Reminiscence therapy for dementia (Review)

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[Intervention Review]

Reminiscence therapy for dementia

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ABSTRACT

Background

Reminiscence Therapy (RT) involves the discussion of past activities, events and experiences with another person or group of people, usually with the aid of tangible prompts such as photographs, household and other familiar items from the past, music and archive sound recordings. Reminiscence groups typically involve group meetings in which participants are encouraged to talk about past events at least once a week. Life review typically involves individual sessions, in which the person is guided chronologically through life experiences, encouraged to evaluate them, and may produce a life story book. Family care-givers are increasingly involved in reminiscence therapy.

Reminiscence therapy is one of the most popular psychosocial interventions in dementia care, and is highly rated by staff and participants. There is some evidence to suggest it is effective in improving mood in older people without dementia. Its effects on mood, cognition and well-being in dementia are less well understood.

Objectives

The objective of the review is to assess the effects of reminiscence therapy for older people with dementia and their care-givers.

Search strategy

The trials were identified from a search of the Specialised Register of the Cochrane Dementia and Cognitive Improvement Group on 4 May 2004 using the term "reminiscence". The CDCIG Specialized Register contains records from all major health care databases (MEDLINE, EMBASE, PsycLIT, CINAHL) and many ongoing trials databases and is regularly updated. We contacted specialists in the field and also searched relevant Internet sites. We hand-searched Aging and Mental Health, the Gerontologist, Journal of Gerontology, Current Opinion in Psychiatry, Current Research in Britain: Social Sciences, British Psychological Society conference proceedings and Reminiscence database.

Selection criteria

Randomised controlled trials and quasi-randomized trials of reminiscence therapy for dementia.

Data collection and analysis

Two reviewers independently extracted data and assessed trial quality.

Main results

Five trials are included in the review, but only four trials with a total of 144 participants had extractable data. The results were statistically significant for cognition (at follow-up), mood (at follow-up) and on a measure of general behavioural function (at the end of the intervention period). The improvement on cognition was evident in comparison with both no treatment and social contact control conditions. Care-giver strain showed a significant decrease for care-givers participating in groups with their relative with dementia, and staff knowledge of group members' backgrounds improved significantly. No harmful effects were identified on the outcome measures reported.

Authors' conclusions

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.

PLAIN LANGUAGE SUMMARY

Inconclusive evidence of the efficacy of reminiscence therapy for dementia

RT involves the discussion of past activities, events and experiences, with another person or group of people. This is often assisted by aids such as videos, pictures, archives and life story books. Four randomized controlled trials suitable for analysis were found. Several were very small studies, or were of relatively low quality, and each examined different types of reminiscence work. Taking studies together, some significant results were identified: cognition and mood improved 4 to 6 weeks after the treatment, care-givers participating with their relative with dementia in a reminiscence group reported lower strain, and people with dementia were reported to show some indications of improved functional ability. No harmful effects were identified on the outcome measures reported. However, in view of the limitations of the studies reviewed, there is an urgent need for more quality research in the field.

BACKGROUND

Reminiscence work was introduced to dementia care over 20 years ago (Norris 1986), and has taken a variety of forms. At its most basic, it involves the discussion of past activities, events and experiences, usually with the aid of tangible prompts (e.g. photographs, household and other familiar items from the past, music and archive sound recordings).

The development of reminiscence work is usually traced to Butler 1963's early work on "Life Review". Butler described Life Review as a naturally occurring process where the person looks back on his/her life and reflects on past experiences, including unresolved difficulties and conflicts. This concept was incorporated in a psychotherapy for older people, which emphasizes that life review can be helpful in promoting a sense of integrity and adjustment. Butler's seminal work contributed to the change in professional perspectives on reminiscence. Rather than being viewed as a problem, with the older person 'living in the past', reminiscence was now seen as a dynamic process of adjustment. However, also around this time, increasing interest in oral history meant that the reminiscences of older people were valued more greatly. In the UK the development of the 'Recall' tape-slide package (Help the Aged 1981) meant that reminiscence triggers were widely available in day care centres, care homes and hospitals, leading many staff to establish some form of reminiscence work of variable quality. There was also interest in using reminiscence to guide environmental design on the basis that, say, a lounge of a care home which resembled a living room from earlier in the person's life would seem more familiar and might lead to better maintenance of independence.

There is some evidence that reminiscence work assists in the reduction of symptoms of depression in older people (Bohlmeijer

2003; Scogin 1994). However, it is important to distinguish life review therapy from a more general reminiscence discussion in a group context. Life review therapy hasits roots in psychotherapy, involving evaluation of personal (sometimes painful) memories with a therapeutic listener, usually in a one-to-one setting. General reminiscence in a group context has the aim of enhancing interaction in an enjoyable, engaging fashion (Haight 1993; Woods 1992). Both types of approach might plausibly have an impact on mood and well-being.

Reminiscence work also has a cognitive rationale. People with dementia often appear able to recall events from their childhood, but not from earlier the same day. Accordingly a promising strategy appeared to be to tap into the apparently preserved store of remote memories. By linking with the person's cognitive strengths in this way, it was thought that the person's level of communication might be enhanced, allowing the person to talk confidently of their earlier life and experiences. In fact, studies of remote memory suggest that recall for specific events is not relatively preserved; performance across the lifespan is impaired but people with dementia, like all older people, recall more memories from earlier life (Morris 1994). Some of the memories represent well-rehearsed, much practised items or anecdotes. The almost complete absence of autobiographical memories from the person's middle years could lead to a disconnection of past and present, which could contribute to the person's difficulty in retaining a clear sense of personal identity. From a cognitive standpoint, autobiographical memory and level of communication appear key outcomes.

The first study identified as having been conducted with a group of older people with dementia was reported by Kiernat 1979. Although this was an uncontrolled study using subjective assessment, Kiernat 1979 concluded that "Conversation can be stimulated, interest can be sparked and attention span can be increased". Since 1979, there have been various studies using reminiscence approaches with dementia populations (Woods 1995), usually in a group context (including Cook 1984; Lesser 1981). However, very few randomized controlled trials have been conducted (Baines 1987; Goldwasser 1987; Orten 1989). More recently, there have been further developments in reminiscencetherapy; for example, there has been much interest in conducting reminiscence sessions jointly with people with dementia and their family care-givers (Bruce 1998; Thorgrimsen 2002); and an increasing interest in psychotherapeutic work with people with dementia has led to some attempts to utilise life review with people with dementia (Lai 2004; Morgan 2000) and life review with the person with dementia and family care-giver together (Haight 2003).

The implications of this background for the current review are as follows:

1) The type of reminiscence work and its aims needs to be clearly defined. There are a number of ways in which reminiscence may be used with people with dementia (Gibson 1994) on an individual or a group basis:

- as a basis for care-planning;
- for discussion of general memories or of more specific autobiographical memories as might be involved in creating a life-story book;
- involving family care-givers or volunteers;
- the person with dementia may be in a group with other people with dementia or with cognitively intact older people.

Aims might be to enhance communication, to increase a sense of personal identity, to have an enjoyable activity in company with others, to improve mood and well-being, to stimulate memories and/or to increase the individualisation of care.

2) Different outcome measures may be appropriate according to the type of reminiscence work and its aims. The list given above suggests that improvements in general cognition and behaviour might be the least of the changes expected, except as an indirect consequence of mood change perhaps.

3) The impact on others than the person with dementia may also be important, particularly where family care-givers are involved in the reminiscence work. Baines 1987 examined staff knowledge of those attending group sessions; this increased in reminiscence groups compared with no treatment, but also increased with a comparison treatment (Reality Orientation), so may not be a specific effect. Knowledge regarding the person with dementia is of course a prerequisite for individualized care.

4) Memories from the person's earlier life will not all be sources of pleasure and happiness; indeed some may be distressing or traumatic. Evaluation of any negative impact of this approach is required, to monitor whether the recall of such memories occurs, and, if it does, whether these can be managed safely within the particular therapeutic context.

OBJECTIVES

This review considers the effects of reminiscence therapy on people with dementia and their care-givers.

METHODS

Criteria for considering studies for this review

Types of studies

All randomised controlled trials (RCTs) which include reminiscence therapy of any type as an intervention for dementia were included in the review. RCTs of psychosocial interventions of this type cannot be double-blind, as therapists and participants are aware of the nature of the intervention, but good quality studies will include post-treatment assessment by assessors blind to treatment allocation.

Types of participants

Older people (mean age > 55) diagnosed with dementia, cognitive impairment, Alzheimer's disease, organic brain syndrome, etc. according to DSM-IV, ICD-10 or comparable. If groups of participants are mixed (i.e. people with and without dementia participating together), separate results for people with dementia must be available.

Types of interventions

Regular individual sessions or meetings of small groups, which involve the process of reminiscing, possibly aided by means such as photographs, music and videos of the past. Only trials where participants attended for a minimum 4-week period (minimum of 6 sessions) and sessions were led by professional staff (psychologists, occupational therapists, nurses etc.) or by care-workers with training from professional staff were included. Control interventions may include other types of activity (to control for effects of staff attention or social contact) or a no treatment ('treatment as usual') comparison; comparisons with other therapeutic interventions (like reality orientation or music therapy) are not considered in this review.

Types of outcome measures

Key outcomes considered are:

- Well-being, mood and quality of life
- Communication and interaction
- Cognition - particularly autobiographical memory
- Impact on care-givers e.g. care-giver strain or staff knowledge of information regarding the person with dementia

Maintaining changes is anticipated to be an issue in this intervention with people with dementia, and demonstration of benefit immediately after the series of treatment sessions is a priority, before evaluating longer-term benefits. Changes occurring within treatment sessions may be demonstrable (e.g. Brooker 2000; Head 1990) but are outside the scope of this review.
Potential negative effects of reminiscence therapy may be evaluated through negative changes in mood and well-being, and may have an impact on ratings of levels of independence and problem behaviour.

Search methods for identification of studies

The trials were identified from a search of the Specialised Register of the Cochrane Dementia and Cognitive Improvement Group on 4 May 2004 using the term reminiscence.
The Specialized Register at that time contained records from the following databases:
CENTRAL: January 2004 (issue 1);
MEDLINE: 1966 to 2004/02;
EMBASE: 1980 to 2004/02;
PsycINFO: 1887 to 2004/01;
CINAHL: 1982 to 2004/01;
SIGLE (Grey Literature in Europe): 1980 to 2002/12;
ISTP (Index to Scientific and Technical Proceedings): to May 2000;
INSIDE (BL database of Conference Proceedings and Journals): to June 2000;
Aslib Index to Theses (UK and Ireland theses): 1970 to March 2003;
Dissertation Abstract (USA): 1861 to March 2003;
ADEAR (Alzheimer's Disease Clinical Trials Database): to March 2004;
National Research Register: Issue 1/2004;
Current Controlled trials (last searched March 2004) which includes:
Alzheimer Society
GlaxoSmithKline
HongKong Health Services Research Fund
Medical Research Council (MRC)
NHS R&D Health Technology Assessment Programme
Schering Health Care Ltd
South Australian Network for Research on Ageing
US Dept of Veterans Affairs Cooperative Studies
National Institutes of Health (NIH)
ClinicalTrials.gov: last searched March 2004;
LILACS (Latin American and Caribbean Health Science Literature): last searched April 2003.
The search strategies used to identify relevant records in MEDLINE, EMBASE, PsycINFO, CINAHL and LILACS can be found in the Group's module.
The reviewers hand-searched:
1. British Psychological Society conference proceedings (Feb and Aug 1997)
2. Reminiscence database (Collated by M. Bender, 1995)
Additional sources:
1. The Alzheimer's Society library
2. Letters were published in PSIGE (Psychologists Special Interest Group for the Elderly) and the BPS (British Psychological Society) magazines, requesting information on any controlled trials which may not easily be discovered (eg. unpublished papers.)
3. Personal contact was made with various specialists in the field.
Additionally, reference lists of all papers were searched for further references, and reviewers searched personal holdings of references

to reports and trials. Letters/e-mails were sent to all authors of controlled trials asking for essential information, where this was not available in the publication (e.g. statistics and/or details of randomization).

Data collection and analysis

SELECTION OF TRIALS

For the original review (1998), 15 publications were identified through the literature searches. Where possible, abstracts were read before obtaining papers, but in many cases, decisions as to whether or not to obtain the paper were based on the title. A reviewer (AS) and co-reviewer (MO) independently assessed eligibility.

For this substantive update (2004), a further 16 relevant papers were identified from the literature searches and reviewed against the eligibility criteria.

DATA EXTRACTION

Data were extracted on changes in cognition, behaviour, communication, mood/well-being and impact on care-givers assessed using psychometric tests and rating scales. Descriptive characteristics (such as quality of randomization and blinding) and study results were extracted. Additionally, letters/e-mails were sent to all authors of controlled trials asking for essential information, where this was not available in the publication (e.g. statistics and/or details of randomization).

Data were extracted from the published reports. The summary statistics required for each trial and each outcome for continuous data are the mean change from baseline, the standard error of the mean change, and the number of patients for each treatment group at each assessment. Where changes from baseline were not reported, the mean, standard deviation and the number of patients for each treatment group at each time point were extracted if available.

The baseline assessment is defined as the latest available assessment prior to randomization, but no longer than two months prior.

For each outcome measure, data were sought on every patient randomized. To allow an intention-to-treat analysis, the data were sought irrespective of compliance, whether or not the patient was subsequently deemed ineligible, or otherwise excluded from treatment or follow-up. If intention-to-treat data were not available in the publications, "on-treatment" or the data of those who complete the trial were sought and indicated as such.

In studies where a cross-over design was used, only data from the first treatment phase after randomization was eligible for inclusion.

DATA ANALYSIS

The outcomes measured in clinical trials of dementia and cognitive impairment often arise from ordinal rating scales. Where the rating scales used in the trials have a reasonably large number of categories (more than 10) the data were treated as continuous outcomes arising from a normal distribution.

Summary statistics (n, mean and standard deviation) were required for each rating scale at each assessment time for each treatment group in each trial for change from baseline. For crossover trials only the data from the first treatment period was used.

When change from baseline results were not reported, the required summary statistics were calculated from the baseline and assessment time treatment group means and standard deviations. In this case a zero correlation between the measurements at baseline and assessment time was assumed. This method overestimates the standard deviation of the change from baseline, but this conservative approach is considered to be preferable in a meta-analysis.

The meta-analysis requires the combination of data from the trials that may not use the same rating scale to assess an outcome. The measure of the treatment difference for any outcome was the weighted mean difference when the pooled trials use the same rating scale or test, and the standardised mean difference, which is the absolute mean difference divided by the standard deviation when they used different rating scales or tests.

Overall estimates of the treatment difference are presented. In all cases the overall estimate from a fixed effects model is presented and a test for heterogeneity using a standard chi-square statistic and the I^2 was performed. If, however, there is evidence of heterogeneity of the treatment effect between trials then either only homogeneous results were pooled, or a random-effects model was used (in which case the confidence intervals would be broader than those of a fixed-effects model).

In order to allow comparisons with other scales assessing similar outcomes, it has been necessary to reverse the sign of certain scales e.g. measures of depression. References for and details of the measures used in the included studies are provided in Table 1.

Table 1. Outcome measures

Name of measure	Source	Description	Maximum score	How completed?
MMSE	Folstein 1975	Widely used test of cognitive function - includes orientation and learn-	30	Questions asked in interview with person with dementia

Table 1. Outcome measures (*Continued*)

		ing items, language and praxis		
Information / Orientation (CAPE)	Pattie 1979	Brief measure of verbal orientation. Part of Clifton Assessment Procedures for the Elderly (CAPE).	10	Questions asked in interview with person with dementia
Autobiographical Memory Interview - Personal Semantic Schedule	Kopelman 1990	Assesses recall of personal facts from three time periods: childhood, early adulthood and later adulthood	63	Questions asked in interview with person with dementia
Holden Communication Scale	Holden 1995	Assesses conversation, communication and social awareness. 12 items rated 0-4.	48	Completed by member of staff or relative from their observation of the person with dementia over a specified period
Social Engagement Scale	Schroll 1997	Assesses ease of interaction and social engagement over previous week. 6 items rated 0 or 1.	6	Completed by member of staff or relative from their observation of the person with dementia over a specified period
Behaviour Rating Scale (CAPE)	Pattie 1979	Assesses level of dependency and behaviour. Part of CAPE.	36	Completed by member of staff or relative from their observation of the person with dementia over a specified period
MDS-ADL	Morris 1997	Assesses activities of daily living and degree of dependency. Part of Minimum Data Set - Home Care (MDS-HC).	46	Completed by member of staff or relative from their observation of the person with dementia over a specified period
Problem Behaviour Rating Scale	Jeffery 1981	Assesses 'specific behaviour patterns associated with confusion'. Each area assessed with a 7 point scale, but no details of number of areas.	Not stated	Completed by member of staff or relative from their observation of the person with dementia over a specified period
Life Satisfaction Index	Adams 1969	Assesses person's sense of achievement and contentment with life.	18	Questions asked in interview with person with dementia

Table 1. Outcome measures (*Continued*)

QOL-AD	Logsdon 1999	13 items, rated 1-4, covering different domains of the quality of life of the person with dementia. Proxy rating possible (e.g. by relative), but not identical with person's own rating.	52	Completed either in interview with person with dementia or by family care-giver from their observation of the person with dementia.
WIB (Dementia Care Mapping)	Bradford Dementia Group 1997	Dementia Care Mapping involves direct observation of the person with dementia for a minimum of 6 hours. Every five minutes, the person's Well-being / Ill-being is recorded on a 6 point scale (-5 to +5). The WIB score is the mean of these observations.	5	Average of ratings every 5 minutes for at least 6 hours
Geriatric Depression Scale	Yesavage 1983	Widely used self-report depression scale - each item has a 'Yes/No' response format. Scores of 5 and above are considered in the depressed range.	15	Questions asked in interview with person with dementia
GHQ-12	Goldberg 1978	A brief version of the General Health Questionnaire, which assesses psychological distress and has been used in many care-giver studies.	12	Care-giver completes self-report questionnaire.
Relatives Stress Scale	Greene 1982	Widely used 12 item scale assessing distress arising specifically from care-giving.	48	Care-giver completes self-report questionnaire
Staff Knowledge	Baines 1987	Assessed using the Personal Information Questionnaire, asking basic questions about the person's family, former work roles and past	40	Staff complete questionnaire about each resident without referring to records.

Table 1. Outcome measures (*Continued*)

		and present hobbies and interests.		

RESULTS

Description of studies

See: Characteristics of included studies; Characteristics of excluded studies.

The five included studies are as follows:

Baines 1987 included 15 subjects with 'moderate to severe impairment of cognitive functioning'. No details of further illnesses or medication were given. Subjects were randomly assigned to 3 groups of 5: they received initially RT, Reality Orientation (RO) or no treatment. Intervention (RT and RO) was for 30 minutes, 5 times a week for 4 weeks. RT sessions were based on the format suggested by Norris 1986; using a set of audio/slide programmes designed to facilitate reminiscence, old photographs (local scenes and personal), books, magazines, newspapers and domestic articles. After a further 4 week gap, the RT and RO groups crossed-over to receive the alternate therapy, whilst the no treatment group continued as previously. In this review, the initial RT versus no treatment comparison is considered, together with the comparison after a further 4 weeks. Outcomes measured included the Information/Orientation test and the Behaviour Rating Scale from the Clifton Assessment Procedures for the Elderly (CAPE) (Pattie 1979); the Holden Communication Scale, Life Satisfaction Index (LSI) and a Problem Behaviour Rating Scale, all completed before and immediately after the 4-week intervention. The cognitive assessment and LSI were completed by an independent psychologist and the behaviour rating scales and Communication Scale rated by staff who were not involved with the therapy groups. Staff knowledge regarding residents' backgrounds was assessed using a Personal Information questionnaire, with staff responses pooled for each participant.

Goldwasser 1987 included 30 subjects with a clinical diagnosis of dementia. No details of further illnesses or medication were given. They were randomly assigned to 3 groups of 10: RT, Social support and no treatment. Intervention (RT and social support) was for 30 minutes, twice a week for 5 weeks. Reminiscence topics included food, family, early memories, adjustments, losses, jobs and music. The social support group focused on present and future events and problems. Outcomes measured were cognition, ADL (Activities of Daily Living - behaviour) andseverity of depression; pre-intervention, 1 week post-intervention and at a 6-week follow-up.

Thorgrimsen 2002- one of the three new trials - reports an evaluation of a reminiscence group programme which involves family care-givers alongside the person with dementia; indeed, there were 18 weekly sessions for care-givers, with 7 of these sessions being attended by the person with dementia. Participants, randomly assigned to RT treatment or no treatment, were 11 people with a diagnosis of dementia, living in the community, and 11 informal family care-givers. No details are given of how the diagnosis was established, of medication or co-morbid illnesses. The mean initial MMSE score (13) suggests a moderate degree of cognitive impairment. Sessions with care-givers alone were intended to train them in the use of reminiscence methods. In joint sessions, topics included 'school days', 'the world of work' and 'dressing up and looking good', with slides, enlarged photographs, music and drama being used to bring memories to life. Outcome measures included the MMSE (the Mini Mental State Examination (Folstein 1975): a screening test of cognitive function, including a number of orientation items), the QOL-AD, a 13 item quality of life scale specifically developed for use with people with dementia (Logsdon 1999), the Behaviour Rating Scale from the CAPE, the Holden Communication Scale and two scales intended to evaluate change in the level of carer strain (the GHQ-12 (Goldberg 1978) and the Relatives Stress Scale). Carers and people with dementia were assessed separately, immediately before and immediately after the 18 week intervention period, with the assessor blind to group allocation. The QOL-AD was completed by the person with dementia on their own behalf, and by the carer, rating the person with dementia's quality of life.

Lai 2004 - the second of the new included trials - included 101 nursing home residents, with 36 participating in individual reminiscence sessions, involving 'highly focused use of triggers that approximate the life history of an individual'. In addition to a no treatment control group, there was also a social contact comparison group, again involving individual sessions. Sessions were held once weekly for six weeks, and lasted 30 minutes, each facilitated by a personal care worker and a research assistant. Participants were diagnosed with dementia, according to DSM-IV criteria, and were able to communicate. Exclusion criteria included the presence of other active major psychiatric disorders, acute or unstable chronic

medical conditions, and severe uncorrected sensory impairments. The sample appear to have a moderate to severe degree of cognitive impairment, with a mean MMSE score of 9, and around half the sample were reported to be continually restrained. Medication use did not differ between groups. Outcome measures were the Social Engagement Scale, where a care-giver rates the person's comfort in social situations and the Well-being / Ill-being Scale(WIB), from the Dementia Care Mapping tool, which involves direct observation of the person every five minutes for a minimum of six hours in the home. Although not reported in the published version of the study, the author has made available data on the MMSE and a self-care rating scale (the MDS-ADL) for this review. Assessments were carried out immediately before and after the 6 week treatment period, and at a 6 week follow-up.

Morgan 2000 - the third new included trial -included 17 care home residents, each with a mild to moderate degree of dementia on the Clinical Dementia Rating Scale (CDR) (Hughes 1982). Exclusion criteria were presence of florid psychosis and severe communication difficulty. All had a carer or relative who agreed to support the intervention. The life review group received an average of 12 individual weekly sessions, following Haight's Life Review Experiencing Form (Haight 1992); a life story book was developed for each person in the intervention group, incorporating the person's own words, accompanied by appropriate pictures; the focus in sessions was on evaluative life review. The comparison was a no treatment control. Outcome measures included the 15 item Geriatric Depression Scale (Yesavage 1983), the Life Satisfaction Index - A and the Autobiographical Memory Interview Personal Semantic Schedule (PSS) (Kopelman 1990). Assessments were carried out immediately before and after the intervention period and at 6 week follow-up. No details are available of medication use or other co-morbid illnesses.

Risk of bias in included studies

1) SELECTION BIAS

Baines 1987: Method of randomization unclear.

Goldwasser 1987: Method of randomization unclear.

Thorgrimsen 2002: Randomization using sealed envelopes.

Lai 2004: 'Fixed allocation' was practised.

Morgan 2000: Randomization by minimisation method used, with age and relationship to care-giver stratifying variables.

2) PERFORMANCE BIAS

With psychological interventions, unlike drug trials, it is impossible to blind patients and staff totally to treatment. Patients will often be aware that they are being treated preferentially, staff involved may have different expectations of treatment groups, and independent assessors may be given clues from patients during the assessments. There may also be contamination between groups, in terms of groups not being held in separate rooms and staff bringing ideas from one group to another. The latter effect would be reduced with clear therapeutic protocols.

Baines 1987

Staff were unaware of the allocation of patients to groups, as they were removed from the setting for treatment. Contamination: RT group was held in a separate room, but the same staff conducted RO and RT, so they could have discussed the 2 groups, and come up with common solutions which are not within the boundaries of RT. This would be less likely if there was a written treatment protocol, of which there is no evidence.

Goldwasser 1987

No details are given of where sessions were held. The same facilitators conducted RT and social support, which may have resulted in some contamination across groups.

Thorgrimsen 2002

Intervention followed a standardised manual. By design, families were aware of treatment allocation.

Lai 2004

Interventions delivered by professional staff with additional training; video-tapes of intervention and comparison conditions reviewed by expert panel to assure adherence to treatment protocol, despite same staff conducting intervention and comparison groups.

Morgan 2000

All interventions delivered by primary researcher. Home staff and family aware of treatment allocation.

3) ATTRITION BIAS

Baines 1987

0/15 dropouts

Goldwasser 1987

3/30 dropouts. 1 person in RT group died, therefore 1 person in each of the other 2 groups was randomly dropped.

Thorgrimsen 2002

1/11 drop-out (from control group)

Lai 2004

Intention to treat analysis; 86/101 completed post-test assessment; 79/101 completed follow-up assessment. Attrition spread evenly across conditions (reported as 3/30 no treatment; 6/35 social contact; 6/36 reminiscence).

Morgan 2000

2/19 dropped out (both from intervention group).

4) DETECTION BIAS

Baines 1987

Assessments were made by an independent psychologist, and staff who knew the residents well but were not involved with the therapy groups.

Goldwasser 1987

Assessments were made by a psychology graduate, a registered nurse and a 'practical nurse', none of whom were aware of the conditions to which subjects were assigned.

Thorgrimsen 2002

Assessments were made by a psychologist unaware of group allocation; families were asked to maintain 'blindness' of assessor. CAPE Behaviour and Holden Communication Scale were rated

by a family member present at group sessions.

Lai 2004

All assessors blind to group allocation. Extensive training given in the use of the measures, and good inter-rater reliabilities achieved at baseline and mid-study.

Morgan 2000

Baseline assessments carried out by the primary researcher. Half of post-therapy and follow-up assessments for both groups carried out by a psychologist unaware of group allocation.

Overall, the included trials have important methodological weaknesses, particularly in relation to small sample size and difficulties in carrying out post-treatment assessments 'blind' to treatment condition. Whilst all report randomisation, details of the methods used are lacking. Only one study (Lai 2004) attempted to evaluate adherence to the treatment protocol.

Effects of interventions

It was not possible to obtain adequate data for entry into MetaView from the Goldwasser 1987 study. The authors reported a slight, but insignificant improvement in cognitive status for the RT group compared to the 2 others, no differences at all in behavioural assessment, and a significant increase in depression for the RT group. The latter measure may have been biased because initial depression scores were higher for this group.

Four trials (Baines 1987; Lai 2004; Morgan 2000; Thorgrimsen 2002) were included in the analyses. In comparison with no treatment, at the post-treatment assessment reminiscence was associated with significantimprovements on both measures of caregiver strain used by Thorgrimsen 2002 (GHQ: weighted mean difference 2.9; 95% confidence intervals (CI) 0.22 to 5.58; z = 2.12, p = 0.03; Relatives Stress Scale: weighted mean difference 18.8; 95% CI 6.45 to 31.15; z = 2.98, p = 0.003). There were also significant improvements in staff knowledge regarding residents (weighted mean difference 19.8; 95% CI 15.64 to 23.96; z = 9.33, p < 0.00001) and improved behavioural functioning on the CAPE BRS (weighted mean difference 7.61; 95% CI 2.42 to 12.8; z = 2.88, p = 0.004). At 4 or 6 week follow-up, reminiscence was associated with significant improvements in cognition (standardised mean difference 0.5; 95% CI 0.07 to 0.92; z = 2.31, p = 0.02) and in depression (assessed only in the Morgan 2000 study; weighted mean difference 3.69; 95% CI 1.65 to 5.73; z = 3.55, p = 0.0004).No differences in communication / interaction or problem behaviour were evident at either time point.

One trial, Lai 2004 (the largest of the four), included a social contact comparison group; no significant effects of reminiscence were evident in comparison to the social contact intervention on communication, behaviour or well-being, immediately post-treatment or at 6 weeks follow-up. There was, however, a significant improvement on cognition (as measured by the MMSE) at 6 week follow-up (weighted mean difference 4.37; 95% CI 0.72 to 8.02; z = 2.35, p = 0.02).

DISCUSSION

This review has indicated some potentially beneficial effects of RT, with analyses involving the four eligible RCTs. These include improvements in cognition - particularly helped by the inclusion of a measure of autobiographical memory in one study - and on mood, consistent with findings on the use of reminiscence with older people without dementia (Bohlmeijer 2003). Although both these improvements were significant only 4 to 6 weeks after the end of the intervention period, in the case of cognition there was an encouraging trend at post-treatment. More surprisingly, there was a significant improvement in scores on the CAPE Behavioural Rating Scale at post-treatment; this scale of general behavioural function covers self-care and communication skills as well as having a couple of items on behavioural disturbance. No improvements were noted on the MDS-ADL scale. In the study where family care-givers were involved in the reminiscence groups (Thorgrimsen 2002), caregiver strain was significantly reduced. Staff knowledge regarding participants' backgrounds increased dramatically compared with their knowledge regarding those in a no treatment condition.

Whilst these findings are encouraging, and add some weight to the many favourable evaluations of reminiscence work that have arisen from descriptive and observational studies (e.g. Cook 1984; Gibson 1994; Kiernat 1979) there are a number of limitations to the strength of the conclusions that may be drawn at this stage.

1) Each of the additional trials includes a different type of reminiscence work. Ideally, comparisons between different reminiscence modalities would be made e.g. individual versus group; involving family care-givers versus people with dementia alone; involving life review versus more general reminiscence. Until further, large-scale, good quality trials become available it will not be possible to draw conclusions regarding different reminiscence modalities.

2) Although comparisons are difficult, with different measures of severity used in each study, it does appear that the largest RCT included here (Lai 2004) may have involved a more severely impaired group than other trials, which have mainly included people with mild / moderate dementia. It is likely that therapeutic approaches need to be tailored to the degree of impairment of the participants, and it is possible that efficacy may differ at different levels of severity of dementia, and possibly interact with the type of reminiscence work undertaken.

3) The high levels of continual restraint used with the more impaired group in the Lai 2004 study also makes comparisons difficult, and would be expected to have an impact on well-being. The study author (personal communication) notes that in Hong Kong, where the study was carried out, this restraint would involve residents wearing a 'safety jacket', which would have an impact on their mobility, comfort and possibly interaction, as well as increasing irritability in some. In many countries, such restraint would be seen as unethical; in others, there are concerns, but restraints are still used (Kirkevold 2003). Reminiscence therapy has at its

core a respect for the person, as an individual, with a unique life history (Woods 1998); restraint of any kind would be expected to be seen as antithetical to good reminiscence practice.

4) With the exception of Lai 2004, the additional studies are small and have some limitations. Thus, Morgan 2000 used a single therapist who also conducted a proportion of the assessments. Thorgrimsen 2002 had a very small control group at post-test (n = 3), and relied heavily on family care-giver reports of the person's function; given the involvement of the care-giver in the groups, this may have confounded the results obtained. For example, it is possible that the improvements on the CAPE BRS could be influenced by the care-givers' lowered stress levels, leading to more positive ratings across the board. It is noticeable that the care-givers' ratings of QOL-AD in the reminiscence condition were much more positive than those made by the people with dementia themselves.

5) The largest trial (Lai 2004) seems to show fewer benefits for the reminiscence condition. This is also the only study considered here which included an active control group. This study largely used different outcome measures from the other studies, with the exception of the MMSE, where there was a significant effect at follow-up, both in the comparison with no treatment and with the social contact control. This study used WIB values to assess well-being; this measure may reflect aspects of quality of care as much as quality of life (Woods 2003), which means that aspects of the care regime would have to change for this index to be affected greatly. The routine use of physical restraint in this setting has already been noted. Brooker 2000 found positive changes in WIB values during reminiscence sessions, but the carry-over to the person's daily life would depend on staff input.

There were no indications from the outcome measures of the four studies included in the current analysis of any harm or distress to people with dementia participating. The suggestion from Goldwasser 1987 of increased depression associated with reminiscence is not supported by the included studies, where mood and well-being showed no indications of negative change.

AUTHORS' CONCLUSIONS

Implications for practice

The evidence-base for the effectiveness of reminiscence therapy continues to rest largely on descriptive and observational studies, with the few RCTs available being small, of relatively low quality and with some variation in outcome, perhaps related to the diverse forms of RT used. It is too early to provide any indication of the effectiveness of reminiscence therapy in comparison with other psychosocial interventions, such as validation therapy or music therapy. However, given its popularity with staff and participants, there is no reason not to continue with its further development and evaluation. The need for training, support and supervision for staff carrying out this work is emphasised in much of the RT literature.

Implications for research

There is a clear need for more randomized controlled trials of RT. These need to follow a clear treatment protocol, so that it becomes possible to define more precisely the key elements of the different approaches to reminiscence work, and to evaluate their relative benefits. The effects of severity of dementia and different modalities (e.g. group versus individual versus with care-giver) need to be systematically evaluated. The broadening of outcome measures to include well-being, mood and quality of life is welcome, as is a willingness to consider the impact on family and other care-givers. Joint reminiscence work with people with dementia and their family care-givers is a good example of relationship-centred care, and may require the development of relationship-centred outcome measures to evaluate fully its impact.

Any negative effects need to be reported on an individual basis, so that it can begin to be possible to identify whether there are some people with dementia on whom this approach has a harmful impact.

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* *Indicates the major publication for the study*

CHARACTERISTICS OF STUDIES

Characteristics of included studies *[ordered by study ID]*

Baines 1987

Methods	Randomised controlled trial. Cross-over design: 4 weeks treatment 1 + 4 weeks wash-out + 4 weeks treatment 2
Participants	15 subjects with moderate to severe impairment of cognitive functioning. Mean age =81.5 Living in care home.
Interventions	Reality Orientation Reminiscence Therapy groups No treatment
Outcomes	Cognitive: Information/Orientation (CAPE) Behavioural: Behaviour (CAPE) Well-being: LSI Communication: Holden
Notes	Treatment is 30 minute sessions, 5 days per week for 4 weeks.

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Unclear	B - Unclear

Goldwasser 1987

Methods	Randomised controlled trial
Participants	27 subjects, clinical diagnosis of dementia. Mean age = 82.3
Interventions	Reminiscence therapy groups Social support No treatment
Outcomes	Cognitive: Mini Mental State Behavioural: Katz ADL Well-being: Beck Depression Inventory
Notes	30 minute treatment sessions, twice weekly for five weeks.

Risk of bias

Item	Authors' judgement	Description

Goldwasser 1987 (*Continued*)

Allocation concealment?	Unclear	B - Unclear

Lai 2004

Methods	Randomised controlled trial
Participants	101 nursing home residents with DSM-IV diagnosis of dementia. Mean age 85.7 years.
Interventions	Reminiscence therapy (individualised) Social support No treatment
Outcomes	Cognitive: MMSE Behavioural: MDS-ADL Communication: Social Engagement Scale (SES) Well-being: DCM Well-being/ill-being scale (WIB)
Notes	Treatment 30 minute sessions, weekly for 6 weeks. Assessors blind to group allocation.

Risk of bias

Item	**Authors' judgement**	**Description**
Allocation concealment?	Unclear	B - Unclear

Morgan 2000

Methods	Randomised controlled trial
Participants	17 residential home residents with diagnosis of mild to moderate dementia
Interventions	Individual life review No treatment
Outcomes	Well-being: Geriatric Depression Scale Cognitive: Autobiographical Memory Interview
Notes	Treatment - average of 12 sessions. Assessors only partly blind to group allocation.

Risk of bias

Item	**Authors' judgement**	**Description**
Allocation concealment?	Unclear	B - Unclear

Thorgrimsen 2002

Methods	Randomised controlled trial
Participants	11 subjects with dementia. Mean age 76.3 Living in community.
Interventions	Reminiscence therapy (groups with carer involvement) No treatment
Outcomes	Cognitive: Mini Mental State Behavioural: CAPE-BRS Communication: Holden Well-being: QOL-AD Carer: GHQ-12, Relatives Stress Scale
Notes	18 weekly sessions - 11 for carers only. Assessor blind to group allocation.

Risk of bias

Item	**Authors' judgement**	**Description**
Allocation concealment?	Yes	A - Adequate

Characteristics of excluded studies *[ordered by study ID]*

Baillon 2004	Reminiscence used as comparison treatment with Snoezelen. No other control group. Three sessions of reminiscence only.
Brooker 2000	Within session, within-subjects design - no randomization.
Burckhardt 1987	Review article and meta-analysis of therapy for older people - not specific to reminiscence and dementia.
Haight 2003	Randomization not mentioned
Head 1990	No randomization
McKee 2003	Reminiscence used with a general care home population. Data for people with dementia not presented separately.
McKiernan 1990	No randomization.
McMurdo 2000	Residential home population with MMSE>12; no diagnostic information provided; no data given for people with dementia.
Orrell 2000b	Evaluation of cognitive stimulation - not reminiscence specifically.
Orten 1989	Population without clear diagnosis of dementia.
Protomastro 1991	Intervention used a variety of methods - reminiscence only one aspect of this.
Rattenbury 1989	Cognitive impairment was an exclusion factor for this study i.e. population did not have a clear diagnosis of dementia.
Thornton 1987	Review article.

DATA AND ANALYSES

Comparison 1. Reminiscence Therapy versus no treatment:

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Cognition post-treatment	4	103	Std. Mean Difference (IV, Fixed, 95% CI)	0.27 [-0.13, 0.67]
1.1 Information/Orientation (CAPE)	1	10	Std. Mean Difference (IV, Fixed, 95% CI)	-0.02 [-1.26, 1.22]
1.2 MMSE	2	76	Std. Mean Difference (IV, Fixed, 95% CI)	0.15 [-0.30, 0.61]
1.3 Autobiographical Memory Interview	1	17	Std. Mean Difference (IV, Fixed, 95% CI)	1.04 [0.01, 2.08]
2 Behaviour post-treatment	3		Mean Difference (IV, Fixed, 95% CI)	Subtotals only
2.1 CAPE (Behaviour)	2	20	Mean Difference (IV, Fixed, 95% CI)	7.61 [2.42, 12.80]
2.2 Problem Behaviour Rating Scale	1	10	Mean Difference (IV, Fixed, 95% CI)	2.2 [-11.84, 16.24]
2.3 MDS-ADL	1	66	Mean Difference (IV, Fixed, 95% CI)	0.42 [-4.91, 5.75]
3 Communication and interaction post-treatment	3	86	Std. Mean Difference (IV, Fixed, 95% CI)	0.01 [-0.42, 0.44]
3.1 Holden Communication Scale	2	20	Std. Mean Difference (IV, Fixed, 95% CI)	0.23 [-0.68, 1.15]
3.2 Social Engagement Scale	1	66	Std. Mean Difference (IV, Fixed, 95% CI)	-0.05 [-0.54, 0.43]
4 Well-being post-treatment	4		Mean Difference (IV, Fixed, 95% CI)	Subtotals only
4.1 Life Satisfaction Index	2	27	Mean Difference (IV, Fixed, 95% CI)	0.75 [-2.53, 4.03]
4.2 QoL-AD (rated by person with dementia)	1	10	Mean Difference (IV, Fixed, 95% CI)	-5.5 [-15.52, 4.52]
4.3 QoL-AD (rated by carer)	1	10	Mean Difference (IV, Fixed, 95% CI)	5.3 [-0.15, 10.75]
4.4 WIB	1	66	Mean Difference (IV, Fixed, 95% CI)	0.04 [-0.14, 0.22]
4.5 Geriatric Depression Scale	1	17	Mean Difference (IV, Fixed, 95% CI)	1.28 [-0.98, 3.54]
5 Cognition at follow-up	3	93	Std. Mean Difference (IV, Fixed, 95% CI)	0.50 [0.07, 0.92]
5.1 Information / Orientation (CAPE)	1	10	Std. Mean Difference (IV, Fixed, 95% CI)	0.42 [-0.84, 1.68]
5.2 Autobiographical Memory Interview	1	17	Std. Mean Difference (IV, Fixed, 95% CI)	1.50 [0.39, 2.62]
5.3 MMSE	1	66	Std. Mean Difference (IV, Fixed, 95% CI)	0.31 [-0.17, 0.80]
6 Behaviour at follow-up	2		Mean Difference (IV, Fixed, 95% CI)	Subtotals only
6.1 CAPE (Behaviour)	1	10	Mean Difference (IV, Fixed, 95% CI)	-0.20 [-8.56, 8.16]
6.2 Problem Behaviour Rating Scale	1	10	Mean Difference (IV, Fixed, 95% CI)	1.6 [-10.79, 13.99]
6.3 MDS-ADL	1	66	Mean Difference (IV, Fixed, 95% CI)	0.45 [-4.87, 5.77]
7 Communication and interaction at follow-up	2	76	Std. Mean Difference (IV, Fixed, 95% CI)	0.16 [-0.29, 0.61]
7.1 Holden Communication Scale	1	10	Std. Mean Difference (IV, Fixed, 95% CI)	-0.11 [-1.35, 1.13]
7.2 Social Engagement Scale	1	66	Std. Mean Difference (IV, Fixed, 95% CI)	0.20 [-0.29, 0.69]
8 Well-being at follow-up	3		Mean Difference (IV, Fixed, 95% CI)	Subtotals only
8.1 Life Satisfaction Index	2	27	Mean Difference (IV, Fixed, 95% CI)	2.87 [-1.28, 7.01]
8.2 WIB	1	66	Mean Difference (IV, Fixed, 95% CI)	0.06 [-0.13, 0.25]
8.3 Geriatric Depression Scale	1	17	Mean Difference (IV, Fixed, 95% CI)	3.69 [1.65, 5.73]

9 Carer strain at post-treatment	1		Mean Difference (IV, Fixed, 95% CI)	Subtotals only
9.1 General Health Questionnaire (12)	1	10	Mean Difference (IV, Fixed, 95% CI)	2.9 [0.22, 5.58]
9.2 Relatives Stress Scale	1	10	Mean Difference (IV, Fixed, 95% CI)	18.8 [6.45, 31.15]
10 Staff knowledge of person with dementia	1	10	Mean Difference (IV, Fixed, 95% CI)	19.8 [15.64, 23.96]

Comparison 2. Reminiscence Therapy versus social contact

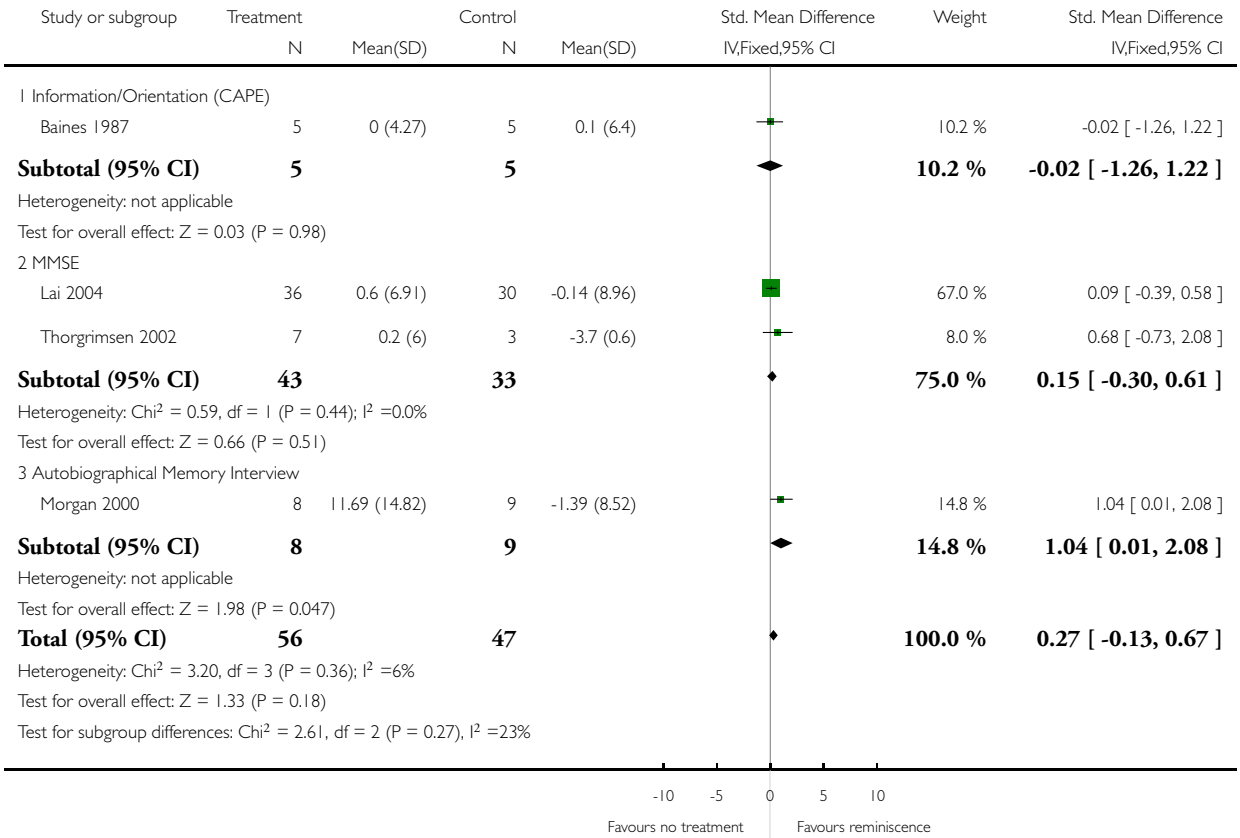
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Communication and interaction at post-treatment	1	71	Mean Difference (IV, Fixed, 95% CI)	-0.27 [-1.41, 0.87]
1.1 Social Engagement Scale	1	71	Mean Difference (IV, Fixed, 95% CI)	-0.27 [-1.41, 0.87]
2 Well-being at post-treatment	1	71	Mean Difference (IV, Fixed, 95% CI)	0.02 [-0.13, 0.17]
2.1 WIB	1	71	Mean Difference (IV, Fixed, 95% CI)	0.02 [-0.13, 0.17]
3 Communication and interaction at follow-up	1	71	Mean Difference (IV, Fixed, 95% CI)	-0.33 [-1.37, 0.71]
3.1 Social Engagement Scale	1	71	Mean Difference (IV, Fixed, 95% CI)	-0.33 [-1.37, 0.71]
4 Well-being at follow-up	1	71	Mean Difference (IV, Fixed, 95% CI)	0.03 [-0.12, 0.18]
4.1 WIB	1	71	Mean Difference (IV, Fixed, 95% CI)	0.03 [-0.12, 0.18]
5 Cognition at post-treatment	1	71	Mean Difference (IV, Fixed, 95% CI)	1.45 [-1.77, 4.67]
5.1 MMSE	1	71	Mean Difference (IV, Fixed, 95% CI)	1.45 [-1.77, 4.67]
6 Behaviour at post-treatment	1	71	Mean Difference (IV, Fixed, 95% CI)	-1.5 [-6.96, 3.96]
6.1 MDS-ADL	1	71	Mean Difference (IV, Fixed, 95% CI)	-1.5 [-6.96, 3.96]
7 Cognition at follow-up	1	71	Mean Difference (IV, Fixed, 95% CI)	4.37 [0.72, 8.02]
7.1 MMSE	1	71	Mean Difference (IV, Fixed, 95% CI)	4.37 [0.72, 8.02]
8 Behaviour at follow-up	1	71	Mean Difference (IV, Fixed, 95% CI)	0.82 [-4.43, 6.07]
8.1 MDS-ADL	1	71	Mean Difference (IV, Fixed, 95% CI)	0.82 [-4.43, 6.07]

Analysis 1.1. Comparison 1 Reminiscence Therapy versus no treatment:, Outcome 1 Cognition post-treatment.

Review: Reminiscence therapy for dementia

Comparison: 1 Reminiscence Therapy versus no treatment:

Outcome: 1 Cognition post-treatment

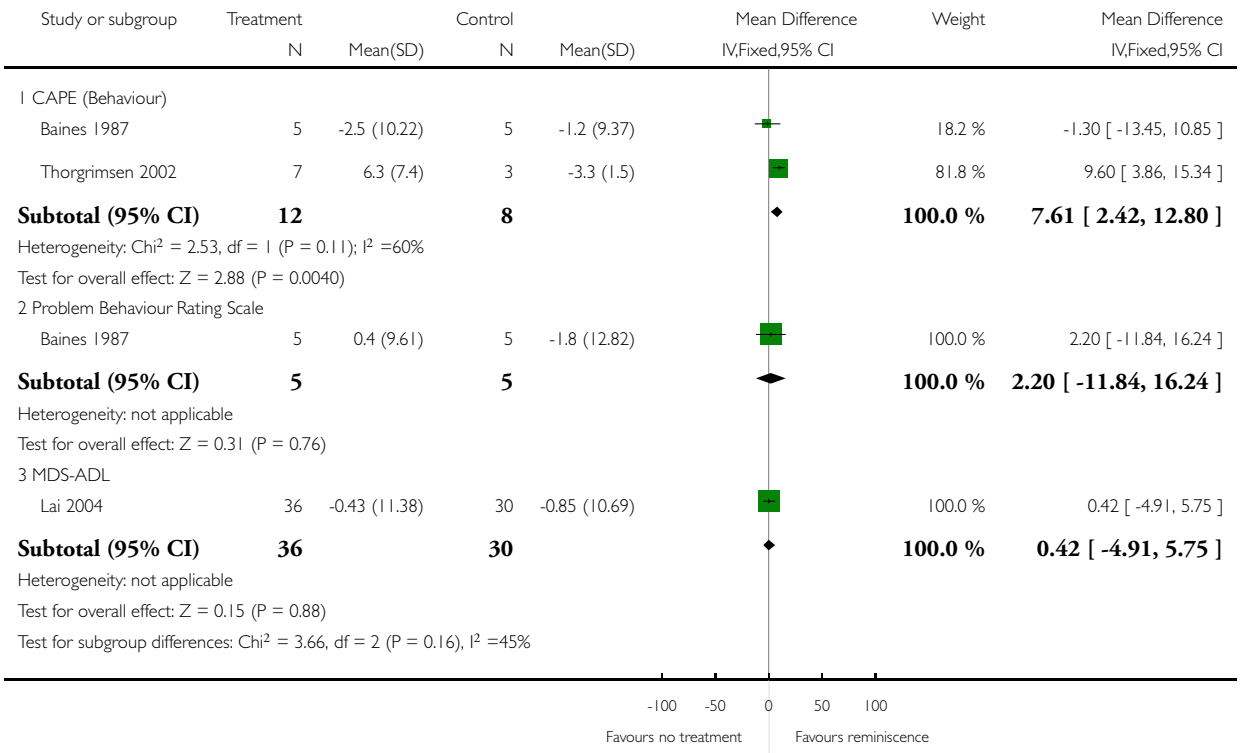


Analysis 1.2. Comparison 1 Reminiscence Therapy versus no treatment:, Outcome 2 Behaviour post-treatment.

Review: Reminiscence therapy for dementia

Comparison: 1 Reminiscence Therapy versus no treatment:

Outcome: 2 Behaviour post-treatment



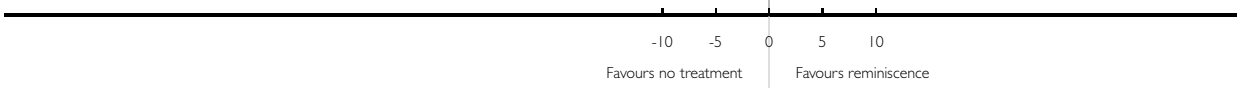
Analysis 1.3. Comparison 1 Reminiscence Therapy versus no treatment:, Outcome 3 Communication and interaction post-treatment.

Review: Reminiscence therapy for dementia

Comparison: 1 Reminiscence Therapy versus no treatment:

Outcome: 3 Communication and interaction post-treatment

Study or subgroup	Treatment N	Mean(SD)	Control N	Mean(SD)	Std. Mean Difference IV,Fixed,95% CI	Weight	Std. Mean Difference IV,Fixed,95% CI
1 Holden Communication Scale							
Baines 1987	5	0.7 (6.22)	5	-2.6 (12.5)		11.7 %	0.30 [-0.95, 1.55]
Thorgrimsen 2002	7	4.2 (7.9)	3	3 (2.7)		10.0 %	0.16 [-1.20, 1.51]
Subtotal (95% CI)	**12**		**8**			**21.7 %**	**0.23 [-0.68, 1.15]**
Heterogeneity: Chi² = 0.02, df = 1 (P = 0.88); I² =0.0%							
Test for overall effect: Z = 0.50 (P = 0.62)							
2 Social Engagement Scale							
Lai 2004	36	0.42 (2.43)	30	0.55 (2.26)		78.3 %	-0.05 [-0.54, 0.43]
Subtotal (95% CI)	**36**		**30**			**78.3 %**	**-0.05 [-0.54, 0.43]**
Heterogeneity: not applicable							
Test for overall effect: Z = 0.22 (P = 0.83)							
Total (95% CI)	**48**		**38**			**100.0 %**	**0.01 [-0.42, 0.44]**
Heterogeneity: Chi² = 0.32, df = 2 (P = 0.85); I² =0.0%							
Test for overall effect: Z = 0.04 (P = 0.97)							
Test for subgroup differences: Chi² = 0.30, df = 1 (P = 0.59), I² =0.0%							



Analysis 1.4. Comparison 1 Reminiscence Therapy versus no treatment:, Outcome 4 Well-being post-treatment.

Review: Reminiscence therapy for dementia

Comparison: 1 Reminiscence Therapy versus no treatment:

Outcome: 4 Well-being post-treatment

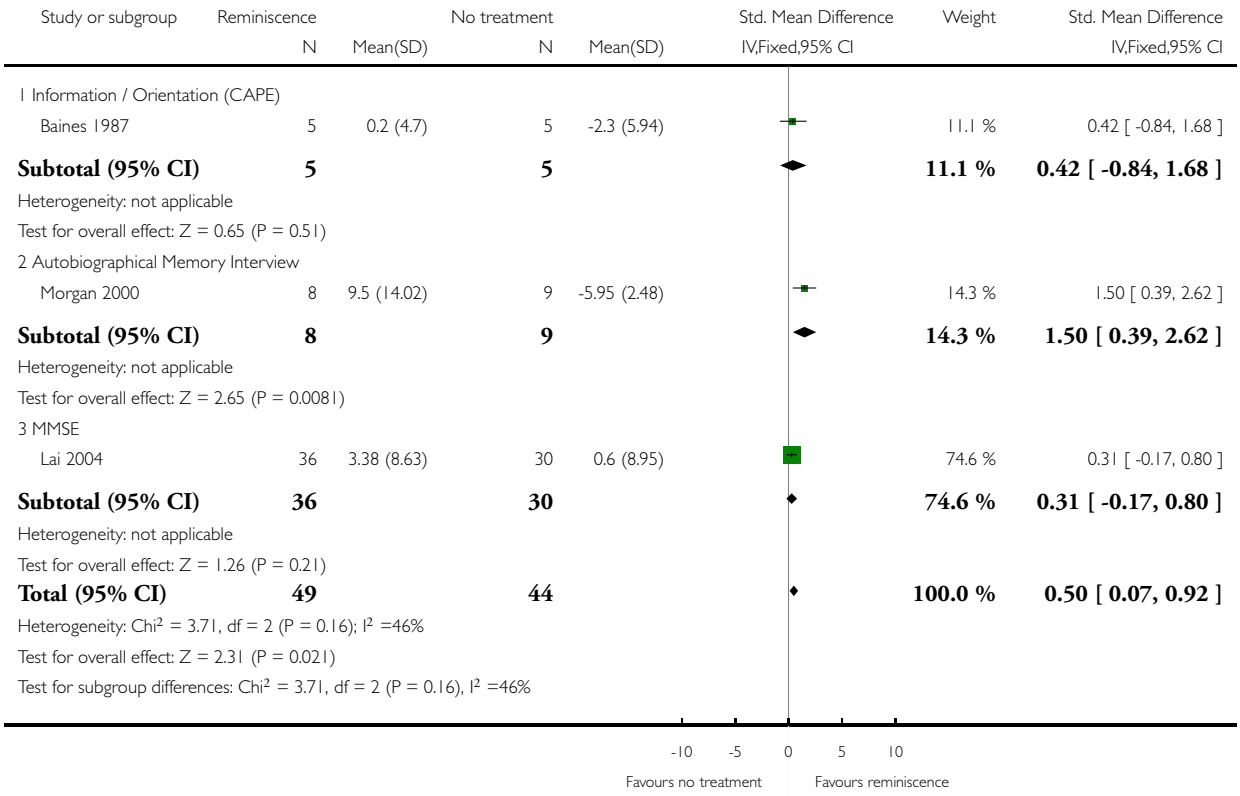
Study or subgroup	Treatment N	Mean(SD)	Control N	Mean(SD)	Mean Difference IV,Fixed,95% CI	Weight	Mean Difference IV,Fixed,95% CI
1 Life Satisfaction Index							
Baines 1987	5	0.6 (8.78)	5	0.2 (4.65)		14.2 %	0.40 [-8.31, 9.11]
Morgan 2000	8	1.25 (3.69)	9	0.44 (3.75)		85.8 %	0.81 [-2.73, 4.35]
Subtotal (95% CI)	**13**		**14**			**100.0 %**	**0.75 [-2.53, 4.03]**
Heterogeneity: Chi^2 = 0.01, df = 1 (P = 0.93); I^2 =0.0%							
Test for overall effect: Z = 0.45 (P = 0.65)							
2 QoL-AD (rated by person with dementia)							
Thorgrimsen 2002	7	-0.2 (3.2)	3	5.3 (8.6)		100.0 %	-5.50 [-15.52, 4.52]
Subtotal (95% CI)	**7**		**3**			**100.0 %**	**-5.50 [-15.52, 4.52]**
Heterogeneity: not applicable							
Test for overall effect: Z = 1.08 (P = 0.28)							
3 QoL-AD (rated by carer)							
Thorgrimsen 2002	7	0.3 (6.1)	3	-5 (2.7)		100.0 %	5.30 [-0.15, 10.75]
Subtotal (95% CI)	**7**		**3**			**100.0 %**	**5.30 [-0.15, 10.75]**
Heterogeneity: not applicable							
Test for overall effect: Z = 1.90 (P = 0.057)							
4 WIB							
Lai 2004	36	0.11 (0.31)	30	0.07 (0.43)		100.0 %	0.04 [-0.14, 0.22]
Subtotal (95% CI)	**36**		**30**			**100.0 %**	**0.04 [-0.14, 0.22]**
Heterogeneity: not applicable							
Test for overall effect: Z = 0.43 (P = 0.67)							
5 Geriatric Depression Scale							
Morgan 2000	8	1.5 (3.02)	9	0.22 (1.3)		100.0 %	1.28 [-0.98, 3.54]
Subtotal (95% CI)	**8**		**9**			**100.0 %**	**1.28 [-0.98, 3.54]**
Heterogeneity: not applicable							
Test for overall effect: Z = 1.11 (P = 0.27)							
Test for subgroup differences: Chi^2 = 6.06, df = 4 (P = 0.19), I^2 =34%							

Analysis 1.5. Comparison 1 Reminiscence Therapy versus no treatment:, Outcome 5 Cognition at follow-up.

Review: Reminiscence therapy for dementia

Comparison: 1 Reminiscence Therapy versus no treatment:

Outcome: 5 Cognition at follow-up



Analysis 1.6. Comparison 1 Reminiscence Therapy versus no treatment:, Outcome 6 Behaviour at follow-up.

Review: Reminiscence therapy for dementia

Comparison: 1 Reminiscence Therapy versus no treatment:

Outcome: 6 Behaviour at follow-up

Study or subgroup	Treatment N	Mean(SD)	Control N	Mean(SD)	Mean Difference IV,Fixed,95% CI	Weight	Mean Difference IV,Fixed,95% CI
1 CAPE (Behaviour)							
Baines 1987	5	-0.2 (7.78)	5	0 (5.51)		100.0 %	-0.20 [-8.56, 8.16]
Subtotal (95% CI)	**5**		**5**			**100.0 %**	**-0.20 [-8.56, 8.16]**
Heterogeneity: not applicable							
Test for overall effect: Z = 0.05 (P = 0.96)							
2 Problem Behaviour Rating Scale							
Baines 1987	5	1.8 (8.72)	5	0.2 (11.12)		100.0 %	1.60 [-10.79, 13.99]
Subtotal (95% CI)	**5**		**5**			**100.0 %**	**1.60 [-10.79, 13.99]**
Heterogeneity: not applicable							
Test for overall effect: Z = 0.25 (P = 0.80)							
3 MDS-ADL							
Lai 2004	36	0.6 (10.8)	30	0.15 (11.11)		100.0 %	0.45 [-4.87, 5.77]
Subtotal (95% CI)	**36**		**30**			**100.0 %**	**0.45 [-4.87, 5.77]**
Heterogeneity: not applicable							
Test for overall effect: Z = 0.17 (P = 0.87)							
Test for subgroup differences: Chi^2 = 0.06, df = 2 (P = 0.97), I^2 =0.0%							

Analysis 1.7. Comparison 1 Reminiscence Therapy versus no treatment:, Outcome 7 Communication and interaction at follow-up.

Review: Reminiscence therapy for dementia

Comparison: 1 Reminiscence Therapy versus no treatment:

Outcome: 7 Communication and interaction at follow-up

Study or subgroup	Treatment N	Mean(SD)	Control N	Mean(SD)	Std. Mean Difference IV,Fixed,95% CI	Weight	Std. Mean Difference IV,Fixed,95% CI
1 Holden Communication Scale							
Baines 1987	5	0 (6.22)	5	1.2 (12.81)		13.3 %	-0.11 [-1.35, 1.13]
Subtotal (95% CI)	**5**		**5**			**13.3 %**	**-0.11 [-1.35, 1.13]**
Heterogeneity: not applicable							
Test for overall effect: Z = 0.17 (P = 0.87)							
2 Social Engagement Scale							
Lai 2004	36	0.64 (2.04)	30	0.21 (2.22)		86.7 %	0.20 [-0.29, 0.69]
Subtotal (95% CI)	**36**		**30**			**86.7 %**	**0.20 [-0.29, 0.69]**
Heterogeneity: not applicable							
Test for overall effect: Z = 0.81 (P = 0.42)							
Total (95% CI)	**41**		**35**			**100.0 %**	**0.16 [-0.29, 0.61]**
Heterogeneity: Chi^2 = 0.20, df = 1 (P = 0.65); I^2 =0.0%							
Test for overall effect: Z = 0.69 (P = 0.49)							
Test for subgroup differences: Chi^2 = 0.20, df = 1 (P = 0.65), I^2 =0.0%							

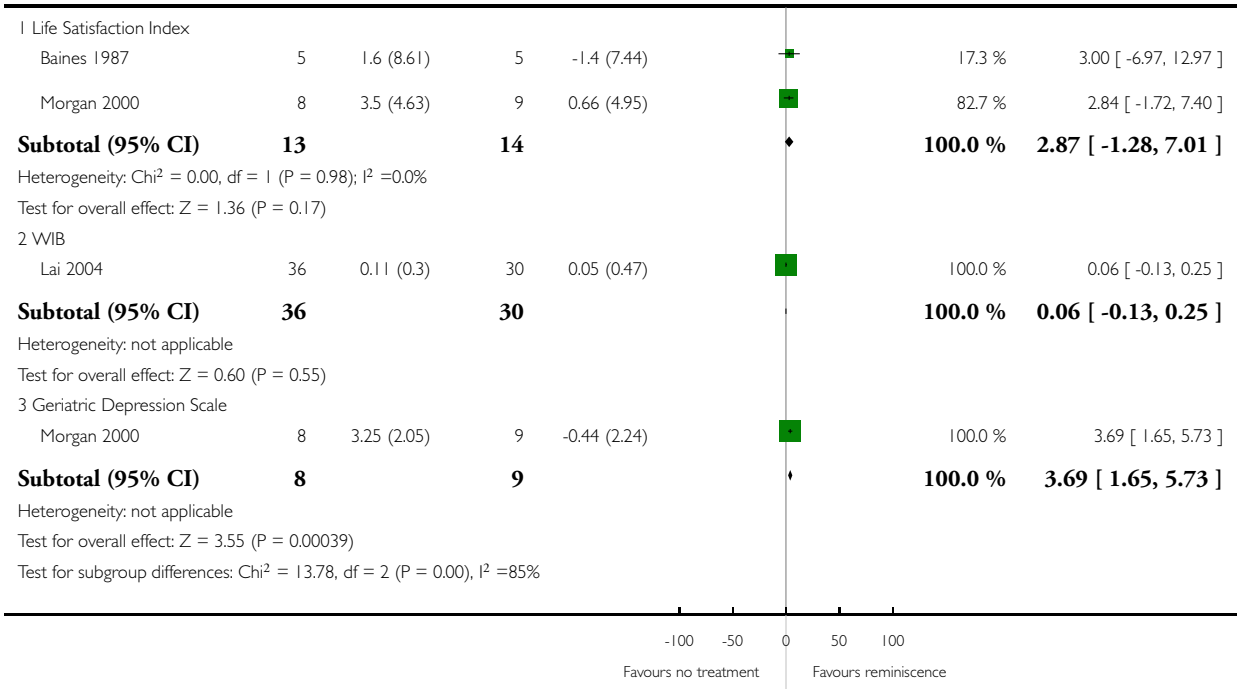
Analysis 1.8. Comparison 1 Reminiscence Therapy versus no treatment:, Outcome 8 Well-being at follow-up.

Review: Reminiscence therapy for dementia

Comparison: 1 Reminiscence Therapy versus no treatment:

Outcome: 8 Well-being at follow-up

Study or subgroup	Treatment N	Mean(SD)	Control N	Mean(SD)	Mean Difference IV,Fixed,95% CI	Weight	Mean Difference IV,Fixed,95% CI
1 Life Satisfaction Index							
Baines 1987	5	1.6 (8.61)	5	-1.4 (7.44)		17.3 %	3.00 [-6.97, 12.97]
Morgan 2000	8	3.5 (4.63)	9	0.66 (4.95)		82.7 %	2.84 [-1.72, 7.40]
Subtotal (95% CI)	**13**		**14**			**100.0 %**	**2.87 [-1.28, 7.01]**
Heterogeneity: Chi^2 = 0.00, df = 1 (P = 0.98); I^2 =0.0%							
Test for overall effect: Z = 1.36 (P = 0.17)							
2 WIB							
Lai 2004	36	0.11 (0.3)	30	0.05 (0.47)		100.0 %	0.06 [-0.13, 0.25]
Subtotal (95% CI)	**36**		**30**			**100.0 %**	**0.06 [-0.13, 0.25]**
Heterogeneity: not applicable							
Test for overall effect: Z = 0.60 (P = 0.55)							
3 Geriatric Depression Scale							
Morgan 2000	8	3.25 (2.05)	9	-0.44 (2.24)		100.0 %	3.69 [1.65, 5.73]
Subtotal (95% CI)	**8**		**9**			**100.0 %**	**3.69 [1.65, 5.73]**
Heterogeneity: not applicable							
Test for overall effect: Z = 3.55 (P = 0.00039)							
Test for subgroup differences: Chi^2 = 13.78, df = 2 (P = 0.00), I^2 =85%							

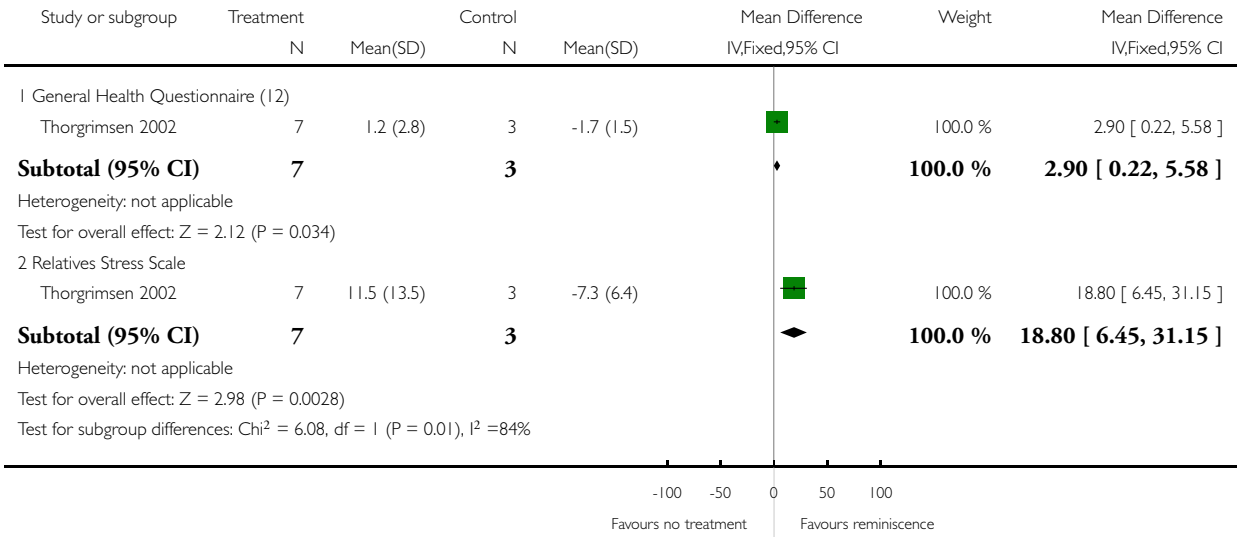


Analysis 1.9. Comparison 1 Reminiscence Therapy versus no treatment:, Outcome 9 Carer strain at post-treatment.

Review: Reminiscence therapy for dementia

Comparison: 1 Reminiscence Therapy versus no treatment:

Outcome: 9 Carer strain at post-treatment

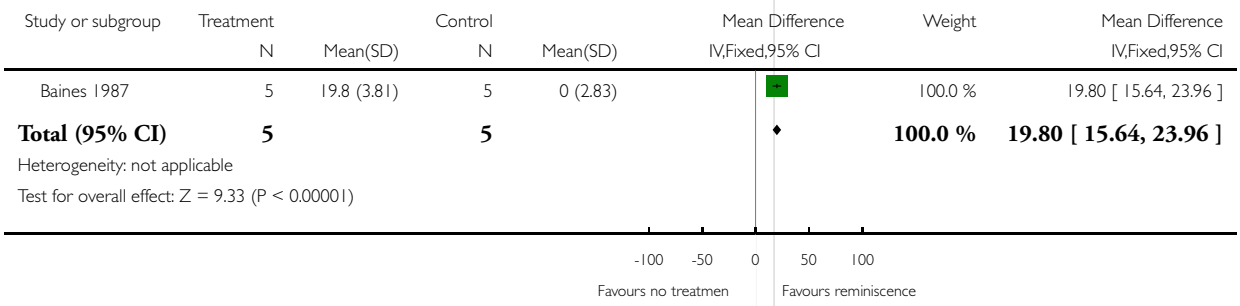


Analysis 1.10. Comparison 1 Reminiscence Therapy versus no treatment:, Outcome 10 Staff knowledge of person with dementia.

Review: Reminiscence therapy for dementia

Comparison: 1 Reminiscence Therapy versus no treatment:

Outcome: 10 Staff knowledge of person with dementia



Analysis 2.1. Comparison 2 Reminiscence Therapy versus social contact, Outcome 1 Communication and interaction at post-treatment.

Review: Reminiscence therapy for dementia

Comparison: 2 Reminiscence Therapy versus social contact

Outcome: 1 Communication and interaction at post-treatment

Study or subgroup	Treatment N	Mean(SD)	Control N	Mean(SD)	Mean Difference IV,Fixed,95% CI	Weight	Mean Difference IV,Fixed,95% CI
1 Social Engagement Scale							
Lai 2004	36	0.42 (2.43)	35	0.69 (2.49)		100.0 %	-0.27 [-1.41, 0.87]
Total (95% CI)	**36**		**35**			**100.0 %**	**-0.27 [-1.41, 0.87]**
Heterogeneity: not applicable							
Test for overall effect: Z = 0.46 (P = 0.64)							

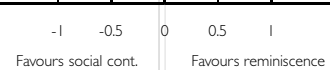
Analysis 2.2. Comparison 2 Reminiscence Therapy versus social contact, Outcome 2 Well-being at post-treatment.

Review: Reminiscence therapy for dementia

Comparison: 2 Reminiscence Therapy versus social contact

Outcome: 2 Well-being at post-treatment

Study or subgroup	Treatment N	Mean(SD)	Control N	Mean(SD)	Mean Difference IV,Fixed,95% CI	Weight	Mean Difference IV,Fixed,95% CI
1 WIB							
Lai 2004	36	0.11 (0.31)	35	0.09 (0.35)		100.0 %	0.02 [-0.13, 0.17]
Total (95% CI)	**36**		**35**			**100.0 %**	**0.02 [-0.13, 0.17]**
Heterogeneity: not applicable							
Test for overall effect: Z = 0.25 (P = 0.80)							

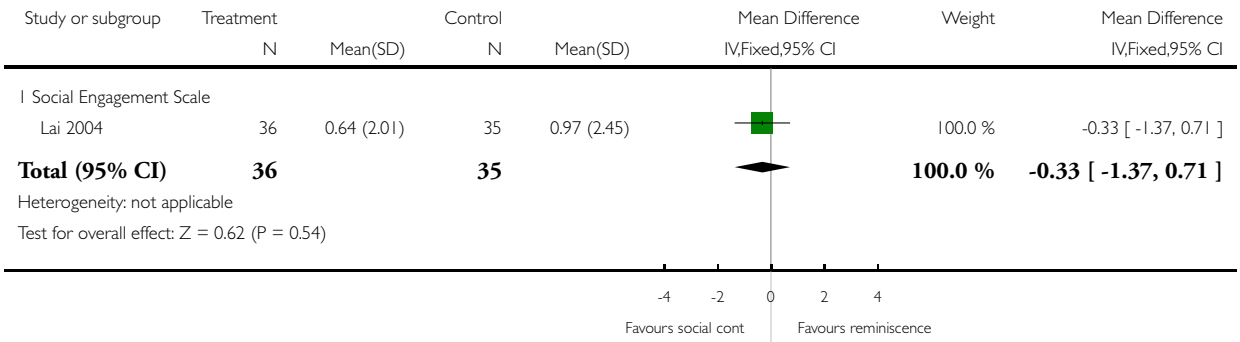


Analysis 2.3. Comparison 2 Reminiscence Therapy versus social contact, Outcome 3 Communication and interaction at follow-up.

Review: Reminiscence therapy for dementia

Comparison: 2 Reminiscence Therapy versus social contact

Outcome: 3 Communication and interaction at follow-up

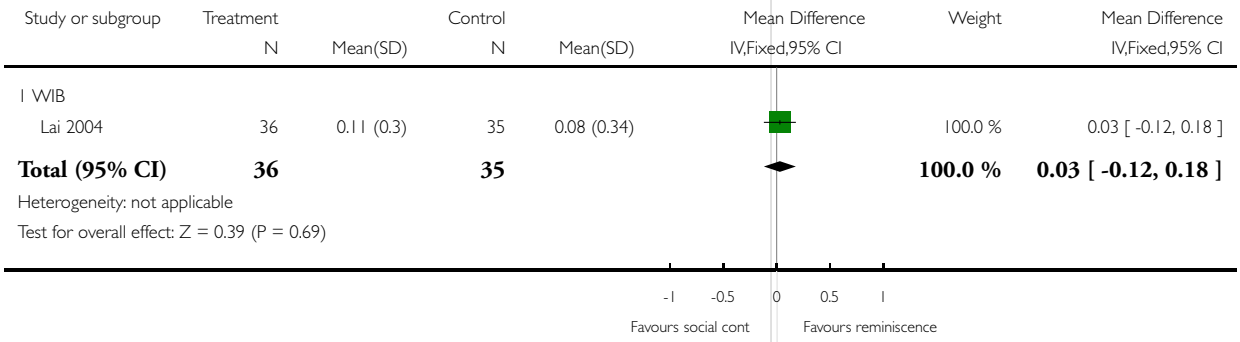


Analysis 2.4. Comparison 2 Reminiscence Therapy versus social contact, Outcome 4 Well-being at follow-up.

Review: Reminiscence therapy for dementia

Comparison: 2 Reminiscence Therapy versus social contact

Outcome: 4 Well-being at follow-up

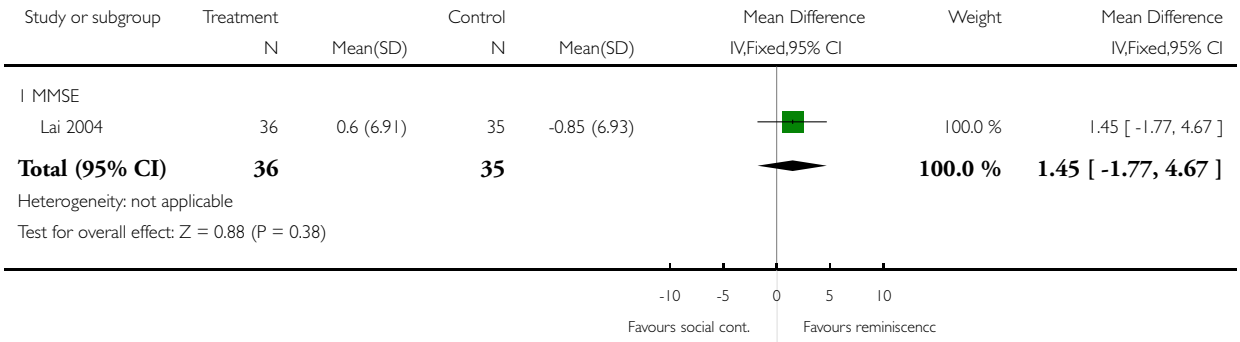


Analysis 2.5. Comparison 2 Reminiscence Therapy versus social contact, Outcome 5 Cognition at post-treatment.

Review: Reminiscence therapy for dementia

Comparison: 2 Reminiscence Therapy versus social contact

Outcome: 5 Cognition at post-treatment

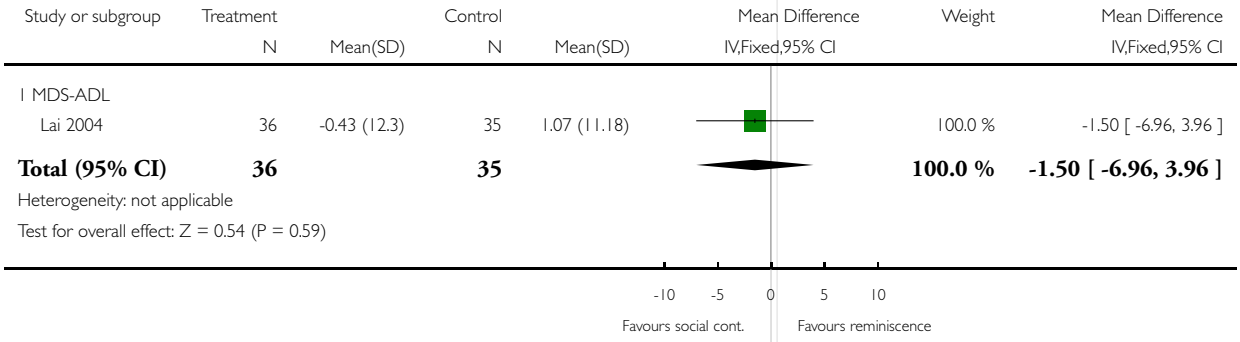


Analysis 2.6. Comparison 2 Reminiscence Therapy versus social contact, Outcome 6 Behaviour at post-treatment.

Review: Reminiscence therapy for dementia

Comparison: 2 Reminiscence Therapy versus social contact

Outcome: 6 Behaviour at post-treatment



Analysis 2.7. Comparison 2 Reminiscence Therapy versus social contact, Outcome 7 Cognition at follow-up.

Review: Reminiscence therapy for dementia

Comparison: 2 Reminiscence Therapy versus social contact

Outcome: 7 Cognition at follow-up

Study or subgroup	Treatment N	Mean(SD)	Control N	Mean(SD)	Mean Difference IV,Fixed,95% CI	Weight	Mean Difference IV,Fixed,95% CI
1 MMSE							
Lai 2004	36	3.38 (8.63)	35	-0.99 (6.99)		100.0 %	4.37 [0.72, 8.02]
Total (95% CI)	**36**		**35**			**100.0 %**	**4.37 [0.72, 8.02]**
Heterogeneity: not applicable							
Test for overall effect: Z = 2.35 (P = 0.019)							

Analysis 2.8. Comparison 2 Reminiscence Therapy versus social contact, Outcome 8 Behaviour at follow-up.

Review: Reminiscence therapy for dementia

Comparison: 2 Reminiscence Therapy versus social contact

Outcome: 8 Behaviour at follow-up

Study or subgroup	Treatment N	Mean(SD)	Control N	Mean(SD)	Mean Difference IV,Fixed,95% CI	Weight	Mean Difference IV,Fixed,95% CI
1 MDS-ADL							
Lai 2004	36	0.6 (10.8)	35	-0.22 (11.74)		100.0 %	0.82 [-4.43, 6.07]
Total (95% CI)	**36**		**35**			**100.0 %**	**0.82 [-4.43, 6.07]**
Heterogeneity: not applicable							
Test for overall effect: Z = 0.31 (P = 0.76)							

WHAT'S NEW

Last assessed as up-to-date: 5 February 2005.

6 November 2008	Amended	Converted to new review format.

HISTORY

Protocol first published: Issue 2, 1998

Review first published: Issue 3, 1998

6 February 2005	New citation required and conclusions have changed	The review has been substantially updated and rewritten following the publication of three new trials.

CONTRIBUTIONS OF AUTHORS

Original version and first update:

-AS: all correspondence; drafting of review versions; updating of review; selection of trials; extraction of data; interpretation of data analyses

-RTW: drafting of review versions

Update 2004:

-RTW: all correspondence; drafting of review versions; updating of review; selection of trials; extraction of data; interpretation of data analyses

Contact editor: Linda Clare

DECLARATIONS OF INTEREST

None known

SOURCES OF SUPPORT

Internal sources

- University College London, UK.
- University of Wales Bangor, UK.

External sources

- North Thames NHS Executive, UK.
- Medical Research Council, UK.

INDEX TERMS

Medical Subject Headings (MeSH)

*Mental Recall; Dementia [*therapy]; Orientation; Psychotherapy, Group [*methods]; Randomized Controlled Trials as Topic; Reality Therapy

MeSH check words

Aged; Humans; Middle Aged