BEST in Mental Health
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# Best Evidence Summaries of Topics in Mental Healthcare

## BEST *in* MH *clinical question-answering service*

### Question

"For patients with dementia or cognitive impairment, how effective is life story/reminiscence therapy, compared to any other intervention, for improving patient outcomes?"

#### Clarification of question using PICO structure

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| *Patients:* | Patients with dementia or cognitive impairment |
| *Intervention:* | Life story/reminiscence therapy |
| *Comparator:* | Any |
| *Outcome:* | Any patient outcomes |

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## Clinical and research implications

There is a lack of high quality consistent research evidence to support the effectiveness of reminiscence therapy in people with dementia or cognitive impairment. Some very limited evidence indicates possible effects of individual or group reminiscence therapy on cognition and depression, relative to non-active controls. Of interest is a study which compared reminiscence therapy involving patients in the preparation of a life story book to a gift of a life story book prepared by carers with expert support and found that both interventions were similarly effective in improving memory and quality of life at six months. Further high quality research is needed to adequately assess the effectiveness of reminiscence therapy and to explore the mechanisms by which any observed effects may occur.

## What does the evidence say?

***Number of included studies/reviews (number of participants)***

We identified two systematic reviews[1,2] and eight additional randomised controlled trials (RCTs)[3-10] which were considered relevant to this evidence summary. One systematic review included RCTs of individual reminiscence therapy, with either active or non-active comparators, conducted in patients with dementia, and identified five trials.[1] The second systematic review, an earlier Cochrane review, included RCTs of both group and individual reminiscence therapy with either active or non-active comparators, conducted in patients with dementia or cognitive impairment, and identified four trials.[2] One trial was common to both reviews. All of the additional RCTs were conducted in people with a dementia diagnosis.[3-10] Two trials specified mild to moderate dementia,[6,10] two specified Alzheimer's Disease (AD),[5,8] and one specified people with AD or vascular dementia.[7] Four trials evaluated individual reminiscence therapies,[3,5,6,8] and four evaluated group interventions,[4,7,9,10] one of which was a joint intervention for patients and carers.[10] Most studies compared reminiscence therapy to a non-active control;[4,5,7-10] one of these also included an active control group.[5] One study compared reminiscence therapy to Snoezelan, with no non-active control,[3] and one study compared reminiscence therapy which involved patients in the preparation of a life story book to a gift of a life story book prepared by carers with expert support.[6] Studies reported a wide variety of outcome measures including measures of cognition, memory, apathy, depression, general well-being and quality of life.

***Main Findings***

The two systematic reviews found insufficient evidence to support a treatment effect for reminiscence therapy compared to non-active controls or active controls (a social activity group).[1,2] The RCT comparing Snoezelen to individual reminiscence therapy found no between group differences and reported no data to support a within group effect for either intervention.[3] The comparison of reminiscence therapy which involved patients in the preparation of a life story book to a gift of a life story book prepared by carers with expert support found that both interventions significantly improved quality of life and autobiographical memory at six months, with no statistically significant differences between the groups.[6] The study which compared individual reminiscence therapy to active and non-active control groups reported an interventions effects for quality of life and social engagement, but these were based on modelling results and were not fully quantified.[5] One RCT comparing group reminiscence therapy to a non-active control reported no evidence of any treatment effect (no between group comparisons),[4] and the RCT comparing joint patient and carer group reminiscence therapy to a non-active control reported no statistically significant treatment

effects on measures of quality of life, depression, anxiety and activities of daily living.[10] Two further studies compared group reminiscence therapy to a non-active control; one reported significant post-treatment effects on cognition (Mini Mental State Examination) and on one of two depression measures assessed,[9] and the other reported treatment effects (MMSE and some components of the Multi-Dimensional Observation Scale for Elderly Subjects) persisting at six month in patients with vascular dementia only.[7] The remaining trial compared individual reminiscence therapy to a non-active control and reported statistically significant post-treatment effects (MMSE and two measures of depression), but no significant differences between treatment and control groups on the Frontal Assessment Battery or Neuropsychiatric Inventory.[8]

***Authors Conclusions***

Subramaniam (2012) – The studies reported some immediate and longer-term psychosocial benefits to people with dementia of individual reminiscence work, where this involved a life review process or personalized, specific reminiscence work. These benefits included mood, well-being and aspects of cognitive function. There was no evidence that the use of general reminiscence materials was associated with psychosocial benefits. (These conclusions reflect the data presented).

Woods (2005) - Whilst four suitable randomized controlled trials looking at reminiscence therapy for dementia were found, several were very small studies, or were of relatively low quality, and each examined different types of reminiscence work. Although there are a number of promising indications, in view of the limited number and quality of studies, the variation in types of reminiscence work reported and the variation in results between studies, the review highlights the urgent need for more and better designed trials so that more robust conclusions may be drawn. (These conclusions reflect the data presented).

Baillon (2004) - Further research, with larger numbers of subjects, and an appropriate control is required to establish the benefits of Snoezelen for people at different stages of dementia, and to identify any benefits additional to those derived from increased staff attention. (These conclusions reflect the data presented).

Hsieh (2010) - RGT has significant efficacy in the treatment of depressed mood and apathy in patients with mild-to-moderate stage dementia. This non-pharmacological intervention reduced emotional distress among nursing home residents with dementia. (These conclusions are not supported by data presented).

Serrani Azcurra (2012) - The intervention led to significant differences between the three groups over time, showing a significant improvement in the quality of life and engagement of the residents in the intervention group. (These conclusions are not adequately supported by the data presented; the study used complex modelling and had a relatively small sample size and the size of any treatment effect was unclear).

Subramaniam (2014) – The creation of LSBs , either through a life review process or by relatives without involving the person with dementia , has benefits for people with dementia, relatives and staff in care homes. However, undertaking a life review requires training and supervision. (The second statement is un-supported)

Tadaka (2007) - The reminiscence group program is an effective means of enhancing the remaining capacity and the adaptation to a daily life in elderly people with Alzheimer's disease and vascular dementia. However, it is also suggested that sustained intervention may be necessary to maintain the effect over time, especially in elderly people with Alzheimer's disease. (Though there are some data to indicate that reminiscence therapy may be useful for people with vascular dementia, the data presented are not sufficient to support a conclusion of effectiveness in people with Alzheimer's disease. The second statement is un-supported, as the study does not evaluate maintenance reminiscence therapy).

Van Bogaert (2013) - The pilot study results showed positive effects associated with individual thematically based reminiscence on well-being such as depressive symptoms and cognition of participants. This is an encouraging finding after a relatively short period. Further study is necessary to confirm these results, determine sustainability and optimal delivery methods. (These conclusions reflect the data presented).

Wang (2007) - Participation in reminiscence activities can be a positive and valuable experience for demented older persons. Consequently, the development of a structured care program for elderly persons with cognitive impairment and the need for long-term care is essential. Thus, health providers in long-term care facilities should be trained in reminiscence group therapy, and to be able to deliver such a program to the targeted group. (These conclusions are not supported by data presented; the study did not assess patient experience and the effectiveness results are not sufficient to support the strong recommendations for program development).

Woods (2012) - This trial does not provide support for the effectiveness or cost-effectiveness of joint reminiscence groups for people with dementia and their carers. Although there may perhaps be some beneficial effects for people with dementia who attend sessions as planned, this must be viewed in the context of raised anxiety and stress in their carers. The reasons for these discrepant outcomes need to be explored further, and may necessitate reappraisal of the movement towards joint interventions. (These conclusions reflect the data presented).

***Reliability of conclusions/Strength of evidence***

This evidence summary is based on the findings of two systematic reviews and eight additional randomised controlled trials, all of which have substantial methodological weaknesses. Despite the number of studies identified, there is a lack of high quality evidence.

**What do guidelines say?**

National Institute for Health and Care Excellence (NICE) guidelines suggest the following:

"A range of tailored interventions, such as reminiscence therapy, multisensory stimulation, animal-assisted therapy and exercise, should be available for people with dementia who have depression and/or anxiety." (2006, p.36)

Scottish Intercollegiate Guidelines Network (SIGN) guidelines suggest the following:

"The following non-pharmacological interventions lacked evidence of clinical effectiveness for the treatment of people with dementia:

- memory books
- reminiscence therapy." (2006; p.12)

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**Date searches conducted:** 09/12/2014
**Date answer completed:** 19/01/2015

## References


**SRs**

1. Subramaniam, P., & Woods, B. (2012). The impact of individual reminiscence therapy for people with dementia: systematic review. *Expert Review Neurotherapeutics, 12*(5), 545-555.

2. Woods, B., Spector, A., Jones, C., Orrell, M., & Davies, S. (2005). Reminiscence therapy for dementia. *Cochrane Database of Systematic Reviews*, *2*.

**RCTs**

3. Baillon, S., Van Diepen, E., Prettyman, R., Redman, J., Rooke, N., & Campbell, R. (2004). A comparison of the effects of Snoezelen and reminiscence therapy on the agitated behaviour of patients with dementia. *International Journal of Geriatric Psychiatry*, *19*(11), 1047-1052.

4. Hsieh, C. J., Chang, C., Su, S. F., Hsiao, Y. L., Shih, Y. W., Han, W. H., & Lin, C. C. (2010). Reminiscence group therapy on depression and apathy in nursing home residents with mild-to-moderate dementia. *Journal of Experimental & Clinical Medicine*, *2*(2), 72-78.

5. Serrani Azcurra, D. J. L. (2012). A reminiscence program intervention to improve the quality of life of long-term care residents with Alzheimer's disease: a randomized controlled trial. *Revista Brasileira de Psiquiatria*, *34*(4), 422-433.

6. Subramaniam, P., Woods, B., & Whitaker, C. (2014). Life review and life story books for people with mild to moderate dementia: a randomised controlled trial. *Aging & Mental Health*, *18*(3), 363-375.

7. Tadaka, E., & Kanagawa, K. (2007). Effects of reminiscence group in elderly people with Alzheimer disease and vascular dementia in a community setting. *Geriatrics & Gerontology International*, *7*(2), 167-173.

8. Van Bogaert, P., Van Grinsven, R., Tolson, D., Wouters, K., Engelborghs, S., & Van der Mussele, S. (2013). Effects of SolCos model-based individual reminiscence on older adults with mild to moderate dementia due to Alzheimer disease: A pilot study. *Journal of the American Medical Directors Association*, *14*(7), 528.e9-528.e13.

9. Wang, J. J. (2007). Group reminiscence therapy for cognitive and affective function of demented elderly in Taiwan. *International Journal of Geriatric Psychiatry*, *22*(12), 1235-1240.

10. Woods, R. T., Bruce, E., Edwards, R. T., Elvish, R., Hoare, Z., Hounsome, B., ... & Russell, I. T. (2012). REMCARE: Reminiscence groups for people with dementia and their family caregivers–effectiveness and cost-effectiveness pragmatic multicentre randomised trial. *Health technology Assessment.*

**Guidelines**

National Institute for Health and Care Excellence (2006) Dementia: Supporting people with dementia and their carers I health and social care. CG42. London: National Institute for Health and Care Excellence.

Scottish Intercollegiate Guidelines Network (2006) Management of patients with dementia. 86. Edinburgh: Scottish Intercollegiate Guidelines Network.

**Results**

**Systematic Reviews**

| Author (year) | Search Date | Inclusion criteria | Number of included studies | Summary of results | Risk of bias |
|---|---|---|---|---|---|
| Subramaniam et al. (2012) | 12/2011 | *Participants*: People with dementia.<br>*Intervention*: Individual reminiscence/life review interventions.<br>*Comparator*: Not specified<br>*Outcome*: Not specified. Outcomes included measures of well-being, mood, quality of life, depression, social engagement and behaviour, communication, function and activity, memory and cognition. There were no common outcome measures across the included studies.<br>*Study design*: RCTs | 5 studies (n = 258) | This systematic review aimed to review the potential psychosocial effects of individual reminiscence therapy in people with dementia.<br><br>All five studies were conducted in nursing or care home settings. Four included only people with dementia and one included a mixed population (proportion with dementia not reported). The mean age of study participants in three studies ranged from 82.5 to 85.7 years and the age range of participants in the remaining two studies was 58 to 99 years. Interventions varied across studies and the duration of intervention sessions ranged from 30 minutes to 1 hour, with a total of between 6 and 12 sessions.<br><br>Two studies compared a life review/life story book intervention to treatment as usual. One study noted significant improvements in | The review lacked a clearly stated research question. Broad inclusion criteria were defined for participants and intervention. However, although the inclusion criteria specified RCTs, no comparator or outcome measures were pre-specified.<br><br>Six bibliographic databases were searched for relevant studies, without date restriction, and hand searching of |

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| | | | | depression, communication, positive mood and cognition in the intervention group, but no between group comparison data were reported. Additionally not results for functional independence and behavioural problems (listed as outcomes for this study) were reported. The other study noted improvements in autobiographical memory post-treatment and in depression at six weeks follow-up, in the intervention group relative to control, (no numerical results were reported).<br><br>One study compared individual reminiscence (with life story book) to a social comparison and a no intervention group. There were no significant differences between groups in measures of well-being social engagement or cognition. Follow-up duration was six weeks.<br><br>One study, in a mixed dementia and non-dementia population, compared individual reminiscence, group reminiscence and a social activity control. This study found that improvements in cognition were related to participation in group reminiscence sessions, but not individual reminiscence or the social | key journals and screening of the reference lists of retrieved articles were undertaken to check for additional studies. Only English language articles were included.<br><br>Two authors were involved in the study selection process, but it was not clear whether similar measures to minimise error and/or bias were applied to the data extraction process. No assessment of the methodological quality of included studies was reported, but some components of a risk of bias assessment were |

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| | | | | activity groups; it was not clear whether this observation was based on within or between group comparisons and no numerical results were reported. Participants in the social activity showed an improvement in well-being compared with those in the group and individual reminiscence groups. The remaining study compared individualised reminiscence therapy using a specific kit to individualised activity therapy; both groups showed a post-intervention reduction in apathy, but there were no between group differences. | reported in a results table (randomisation, blinding of assessors, dropout rate, handling of missing values, and use of intention-to-treat analysis).<br><br>The use of a narrative synthesis was appropriate, given the apparent variation in intervention, comparator and outcome measures between studies. |
| Woods et al. (2009) | 05/2004 | *Participants*: Older adults (mean age > 55) diagnosed with dementia, cognitive impairment, Alzheimer's disease, organic brain syndrome, according to DSM-IV, ICD-10 or comparable criteria.<br>*Intervention*: Reminiscence Therapy – regular meeting sessions individually or within groups, at least 4 weeks long with a minimum of 6 sessions, lead by professional staff or care workers with training from | 4 studies (n= 144) | This systematic review aimed to assess the effects of reminiscence therapy for older people with dementia and their care-givers.<br><br>Three studies were parallel group RCTs and one used a crossover design. Two of the parallel group studies and the crossover study were very small (n=11 to 17); the remaining study (also included in the Subramaniam review described above) had | The objective was clearly stated and appropriate inclusion criteria were defined.<br><br>The Specialised Register of the Cochrane Dementia and Cognitive |

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| | | professional staff.<br>*Comparator*: Control (treatment as usual, no treatment control, or other types of activity designed to control for staff attention or social contact). Comparisons with other therapeutic interventions (e.g. reality orientation or music therapy) were excluded.<br>*Outcome*: Well-being, mood, quality of life, communication and interaction, cognition (e.g., memory), impact on care-givers.<br>*Study design*: RCTs or quasi RCTs | | 101 participants.<br><br>Three studies were conducted in residential care settings and one was conducted in the community. Three studies included people with dementia and one included people with moderate to severe cognitive impairment. The mean age of study participants was 76.3 to 85.7 years.<br><br>Interventions included group reminiscence (2 studies), individual reminiscence and individual life review. Session length and duration of intervention varied.<br><br>All four studies provided data for the reminiscence therapy versus no treatment comparison.<br>Cognitive function: The summary effect estimate, form four studies, showed no significant post-treatment difference between reminiscence therapy and control. Follow-up data from three studies showed a moderate effect in favour of reminiscence therapy (SMD 0.5 (95% CI: 0.07 to 0.92)).<br>Behaviour: Three studies reported behavioural outcomes. No summary effect estimate was calculated. Two studies reported no significant difference between | Improvement Group was searched using the term "reminiscence".<br><br>Two reviewers independently assessed studies for inclusion. However, it was not clear whether similar measures to minimise error and/or bias were applied to the data extraction process. No assessment of risk of bias was described in the methods section, but some results of risk of bias assessment were reported.<br><br>Summary estimates, where calculated, |

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| | | | | reminiscence therapy and control post-treatment or at follow –up. One study reported a post-treatment effect favouring reminiscence therapy (MD 9.60 (95% CI: 3.86 to 15.34) on the behaviour subscale of CAPE); this study did not report follow-up data.<br>Communication and interaction: A summary estimate derived from three studies showed no significant post-treatment difference between reminiscence therapy and control. Similarly a summary estimate, derived from two studies, found no significant difference at follow-up.<br>Well-being: Four studies reported well-being outcomes. No summary effect estimate was calculated. Four studies reported no significant difference between reminiscence therapy and control post-treatment and three reported no significant difference at follow-up. The fourth study found that reminiscence therapy was associated with a reduction in depression at follow-up (MD 3.69 (95% CI: 1.65 to 5.73) on the Geriatric Depression Scale).<br><br>One study compared reminiscence therapy to social contact. This study was also | included a variety of interventions of differing duration and sometimes included both parallel group and crossover RCTs. |

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| | | | | included in the Subramaniam review described above. There were no significant differences between the groups in behavioural, well-being, communication and interaction, or cognition outcomes post-treatment or at follow-up, with the exception that an improvement in cognition associated with reminiscence therapy was reported at follow-up (MD 4.37 (95% CI: 0.72 to 8.02) MMSE). This difference was not reported in the Subramaniam review, which stated that "No significant differences were noted in cognition as assessed by the MMSE." | |

**RCTs**

| Author (year) | Inclusion criteria | Number of participants | Summary of results | Risk of bias |
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| Baillon et al. (2004) | *Participants*: A clinical diagnosis of dementia, and rated by staff as exhibiting behaviour disturbance sufficient to require active intervention. Exclusions: having a pacemaker, significant hearing or sight impairment, non-English speaking, experiencing delirium or having changed an established and accepted intervention medication immediately before or during | n = 25 | This study aimed to assess the effects on the mood and behaviour of patients with dementia of Snoezelen compared to reminiscence therapy.<br><br>The study used a crossover design and considered reminiscence therapy to be "an established and accepted intervention"; no control arm was included.<br><br>The study was conducted in a residential setting. The mean | Randomisation used a "sealed envelope technique". No further details of randomisation or allocation concealment |

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| | the trial.<br>*Intervention*: Reminiscence Therapy (three one-to-one sessions over a two-week period, with sessions lasting 40 minutes).<br>*Comparator*: Snoezelen – multi-sensory environment room (three one-to-one sessions over a two-week period, with sessions lasting 40 minutes).<br>*Outcome*: Agitation after the session (Agitation Behaviour Mapping Instrument; ABMI rated immediately after and at 15 and 30 minutes after the session), interaction during the session (Interact Scale rated immediately after the session), and heart rate (rated at 1 minute intervals from 15 minutes before to 30 minutes after the session). | | age of the 20 participants who completed the study was 73.5 years and 60 % were female. At baseline, the mean Clinical Dementia Rating Scale score was 17, the mean Mini Mental State Examination score was 4 and the mean Cohen-Mansfield Agitation Inventory short form score was 25.5.<br><br>There were no significant differences between Snoezelen and reminiscence therapy in change in agitation pre- to post-intervention or pre- to 15 minutes post-intervention. Similarly, there were no significant differences between the interventions in interaction measured during therapy. The authors stated that "both interventions had a positive effect", but the data presented did not support this statement. | were reported.<br><br>The nature of the interventions precludes blinding of patients and therapists. No details on blinding of outcome assessors were reported.<br><br>Only the 20 participants who completed the study were included in the analyses. Five patients dropped out.<br><br>Results were not reported for the 30 minute |

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| | | | | assessment of agitation. |
| Hsieh et al. (2010) | *Participants*: A DSM-IV diagnosis of dementia, no severely damaged sensory function, ability to speak fluently in Chinese or Taiwanese. Exclusion: suffering from delirium.<br>*Intervention*: Reminiscence Group Therapy (RGT), 12 sessions, 40-50 minutes per week. RGT centred on life-span issues.<br>*Comparator*: Control group (condition not described).<br>*Outcome*: Dementia severity (CDRS), depression (GDS-30), apathy (Apathy Evaluation Scale, AES), dementia behaviour disturbance (Neuropsychiatric Inventory, NPI). | n = 66 (Intervention = 33; Comparator = 33) | This study aimed to the effectiveness of reminiscence group therapy for reducing depression and improving symptoms of apathy in nursing home residents with mild-to-moderate dementia.<br><br>The study was conducted in a nursing home setting. The mean age of participants was 77.6±8.5 years 41% were female. Baseline demographic, socioeconomic and clinical characteristics were similar in the two groups, with the exception Emotion subscale of the Apathy Evaluation Scale, which showed a significantly higher baseline score in the reminiscence therapy group.<br><br>The reminiscence therapy group showed statistically significant pre-to post-intervention reductions in GDS-30 score, the behaviour and cognition domains of AES, and the depression domain of NPI. The control group showed no statistically significant pre- to post-test intervention changes in any outcome measure.<br><br>No between group comparisons were reported. It is possible to make a between group comparison of the post-intervention estimates reported by the authors, This shows no statistically significant differences between the groups on post-intervention AES or NPI. Post -test GDS-30 score was slightly lower in the reminiscence therapy group (MD -1.25 (95% CI: -0.33 to -2.17, not calculated by the study authors). | No details of randomisation and allocation concealment procedures were reported.<br><br>The nature of the interventions precludes blinding of patients and therapists. No details on blinding of outcome assessors were reported.<br><br>4 Participants in the intervention group and 1 in the control group withdrew |

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| | | | | before the end of the study. Only participants who completed the study were included in the analyses.<br><br>Results were reported for all pre-specified analyses, however, no between group comparisons were undertaken. |
| Serrani Azcurra (2012) | *Participants*: Diagnosed with Alzheimer's Disease (DSM-IV), able to communicate with a Holden Communication Scale score >25, Folstein Minimental Exam score >10. Exclusions: active major psychiatric disorders, acute or unstable chronic medical conditions, blindness and deafness.<br>*Intervention*: Individual reminiscence | n = 135 (Intervention = 45; Comparator 1 = 45; Comparator 2 = 45) | This study aimed to assess the effects of a reminiscence program on the quality of life of nursing home residents with dementia.<br><br>The mean age of study participants was 85.7±4.8 years and 63% were female. Baseline demographic, socioeconomic and clinical characteristics were similar across the three groups.<br><br>Intervention effects (MANCOVA model) were significant | No details of randomisation and allocation concealment procedures were reported.<br><br>The nature of the |

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| | therapy, 24 bi-weekly sessions, lasting one-hour, over 12 weeks, delivered by psychologists who had experience of working with older people.<br>*Comparator*: (1) Counselling and informal social contacts in bi-weekly sessions, for an hour; (2) Unstructured social contact, bi-weekly, for an hour.<br>*Outcome*: Social engagement (Social Engagement Scale; SES); quality of life (Self-Reported Quality of Life Scale; SRQoL). Assessed pre- and post-intervention and at six months follow-up. | | post-treatment and at follow-up, with both SRQoL and SES as dependent variables, indicating that changes in the SRQoL and SES were different in the three groups. No numerical estimates of between group differences were reported. | interventions precludes blinding of patients and therapists. No details on blinding of outcome assessors were reported.<br><br>Some information on % missing data was reported. 132 Participants completedthe study and the number included in the analysis was unclear.<br><br>Results were reported for all specified analyses. |

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| Subramaniam et al. (2014) | *Participants*: Diagnosed with mild-to-moderate dementia (DSM), recruited from care homes. Exclusions: severe uncorrected impairment in vision or hearing, current/past major psychiatric disorder, insufficient verbal English.<br>*Intervention*: 'Life review', 12 individual sessions, leading to the creation of their life story book.<br>*Comparator*: Participants' relatives created a life story book, working closely with the researcher over the 12 week period, to be given to the participant at the end of the research.<br>*Outcome*: Dementia severity (Clinical Dementia Rating Scale; CDR); quality of life (Quality of Life-Alzheimer's Disease; QOL-AD); memory (Autobiographical Memory Interview; AMI); depression (Geriatric Depression Scale; GDS); quality of caregiving relationship (Quality of Caregiving Relationship; QCR). | n = 234 (Intervention = 12; Comparator = 12) | This study aimed to compare the effects of different methods of developing a life story book (LSB) for people with dementia.<br><br>The mean age of study participants was 86.5±6.5 years and 69% were female. Baseline demographic characteristics, disease severity and medication use were similar in the two groups.<br><br>Participants in the intervention group showed significantly greater improvements in both quality of life (QoL-AD) and memory (Autobiographical Memory Interview) than those in the comparator 'gift LSB' group at the end of the study (immediately post-intervention). However, there were no significant differences between the groups at six months follow-up; both groups showed significant improvements from baseline. There were no significant within or between group effects of LSBs on depression. | Randomisation was carried out by an accredited trials unit, using a sequential individual-based randomisation. No details of allocation concealment were reported.<br><br>The nature of the interventions precludes blinding of patients and therapists. Outcome assessments were carried out by two assessors who were blind to treatment |

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| | | | | allocation<br><br>One participant in the intervention group died in week 7 and was excluded from the analysis.<br><br>Results were reported for all specified analyses. |
| Tadaka et al. (2007) | *Participants*: Diagnosed with Alzheimer's Disease or Vascular Dementia (DSM). Inclusions: Clinical Dementia Rating score of 1 or 2; no speech or vision disorders.<br>*Intervention*: Reminiscence group programme in addition to routine day care. 60-90 min per session, once a week for 8 weeks.<br>*Comparator*: Routine day care.<br>*Outcome*: Primary: level of daily activities (Multi-Dimensional Observation Scale for Elderly Subjects; MOSES). Secondary: cognition (Mini-Mental State Examination; | n = 60 (Intervention = 24; Comparator = 36) | This study aimed to assess the effects of a reminiscence therapy group program on the remaining capacity for activities of daily life in elderly people with Alzheimer's Disease (AD) or Vascular Dementia (VD).<br><br>The study was conducted in a community day care setting. There were no apparent differences between the intervention and control groups in baseline participant characteristics or disease severity, for either participants with AD or those with VD. Twenty four participants had a diagnosis of AD and 36 had a diagnosis of VD.<br><br>For patients with AD, there was a significant group effect for | No details of the randomisation or allocation concealment procedures were reported.<br><br>The nature of the interventions precludes blinding of |

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| | MMSE). | | reminiscence therapy on the withdrawal domain of the MOSES scale immediately post-intervention, but this effect did not persist at six month follow-up. There were no other statistically significant treatment effects.<br><br>For patients with VD, there was a significant group effect for reminiscence therapy on the withdrawal and disorientation domains of the MOSES scale and on MMSE immediately post-intervention; these effects persisted at six month follow-up. There were no other statistically significant treatment effects. | patients and therapists. Primary outcomes were assessed by the participant's family care giver. Secondary outcomes were assessed by a psychiatrist who was blind to treatment allocation.<br><br>Four participants with AD and 6 with VD dropped out before completion of the study. Group effect analysis was conducted on |

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| | | | | an intention-to-treat basis.<br><br>Results were reported for all specified outcomes. |
| Van Bogaert et al. (2013) | *Participants*: Older people with a diagnosis of probable Alzheimer disease according to the National Institute of Neurological and Communicative Disorders and Stroke/Alzheimer's Disease and Related Disorders Association criteria.<br>*Intervention*: Individual Reminiscence Therapy (IRT), based on the SolCos model. 4 weeks, two 45-minute sessions per week.<br>*Comparator*: Care as usual (no reminiscence activities).<br>*Outcome*: Cognitive impairment (Mini-Mental State Exam; MMSE), frontal lobe function (Frontal Assessment Battery; FAB), dementia behaviour disturbance (Neuropsychiatric Inventory, NPI), depression in older adults (Geriatric Depression Scale, GDS-30; Cornell Scale for Depression in Dementia, CSDD). | n = 82 (Intervention = 41; Comparator = 41) | This study aimed to assess the effects of individual thematically-based reminiscence sessions based on the SolCos model for older adults with Alzheimer's Disease.<br><br>Study participants were from a mixture of community day care and residential settings. The mean age of study participants was 84 years (range 65 to 100) and 83% were female. Baseline demographic characteristics, disease severity and medication use were similar in the two groups.<br><br>Reminiscence therapy was associated with significantly greater pre- to post-intervention improvements in MMSE (MD 1.05±3.3), GDS (MD -1.05±3.5), and CSDD (MD -2.15±2.9) compared with the control group. There were no significant between group differences for FAB or NPI. | Treatment allocation used consecutive numbering by the recruiting nurse, with even numbers allocated to the intervention group.<br><br>The nature of the interventions precludes blinding of patients and therapists. Outcomes were assessed by the |

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| | | | | facilitator or staff nurses.<br><br>No dropouts were reported and results appeared to be reported for all participants and all specified outcomes. |
| Wang (2007) | *Participants*: Diagnosed with dementia, residing in dementia facilities; aged 65+, Clinical dementia Rating score of 1-3; no other psychiatric diagnoses; unimpaired hearing/vision.<br>*Intervention*: Reminiscence group programme, 8 60-minute sessions, one per week.<br>*Comparator*: Control group (condition not described).<br>*Outcome*: Cognition (Mini-Mental State Examination; MMSE); depression (Geriatric Depression Scale; GDS; Cornell Scale for Depression in Dementia; CSDD). | n = 102 (Intervention = 51; Comparator = 51) | This study aimed to assess the effects of structured group reminiscence therapy on progression of cognitive impairment and maintenance of affective function in cognitively impaired elderly people.<br><br>The study was conducted in residential care settings. 53% Of participants had mild dementia, 34.4% had moderate dementia, and 15.6% had severe dementia. The mean age of study participants was approximately 79 years. Baseline demographic, socioeconomic and clinical characteristics were similar in the two groups, with the exception of length of institutionalisation which was significantly greater in the control group.<br><br>Reminiscence therapy was associated with statistically significant pre- to post- intervention improvements in MMSE | Randomisation used a number list in each care facility, with even numbers allocated to the intervention group.<br><br>The nature of the interventions precludes blinding of |

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| | | | (group effect f=6.16, p=0.015) and CSDD (group effect f=5.13, p=0.026), but had no significant effect on GDS. | patients and therapists. The data collectors included two graduate nurses who were blinded to treatment allocation. Some outcome measures were self-reported.<br><br>Three patients from the intervention group and 7 from the control group did not complete the study. Analyses were conducted on an intention-to-treat basis. |

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| Woods et al. (2012) | *Participants*: Diagnosis of mild-to-moderate dementia (DSM), initially living in the community, with a regular caregiver. Inclusions: ability to communicate and understand communication; ability to engage in group activities. Exclusions: major physical illness; sensory impairment; disability; high level of agitation.<br>*Intervention*: Reminiscence group for participants and their carers. 12 two-hour weekly sessions in a social setting, with monthly maintenance sessions for 7 months.<br>*Comparator*: Care as usual.<br>*Outcome*: Quality of life (Quality of Life, Alzheimer's Disease; QoL-AD); memory (Autobiographical Memory Interview; AMI); depression (Cornell Scale for Depression in Dementia; CSDD); anxiety (Rating Anxiety in Dementia; RAID); activities of daily living (Bristol Activities of Daily Living Scale; BADLS). | n = 487 (Intervention = 268; Comparator = 219) | This study aimed to assess the effectiveness and cost-effectiveness of joint reminiscence groups for both people with dementia and their carers compared with usual care.<br><br>All study participants were initially living in the community. The mean age of study participants was 77.5 years. Where a specific dementia diagnosis was recorded, this was Alzheimer's disease alone in 72% of cases or mixed with vascular dementia in 11% of cases. 71% Of carers were spouses and 350 patient-carer pairs completed the study. Patient and carer demographic characteristics were similar in the two groups, and patient clinical characteristics were similar in the two groups.<br><br>No differences were found between the intervention and control groups for any patient outcome measure at any of the time points assessed. | Randomisation used a dynamic allocation method stratifying for spousal or non-spousal relationship of the dyad. Complete list randomisation for each wave of recruitment within each centre was completed. Randomisation was carried out remotely by an accredited Clinical Trials Unit.<br><br>The nature of the interventions precludes |

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| | | | | blinding of patients and therapists. Outcome assessments were carried out blind to treatment allocation.<br><br>The dropout rate was high (approximately 28%). Analyses were conducted on an intention-to-treat basis.<br><br>Results were reported for all specified outcomes. |

**Risk of Bias:**

**SRs**

| Author (year) | RISK OF BIAS | | | | |
|---|---|---|---|---|---|
| | Inclusion criteria | Searches | Review Process | Quality assessment | Synthesis |
| Subramaniam et al. (2012) | ☹ | ☹ | ? | ? | ☺ |
| Woods et al. (2009) | ☺ | ☹ | ? | ? | ☹ |

**RCTs**

| Study | RISK OF BIAS | | | | | |
|---|---|---|---|---|---|---|
| | Random allocation | Allocation concealment | Blinding of participants and personnel | Blinding of outcome assessment | Incomplete outcome data | Selective Reporting |
| Baillon et al. (2004) | ? | ? | ☹ | ? | ☹ | ☹ |
| Hsieh et al. (2010) | ? | ? | ☹ | ? | ☹ | ☺ |
| Serrani Azcurra (2012) | ? | ? | ☹ | ? | ? | ☺ |
| Subramaniam et al. (2014) | ☺ | ? | ☹ | ☺ | ☺ | ☹ |
| Tadaka et al. (2007) | ? | ? | ☹ | ☹ | ☹ | ☺ |
| Van Bogaert et al. (2013) | ☹ | ☹ | ☹ | ☹ | ☺ | ☺ |
| Wang et al. (2007) | ☹ | ☹ | ☹ | ☺ | ☺ | |
| Woods et al. (2012) | ☺ | ☺ | ☹ | ☺ | ☹ | ☺ |

☺Low Risk ☹High Risk ? Unclear Risk

**Search Details**

| Source | Search Strategy | Number of hits | Relevant evidence identified |
|---|---|---|---|
| ***SRs and Guidelines*** | | | |
| NICE | dementia reminiscence | 5 | 2 |
| DARE | 1 ((psycholog* adj2 therap*) OR CBT OR (cognit* adj2 behavio*) OR psychoeducat* OR psychotherap*) IN DARE 1806 Delete<br>2 MeSH DESCRIPTOR Behavior Therapy EXPLODE ALL TREES 1230 Delete<br>3 MeSH DESCRIPTOR Psychotherapy EXPLODE ALL TREES 1957 Delete<br>4 MeSH DESCRIPTOR Psychotherapy, Brief EXPLODE ALL TREES 60 Delete<br>5 MeSH DESCRIPTOR Psychotherapy, Group EXPLODE ALL TREES 206 Delete<br>6 (reminiscen* adj3 therap*) IN DARE 17 Delete<br>7 (cogniti* adj3 stimulat*) IN DARE 13 Delete<br>8 (life adj3 stor*) IN DARE 2 Delete<br>9 #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 2745 Delete<br>10 (MCI OR "mild cognitive impairment" OR "cognitive impairment" OR dementia* OR demented or alzheimer* or (memory adj3 impair*)) IN DARE 808 Delete<br>11 MeSH DESCRIPTOR Alzheimer Disease EXPLODE ALL TREES 304 Delete<br>12 MeSH DESCRIPTOR Dementia EXPLODE ALL TREES 613 Delete<br>13 MeSH DESCRIPTOR Dementia, Vascular EXPLODE ALL TREES 21 Delete<br>14 MeSH DESCRIPTOR Frontotemporal Dementia EXPLODE ALL TREES 3 Delete<br>15 MeSH DESCRIPTOR Mild Cognitive Impairment EXPLODE ALL TREES 29 Delete<br>16 MeSH DESCRIPTOR Memory Disorders EXPLODE ALL TREES 36 Delete<br>17 #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 1070 Delete<br>18 #9 AND #17 180 Delete | 180 | 2 |
| ***Primary studies*** | | | |
| CENTRAL | ID Search Hits | 57 | 8 |

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|---|---|---|---|
| | #1 MeSH descriptor: [Dementia] explode all trees 3867<br>#2 MeSH descriptor: [Mild Cognitive Impairment] explode all trees 135<br>#3 dementia or alzheimer* or "mild cognitive impairment" or "cognitive impairment" 13991<br>#4 #1 or #2 or #3 14105<br>#5 reminisc* or "life story" or "life stories" 266<br>#6 #4 and #5 | | |
| PsycINFO | 24. PsycINFO; (MCI OR "mild cognitive impairment" OR "cognitive impairment" OR dementia* OR demented OR alzheimer* OR (memory adj3 impair*)).ti,ab; 87313 results.<br>25. PsycINFO; exp DEMENTIA/; 54248 results.<br>26. PsycINFO; exp MILD COGNITIVE IMPAIRMENT/; 0 results.<br>27. PsycINFO; 24 OR 25 OR 26; 88966 results.<br>28. PsycINFO; reminisce*.ti,ab; 3427 results.<br>29. PsycINFO; ("life story" OR "life stories").ti,ab; 2467 results.<br>30. PsycINFO; 28 OR 29; 5835 results.<br>31. PsycINFO; 27 AND 30; 333 results.<br>32. PsycINFO; CLINICAL TRIALS/ [Limit to: Publication Year 1860-2014]; 8137 results.<br>33. PsycINFO; random*.ti,ab [Limit to: Publication Year 1860-2014]; 135791 results.<br>34. PsycINFO; (doubl* adj3 blind*).ti,ab [Limit to: Publication Year 1860-2014]; 18771 results.<br>35. PsycINFO; (singl* adj3 blind*).ti,ab [Limit to: Publication Year 1860-2014]; 1716 results.<br>36. PsycINFO; EXPERIMENTAL DESIGN/ [Limit to: Publication Year 1860-2014]; 9375 results.<br>37. PsycINFO; controlled.ti,ab [Limit to: Publication Year 1860-2014]; 84087 results.<br>38. PsycINFO; (clinical adj3 study).ti,ab [Limit to: Publication Year 1860-2014]; 8229 results.<br>39. PsycINFO; trial.ti,ab [Limit to: Publication Year 1860-2014]; 71361 results.<br>40. PsycINFO; "treatment outcome clinical trial".md [Limit to: Publication Year 1860-2014]; 28342 results.<br>41. PsycINFO; 31 AND 40 [Limit to: Publication Year 1860-2014]; 12 results. | 12 | 0 |
| Embase | 1. EMBASE; (MCI OR "mild cognitive impairment" OR "cognitive impairment" OR dementia* OR demented OR alzheimer* OR (memory adj3 impair*)).ti,ab; 225642 results.<br>2. EMBASE; exp DEMENTIA/; 233142 results. | 70 | 0 |

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| | 3. EMBASE; exp MILD COGNITIVE IMPAIRMENT/; 10699 results.<br>4. EMBASE; 1 OR 2 OR 3; 304085 results.<br>6. EMBASE; reminisce*.ti,ab; 13555 results.<br>7. EMBASE; ("life story" OR "life stories").ti,ab; 857 results.<br>11. EMBASE; CLINICAL TRIAL/; 836216 results.<br>12. EMBASE; RANDOMIZED CONTROLLED TRIAL/; 354249 results.<br>13. EMBASE; RANDOMIZATION/; 63989 results.<br>14. EMBASE; SINGLE BLIND PROCEDURE/; 19104 results.<br>15. EMBASE; DOUBLE BLIND PROCEDURE/; 116296 results.<br>16. EMBASE; CROSSOVER PROCEDURE/; 40719 results.<br>17. EMBASE; "Randomi?ed controlled trial$".ti,ab; 106011 results.<br>18. EMBASE; rct.ti,ab; 15325 results.<br>19. EMBASE; "Random allocation".ti,ab; 1344 results.<br>20. EMBASE; "Randomly allocated".ti,ab; 21147 results.<br>21. EMBASE; ((allocated adj2 random)).ti,ab; 718 results.<br>22. EMBASE; "Single blind$".ti,ab; 14918 results.<br>23. EMBASE; "Double blind$".ti,ab; 144977 results.<br>24. EMBASE; (treble ADJ blind$).ti,ab; 0 results.<br>25. EMBASE; (triple ADJ blind$).ti,ab; 405 results.<br>26. EMBASE; Placebo$.ti,ab; 204644 results.<br>27. EMBASE; PROSPECTIVE STUDY/; 267679 results.<br>28. EMBASE; 11 OR 12 OR 13 OR 14 OR 15 OR 16 OR 47 OR 17 OR 18 OR 19 OR 20 OR 21 OR 22 OR 23 OR 24 OR 25 OR 26 OR 27; 1399682 results.<br>29. EMBASE; "case report".ti,ab; 268685 results.<br>30. EMBASE; ABSTRACT REPORT/; 71426 results.<br>31. EMBASE; LETTER/; 834798 results.<br>32. EMBASE; 60 OR 29 OR 30 OR 31; 1198013 results.<br>33. EMBASE; 28 not 32; 1361439 results.<br>34. EMBASE; 6 OR 7; 14379 results. | | |

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| | 35. EMBASE; 4 AND 34; 708 results.<br>36. EMBASE; 33 AND 35; 70 results. | | |
| Cinahl | 8. CINAHL; (MCI OR "mild cognitive impairment" OR "cognitive impairment" OR dementia* OR demented OR alzheimer* OR (memory adj3 impair*)).ti,ab; 33831 results.<br>9. CINAHL; exp DEMENTIA/; 35183 results.<br>10. CINAHL; exp MILD COGNITIVE IMPAIRMENT/; 0 results.<br>11. CINAHL; 8 OR 9 OR 10; 44132 results.<br>12. CINAHL; reminisce*.ti,ab; 706 results.<br>13. CINAHL; ("life story" OR "life stories").ti,ab; 517 results.<br>14. CINAHL; 12 OR 13; 1200 results.<br>15. CINAHL; 11 AND 14; 187 results. | 187 | 0 |
| Medline | 16. MEDLINE; (MCI OR "mild cognitive impairment" OR "cognitive impairment" OR dementia* OR demented OR alzheimer* OR (memory adj3 impair*)).ti,ab; 182280 results.<br>17. MEDLINE; exp DEMENTIA/; 129093 results.<br>18. MEDLINE; exp MILD COGNITIVE IMPAIRMENT/; 2781 results.<br>19. MEDLINE; 16 OR 17 OR 18; 215241 results.<br>20. MEDLINE; reminisce*.ti,ab; 13481 results.<br>21. MEDLINE; ("life story" OR "life stories").ti,ab; 699 results.<br>22. MEDLINE; 20 OR 21; 14147 results.<br>23. MEDLINE; 19 AND 22; 508 results.<br>24. MEDLINE; RANDOMIZED CONTROLLED TRIALS AS TOPIC/; 100107 results.<br>25. MEDLINE; RANDOMIZED CONTROLLED TRIAL/; 401553 results.<br>26. MEDLINE; RANDOM ALLOCATION/; 84222 results.<br>27. MEDLINE; DOUBLE-BLIND METHOD/; 132775 results.<br>28. MEDLINE; SINGLE-BLIND METHOD/; 20696 results.<br>29. MEDLINE; CLINICAL TRIAL/; 501893 results.<br>30. MEDLINE; "clinical trial, phase i".pt; 15392 results.<br>31. MEDLINE; "clinical trial, phase ii".pt; 24644 results.<br>32. MEDLINE; "clinical trial, phase iii".pt; 10102 results.<br>33. MEDLINE; "clinical trial, phase iv".pt; 1040 results.<br>34. MEDLINE; "controlled clinical trial".pt; 90822 results.<br>35. MEDLINE; "randomized controlled trial".pt; 401553 results. | 57 | 0 |

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| | 36. MEDLINE; "clinical trial".pt; 501893 results.<br>37. MEDLINE; exp CLINICAL TRIALS AS TOPIC/; 295658 results.<br>38. MEDLINE; (single$ ADJ blind$).ti,ab; 12463 results.<br>39. MEDLINE; (doubl$ ADJ blind$).ti,ab; 123193 results.<br>40. MEDLINE; (treb$ ADJ blind$).ti,ab; 0 results.<br>41. MEDLINE; (trip$ ADJ blind$).ti,ab; 370 results.<br>42. MEDLINE; (single$ ADJ mask$).ti,ab; 337 results.<br>43. MEDLINE; (doub$ ADJ mask$).ti,ab; 2812 results.<br>44. MEDLINE; (treb$ ADJ mask$).ti,ab; 0 results.<br>45. MEDLINE; (trip$ ADJ mask$).ti,ab; 43 results.<br>46. MEDLINE; PLACEBOS/; 34060 results.<br>47. MEDLINE; placebo$.ti,ab; 170227 results.<br>48. MEDLINE; "randomly allocated".ti,ab; 18395 results.<br>49. MEDLINE; (allocated adj2 random$).ti,ab; 21079 results.<br>50. MEDLINE; 24 OR 25 OR 26 OR 27 OR 28 OR 29 OR 30 OR 31 OR 32 OR 33 OR 34 OR 35 OR 36 OR 37; 998635 results.<br>51. MEDLINE; 38 OR 39 OR 40 OR 41 OR 42 OR 43 OR 44 OR 45 OR 46 OR 47 OR 48 OR 49; 251411 results.<br>52. MEDLINE; 50 OR 51; 1048414 results.<br>53. MEDLINE; "case report".ti,ab; 217029 results.<br>54. MEDLINE; LETTER/; 888995 results.<br>55. MEDLINE; HISTORICAL ARTICLE/; 313126 results.<br>56. MEDLINE; 53 OR 54 OR 55; 1406900 results.<br>57. MEDLINE; 52 not 56; 1019657 results.<br>58. MEDLINE; 23 AND 57; 57 results. | | |
| **Summary** | **NA** | **NA** | |

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