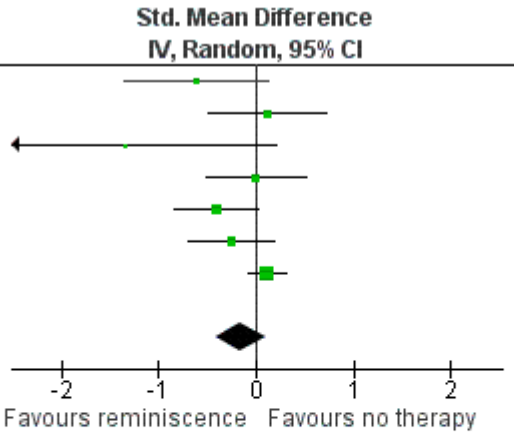
Outcome or Subgroup	Studies	Participants	Statistical Method	Effect Estimate
1.1 BPSD_EoT	7	699	Std. Mean Difference (IV, Random, 95% CI)	-0.15 [-0.41, 0.10]
1.6 Anti-psychotic medication use	0		Risk Ratio (IV, Fixed, 95% CI)	No totals
1.7 Cognition_MMSE_EoT	11	677	Mean Difference (IV, Random, 95% CI)	-1.71 [-2.64, -0.78]
1.11 Depression_EoT	9	864	Std. Mean Difference (IV, Random, 95% CI)	-0.44 [-0.79, -0.10]
1.13 Restraint	0		Risk Ratio (IV, Fixed, 95% CI)	No totals
1.15 QoL/Well-being_EoT	6	740	Std. Mean Difference (IV, Random, 95% CI)	-0.22 [-0.45, 0.00]
1.17 ADL_EoT	3	239	Std. Mean Difference (IV, Random, 95% CI)	-1.10 [-2.56, 0.37]
1.23 Sleep	0	0	Mean Difference (IV, Fixed, 95% CI)	Not estimable
1.24 Mobility	0	0	Mean Difference (IV, Fixed, 95% CI)	Not estimable

Figures

Figure 1 (Analysis 1.1)

Study or Subgroup	Reminiscence Mean	SD	Total	No therapy Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI
Haight 2006 (1)	22.42	11.91	15	36.24	28.62	15	8.8%	-0.61 [-1.35, 0.12]
Ito 2007 (2)	78.1	26	17	75.5857	17.7804	28	11.7%	0.12 [-0.49, 0.72]
Thorgrimsen 2002 (3)	-6.3	7.4	7	3.3	1.5	3	2.5%	-1.34 [-2.89, 0.21]
Tolson 2016 (4)	4	7.4	29	4	8.9	31	14.5%	0.00 [-0.51, 0.51]
VanBogaert 2013 (5)	4.66	5.3	41	8.41	11.7	41	17.1%	-0.41 [-0.85, 0.03]
Wang 2009 (6)	12.87	5.96	38	14.37	5.69	39	16.6%	-0.25 [-0.70, 0.19]
Woods 2012 (7)	-52.45	9.01	228	-53.43	8.74	167	28.8%	0.11 [-0.09, 0.31]
Total (95% CI)			**375**			**324**	**100.0%**	**-0.15 [-0.41, 0.10]**

Heterogeneity: Tau² = 0.05; Chi² = 11.11, df = 6 (P = 0.08); I² = 46%
Test for overall effect: Z = 1.20 (P = 0.23)



Footnotes
(1) MBS
(2) MOSES
(3) CAPE
(4) NPI
(5) NPI
(6) CAPE
(7) QCRP

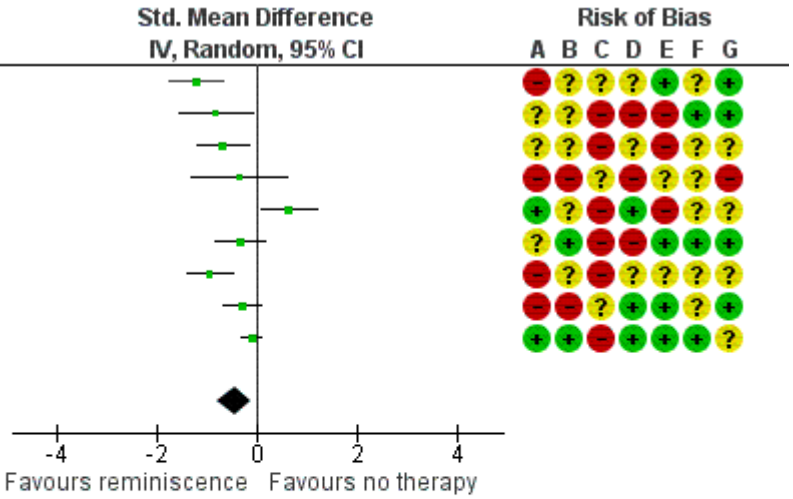
Risk of bias legend
(**A**) Random sequence generation (selection bias)
(**B**) Allocation concealment (selection bias)
(**C**) Blinding of participants and personnel (performance bias)
(**D**) Blinding of outcome assessment (detection bias)
(**E**) Incomplete outcome data (attrition bias)
(**F**) Selective reporting (reporting bias)
(**G**) Other bias

Forest plot of comparison: 1 Reminiscence vs. no treatment, outcome: 1.1 BPSD_EoT.

Figure 2 (Analysis 1.11)

Study or Subgroup	Reminiscence Mean	SD	Total	No therapy Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI
Asiret 2016 (1)	-6.29	2.95	31	-1.58	4.51	31	11.0%	-1.22 [-1.77, -0.68]
Haight 2006 (2)	39.14	6.85	15	54.07	23.8	15	8.8%	-0.83 [-1.58, -0.08]
Hsieh 2010 (3)	6.41	1.43	29	7.66	2.06	32	11.3%	-0.69 [-1.21, -0.17]
Morgan 2010 (4)	-1.05	3.02	8	-0.22	1.3	9	6.9%	-0.35 [-1.31, 0.61]
Tadaka 2007 (5)	17.5857	1.9131	28	16.4037	1.71	27	11.1%	0.64 [0.10, 1.18]
Tolson 2016 (6)	2	1.9	29	3	3.7	31	11.4%	-0.33 [-0.84, 0.18]
VanBogaert 2013 (7)	4.76	3.2	41	9.27	5.8	41	12.0%	-0.95 [-1.41, -0.50]
Wang 2007 (8)	-1.07	3.79	51	0.02	3.64	51	12.8%	-0.29 [-0.68, 0.10]
Woods 2012 (9)	6.8	4.95	228	7.33	5.5	167	14.6%	-0.10 [-0.30, 0.10]
Total (95% CI)			**460**			**404**	**100.0%**	**-0.44 [-0.79, -0.10]**

Heterogeneity: Tau² = 0.20; Chi² = 38.20, df = 8 (P < 0.00001); I² = 79%
Test for overall effect: Z = 2.54 (P = 0.01)



Footnotes
(1) GDS
(2) Alzheimers disease mood scale
(3) GDS
(4) GDS
(5) MOSES. Estimates were pooled from patients with Alzheimer´s disease and vascular dementia
(6) CSDD
(7) GDS
(8) GDS
(9) CSDD

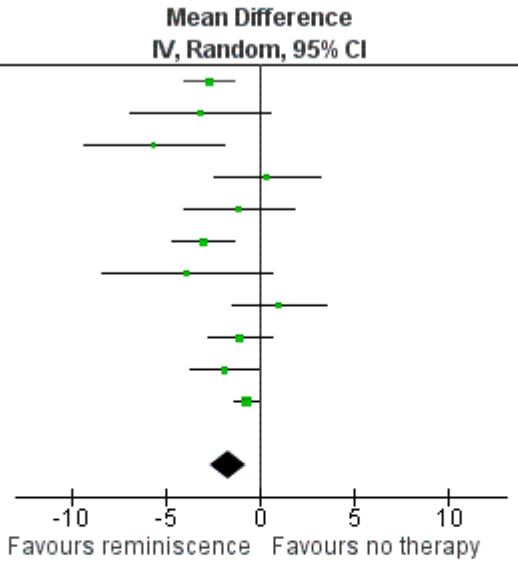
Risk of bias legend
(**A**) Random sequence generation (selection bias)
(**B**) Allocation concealment (selection bias)
(**C**) Blinding of participants and personnel (performance bias)
(**D**) Blinding of outcome assessment (detection bias)
(**E**) Incomplete outcome data (attrition bias)
(**F**) Selective reporting (reporting bias)
(**G**) Other bias

Forest plot of comparison: 1 Reminiscence vs. no treatment, outcome: 1.11 Depression_EoT.

Figure 3 (Analysis 1.7)

Study or Subgroup	Reminiscence Mean	SD	Total	No therapy Mean	SD	Total	Weight	Mean Difference IV, Random, 95% CI
Asiret 2016	-2.89	3.02	31	-0.19	2.07	31	13.8%	-2.70 [-3.99, -1.41]
Goldwasser 1987 (1)	-12.6	5	9	-9.45	3.7445	18	4.7%	-3.15 [-6.85, 0.55]
Haight 2006	-20.29	4.7	14	-14.65	5.58	16	4.8%	-5.64 [-9.32, -1.96]
Ito 2007	-15.2	5	17	-15.5429	3.9889	28	6.9%	0.34 [-2.46, 3.14]
Lai 2004	-0.6	6.91	36	0.5223	7.8752	65	6.5%	-1.12 [-4.08, 1.84]
Tadaka 2007	-19.7929	3.9854	28	-16.7593	1.8421	27	11.9%	-3.03 [-4.67, -1.40]
Thorgrimsen 2002	-0.2	6	7	3.7	0.6	3	3.5%	-3.90 [-8.40, 0.60]
Tolson 2016	-17	4.8	29	-18	5.2	31	7.8%	1.00 [-1.53, 3.53]
VanBogaert 2013	-19.44	3.2	41	-18.39	4.4	41	11.7%	-1.05 [-2.72, 0.62]
Wang 2007	-1.75	4.94	51	0.13	4.3	51	11.0%	-1.88 [-3.68, -0.08]
Wu 2016	-23.4	1.6	53	-22.7	1.7	50	17.3%	-0.70 [-1.34, -0.06]
Total (95% CI)			**316**			**361**	**100.0%**	**-1.71 [-2.64, -0.78]**

Heterogeneity: Tau² = 1.19; Chi² = 24.84, df = 10 (P = 0.006); I² = 60%
Test for overall effect: Z = 3.61 (P = 0.0003)

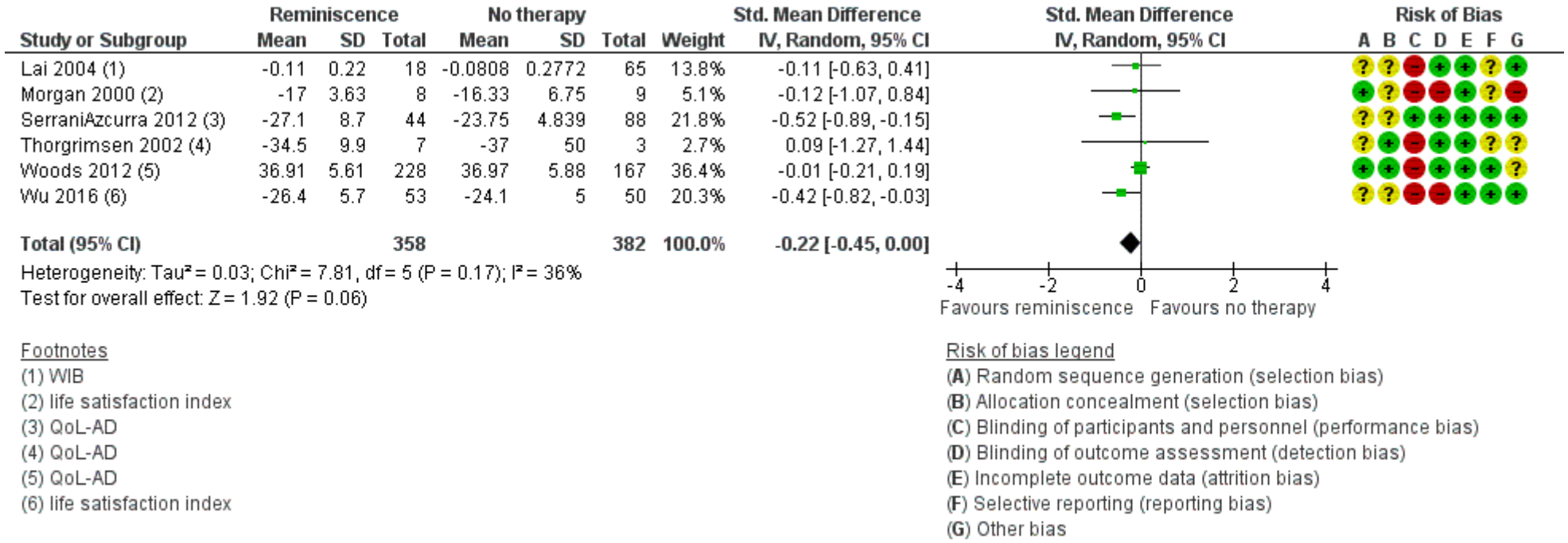


Footnotes
(1) SD was not reported, thus is taken from Ito et al., 2007

Risk of bias legend
(A) Random sequence generation (selection bias)
(B) Allocation concealment (selection bias)
(C) Blinding of participants and personnel (performance bias)
(D) Blinding of outcome assessment (detection bias)
(E) Incomplete outcome data (attrition bias)
(F) Selective reporting (reporting bias)
(G) Other bias

Forest plot of comparison: 1 Reminiscence vs. no treatment, outcome: 1.7 Cognition_MMSE_EoT.

Figure 4 (Analysis 1.15)

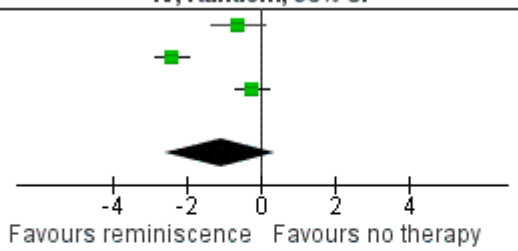


Forest plot of comparison: 1 Reminiscence vs. no treatment, outcome: 1.15 QoL/Well-being_EoT.

Figure 5 (Analysis 1.17)

Study or Subgroup	Reminiscence Mean	SD	Total	No therapy Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI
Haight 2006 (1)	-107.64	20.81	15	-90.47	31.39	15	32.2%	-0.63 [-1.36, 0.11]
SerraniAzcurra 2012 (2)	0.22	0.03	44	1.165	0.4782	88	33.9%	-2.40 [-2.87, -1.93]
Wang 2009 (3)	-58.53	25.33	38	-51.95	28.73	39	33.9%	-0.24 [-0.69, 0.21]
Total (95% CI)			**97**			**142**	**100.0%**	**-1.10 [-2.56, 0.37]**

Heterogeneity: Tau² = 1.59; Chi² = 45.32, df = 2 (P < 0.00001); I² = 96%
Test for overall effect: Z = 1.47 (P = 0.14)

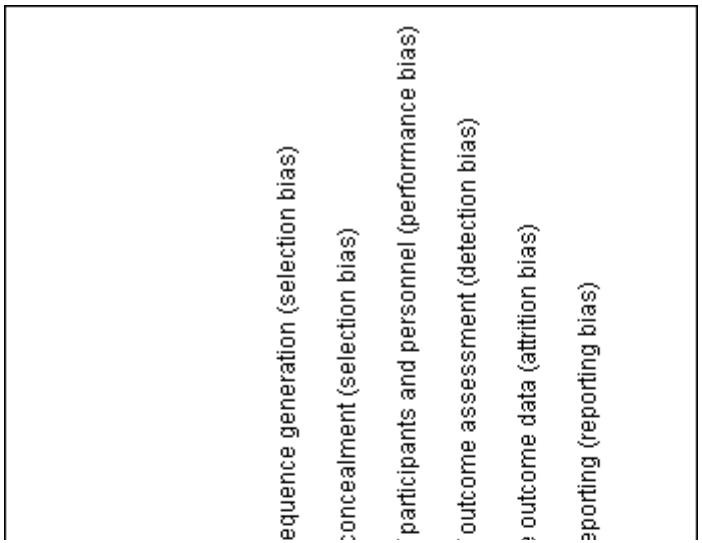


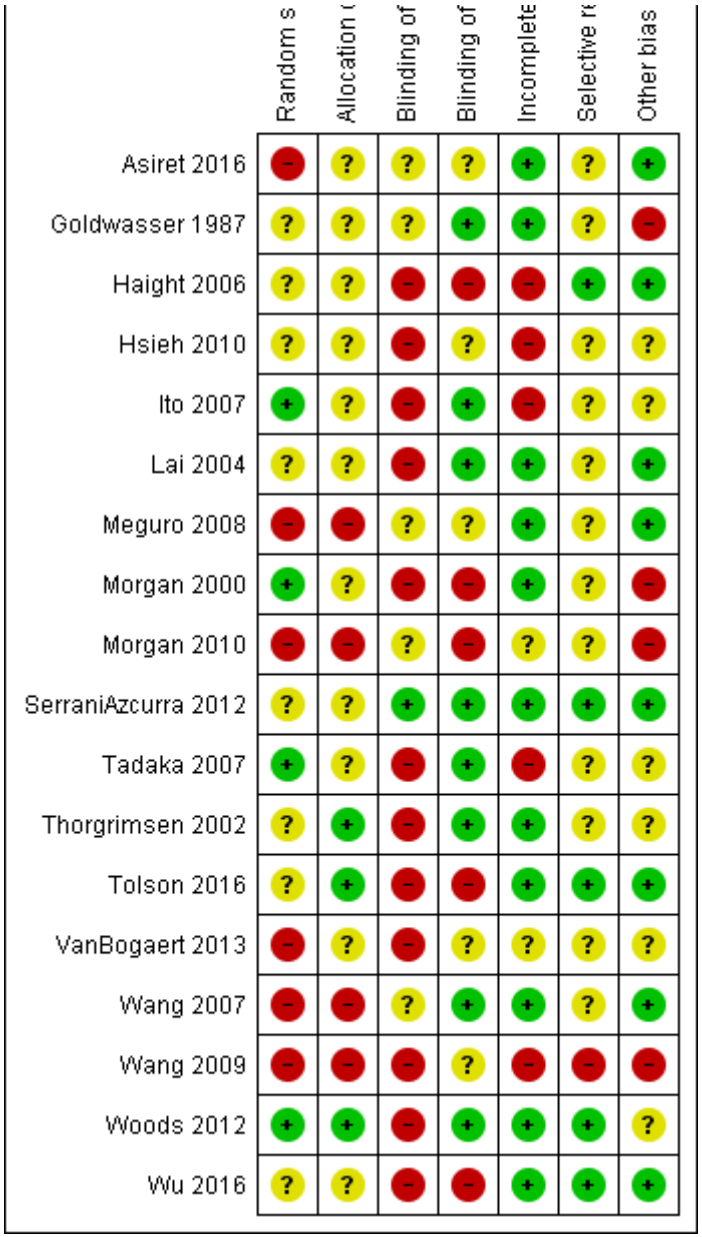
Footnotes
(1) FIM
(2) Finch
(3) Barthel

Risk of bias legend
(**A**) Random sequence generation (selection bias)
(**B**) Allocation concealment (selection bias)
(**C**) Blinding of participants and personnel (performance bias)
(**D**) Blinding of outcome assessment (detection bias)
(**E**) Incomplete outcome data (attrition bias)
(**F**) Selective reporting (reporting bias)
(**G**) Other bias

Forest plot of comparison: 1 Reminiscence vs. no treatment, outcome: 1.17 ADL_EoT.

Figure 6




Random s
Allocation
Blinding of
Blinding of
Incomplete
Selective re
Other bias
Asiret 2016
Goldwasser 1987
Haight 2006
Hsieh 2010
Ito 2007
Lai 2004
Meguro 2008
Morgan 2000
Morgan 2010
SerraniAzcurra 2012
Tadaka 2007
Thorgrimsen 2002
Tolson 2016
VanBogaert 2013
Wang 2007
Wang 2009
Woods 2012
Wu 2016

Risk of bias summary: review authors' judgements about each risk of bias item for each included study.