Individual and Group Psychotherapy with people diagnosed with dementia: a systematic review of the literature.

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Key points:

1. Psychotherapy is increasingly used to help people affected by dementia to adjust to their illness. However, the evidence base for this is limited and uncertain
2. This review screened 1,397 papers evaluating the impact of group or individual psychotherapy with people affected by dementia published in English between 1997 and 2015, with 26 papers being included in this review.
3. Four trials were adequately powered to find statistical change. Of these, one study provided evidence that post diagnostic group therapy improved quality of life and reduced depression whilst a second suggested that an intensive, multi-faceted intervention that included psychotherapeutic elements lessened distress for Nursing Home residents.
4. Currently, the evidence base for psychotherapy with people affected by dementia is limited. If the promise of this clinical intervention is to be realised, then it is important to identify the change processes that lead to successful outcomes.

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Abstract

Objectives: psychotherapy provides a means of helping participants to resolve emotional threats and play an active role in their lives. Consequently, psychotherapy is increasingly used within dementia care. This paper reviews the existing evidence base for individual and group psychotherapy with people affected by dementia.

Design: the protocol was registered. We searched electronic databases, relevant websites and reference lists for records of psychotherapy with people affected by Alzheimer's Disease, Vascular dementia, Lewy-body dementia or a mixed condition between 1997 and 2015. We included studies of therapies which met BACP definitions (e.g. occurs regularly, focuses on talking about life events and facilitates understand of the illness). Art therapy, Cognitive Stimulation and Rehabilitation, Life Review, Reminiscence Therapy and family therapy were excluded. Studies which included people with frontal-temporal dementia, and mild cognitive impairment were excluded. Data was extracted using a bespoke form, and risk of bias assessments were carried out independently by both authors. Meta-analysis was not possible due to the heterogeneity of data.

Results: 1,397 papers were screened with 26 papers using randomised, non-randomised controlled trials or repeated measured designs being included. A broad mix of therapeutic modalities, types, lengths and settings were described, focussing largely on people with mild levels of cognitive impairment living in the community.

Conclusions: this study was limited to only those studies published in English. The strongest evidence supported the use of short-term group therapy after diagnosis and an intensive, multi-faceted intervention for Nursing Home residents. Many areas of psychotherapy need further research.

247 words

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Background[1]

The emphasis within psychotherapy on helping people to resolve emotional threats, to take greater control over their lives and to adjust to illness means that psychotherapy has potentially has much to offer within dementia care. Psychotherapeutic approaches, for instance, may be one way to address the powerful emotional responses to dementia (Aminzadeh et al, 2007; Connell et al, 2004) and the desire of most people to know about their illness (Ouimet et al, 2004; Elson, 2006). There are, however, many challenges in using psychotherapy for this client group: not only is there the impact of the neurological impairment, but the emotional weight of a diagnosis and the residual social difficulties in talking about dementia can all make it difficult for clinicians to find ways to engage meaningfully with people affected by dementia. Almost twenty years ago, Cheston (1998) provided a narrative review of the psychotherapy and dementia care. Although the review identified examples of the main domains of psychotherapy, the empirical literature was limited, and the review concluded that "*the paucity of research evidence that so far exists means that it is hard to make a case for prioritizing formal psychotherapeutic work with people with dementia on the basis of outcome studies alone*". In the eighteen years since this review was published, no systematic review, to our knowledge, has subsequently addressed this area

Review question.

Given the emphasis within many health care systems on providing post-diagnostic support to people with dementia, it is important to identify both the existing evidence base for psychotherapy, and to highlight areas where additional research is still required. The aim of this study, therefore, was to review the literature relating to the use of individual and group psychotherapy with people affected by dementia.

Method.

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[1] This study is funded by a grant from the AWP Mental Health (NHS) Partnership Trust (ref: 14-15-004)

The protocol for the review was registered on the PROSPERO International prospective register of systematic reviews (ref: CRD42015015668)[2].

Population: studies involving people with Alzheimer's Disease, Vascular dementia, Lewy-body dementia or a mixed condition were all included. We excluded studies which focussed exclusively on people with mild cognitive impairment or people with rarer forms of dementia (i.e. frontal-temporal dementia, Human Immunodeficiency Virus, Creutzfeldt-Jakob Disease, Huntington's Disease, Parkinson's Disease and Down's Syndrome) as our clinical experience is that there are often subtle, but important differences between these populations, for instance in the nature of the psychological challenge that they face.

Language: this review was restricted to publications written in English.

Intervention/exposure: we reviewed group or individual psychotherapeutic interventions for people with dementia that meet the definition provided by the British Association of Counselling and Psychotherapy (BACP). Thus, in order for psychotherapeutic interventions to be included, the intervention must: focus on "*talking about life events, feelings, emotions, relationships, ways of thinking and patterns of behaviour*"; occur regularly at specific times and within a specific context; and aim to help individuals to understand themselves and their illness, to promote effective change of thinking or behaviour or otherwise to enhance the person's wellbeing. Consequently, we excluded Art and Music therapy (as these did not focus primarily on talking) as well as Cognitive Stimulation Therapy, Cognitive Rehabilitation, Life Review and Reminiscence Therapy (as these interventions do not meet the BACP criteria of explicitly aiming to change thinking or behaviour). Family or couples therapies were also excluded as we wished to focus on change at the individual level (see Benbow and Sharman (2014) for a recent review of this literature). Similarly, the literature on support groups for people with dementia has also been reviewed recently by Toms *et al* (2015) and by Leung, Orrell and Ortega (2015)..

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[2] http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42015015668

Outcomes and comparators: in order to increase the range of studies that we included, we did not specify either outcomes or comparators.

Study types: we included randomised and non-randomised controlled trials, as well as studies using repeated measured designs (i.e. non-controlled studies) as these are the most robust methodologies for the research question. Those papers reporting case studies, cross-sectional questionnaire studies or qualitative studies were excluded and will be reported on elsewhere.

Search strategy: electronic databases (Cinahl Plus, the Cochrane Library, Embase, Medline and Psychinfo) were searched using the terms ("Dementia" OR "Vascular Dementia" OR "Dementia with Lewy Bodies" OR "Alzheimer's Disease" ") AND ("psychotherapy" OR "counselling" OR "cognitive therapy" OR "validation therapy" OR "support groups" OR "peer support") NOT ("cognitive stimulation" OR "rehabilitation"). We gathered additional papers by searching the grey literature (including SIGLE and Zetoc), by cross-checking against the reference lists of studies that we had already identified and from studies already known to RC. Study selection followed the PRISMA guideline for reporting flow of information in systematic reviews of literature (Moher *et al*, 2009). AI screened articles first by reading titles, before checking abstracts for eligibility (and, where this was still not clear, then by reading the full text). RC read ten per cent of these abstracts as a validity check, with disagreements resolved through discussion. See Figure 1 for more details of this process

INSERT FIGURE 1 ABOUT HERE

Time period: we limited the review to those studies that appeared after Cheston's (1998) review, i.e. which were published between the 1st January 1997 and the 31st March 2015.

Data extraction: following the TIDieR guideline for reporting therapeutic interventions (Hoffmann *et al*, 2014), a data collection form was developed to extract data. This contained a series of broad domains (e.g. therapy type, aims, mode of delivery, number and duration of sessions) and was pilot tested on a random selection of 10 studies prior to conducting the full review. AI initially entered data onto the form, and all entries were then checked by RC, with disagreements resolved through discussion.

Risk of bias: the risk of bias tool for randomised and non-randomised controlled trials was adapted from the PEDro-P Scale for randomised and non-randomised controlled trials (Murray *et al,* 2013), with two additional items added: "*Was the allocation sequence adequately generated?*" was taken from the Cochrane Collaboration's tool (Higgins *et al,* 2011); and "*The therapy across the intervention was standardised (e.g. through training, supervision and use of manuals)*" was specifically added for this review. For repeated measures studies, we followed the procedure adopted by Toms *et al* (2015) and rated studies in terms of the relevant 28 CONSORT items (Moher *et al*, 2010).

Results

The database search yielded 1,596 citations, with an additional 93 reports identified through other means. After removing duplicates, 1,397 papers were screened. The flow of records through the review is set out in Figure 1.

Synthesis of results. In all, 26 papers were identified. We followed the procedure adopted by Toms *et al* (2015) and have categorized papers according to their study design using the system described by Arbesman and Lieberman (2011): of the 26 papers, 19 articles concerning 16 studies were identified as Level I (RCTs); 2 were Level II (controlled non-randomized studies); and 5 were categorized as Level III (repeated measure designs). Where preliminary or follow-up results were reported on separately, then papers have been brought together and described as a single study. Interventions were categorized in terms of broad therapeutic domains with the main characteristics of the included studies being shown in table 1.

[INSERT TABLE 1 ABOUT HERE]

Risk of bias assessment. Risk of bias assessments were conducted independently by the two authors with disagreements resolved through discussion (see tables 2 and 3). Potential risks of bias include inadequate blinding of therapists and assessors, and partial reporting of results. The agreement level for Level I and II studies was 80.34% (weighted Kappa = 0.681), and for level III studies it was 78.57% (weighted Kappa = 0.602).

[INSERT TABLES 2 AND 3 ABOUT HERE]

Overall, the majority of level I and II studies had an unclear or high risk of bias in the areas of participant, therapist and assessor blinding. Amongst the 19 Level I studies, ten papers either did not provide outcome data for 85 per cent or more of participants who were randomised into the study or did not provide enough information to allow reporting on this. Amongst Level III studies, a recurring failure was the absence of appropriate baseline and follow-up data. Four of the five studies only took measures at one point before the group began, while two studies (Gaugler *et al* (2011) and Putman *et al* (2007)) did not collect follow-up data, making it difficult to determine whether changes in measures during therapy were related to the intervention, or to general trends.

Psychotherapy interventions. Table 4 reports study outcomes.

[INSERT TABLES 4 ABOUT HERE].

Cognitive Behaviour therapy (CBT). A total of six studies assessed a CBT based therapy for people with dementia. The only Level I CBT study to be adequately powered was the CORDIAL study (Kurz *et al,* 2012), which evaluated a multi-modal intervention for people with mild levels of cognitive impairment caused by Alzheimer's disease that combined behavioural strategies (e.g. activity planning and day structuring) with Cognitive Rehabilitation, a support group and instructions to carers in the use of Validation Therapy. Although the primary outcome (i.e. daily functioning) was unchanged, quality of life and depression levels improved for a sub-set of female participants.

Three level I pilot studies incorporated modified forms of CBT. Spector *et al* (2015) found strong but non-significant improvement in anxiety and a significant fall in depression levels for individuals with a mild to moderate cognitive impairment and clinically significant levels of anxiety. Their intervention involved working with participant and their carer together, and was delivered by four Clinical Psychologists who were also CBT therapists in ten, weekly sessions. Spector *et al* suggested that CBT therapy was cost-neutral with a short-term reduction in health and social care costs being balanced against the cost of the intervention itself. Stanley *et al* (2013) reported the effects of the

Peaceful Mind intervention originally described by Paukert *et al* (2010, 2009) with people with mild and moderate levels of dementia. Their modified form of CBT incorporated religious elements and a simplified package of training in skills such as breathing, calming thoughts and sleep hygiene. The authors reported significant improvement in participants' anxiety and quality of life compared to the control group. In the third pilot study, Burgener *et al* (2008) combined bi-weekly CBT with Taiji (or Tai Chi) exercises and a support group over 40 weeks for people in the early and mid stages of dementia, suggesting limited improvement in participants' cognitive functioning and self-esteem compared to the control group.

Person-centred counselling. Three level I person-centred studies were identified. The Danish Alzheimer's Disease Intervention Study or DAISY was the most methodologically sophisticated study that was reviewed. Within this study, counselling based on constructivist principles was the central part of a multi-faceted and semi-tailored support programme. This package was offered both to people who had been diagnosed with dementia in the previous year and had mild to moderate levels of cognitive impairment, and to their carers. The primary aim of the intervention was to reduce levels of depression and to improve health-related quality of life in participants affected by dementia at 12 months. To control for the possibility of finding spurious effects from multiple testing, the authors adopted an extremely conservative level of p<0.0005 for statistical probability. Although, participants' depression levels improved, this did not reach this increased level of significance (Waldorf *et al*, 2012). A cost utility evaluation of the DAISY intervention found that while none of the observed costs of the intervention and control arms were significantly different, there was a tendency for psychosocial care to lead to informal care cost increases (Søgaard *et al*, 2014).

Two other, person-centred studies were identified: both of which involved people affected by severe cognitive impairments who were residents in long-term care facilities Tappen and Williams (2009) described Therapeutic Conversations which "*provides the opportunity to share feelings and concerns with a skilled listener who can understand their attempts to communicate*" (p. 270); while Hirazakura *et al* (2008), reported the use of group emotional therapy which "*appealed to the feelings of the patients and elicited emotions*" and in which therapists sought to "*share in the same emotions*" (p 304) as participants. Hirazakura *et al* reported increases in cognition after intervention while Tappen and Williams found improvements in affect and depression when compared to the control arms. However, both studies had a series of methodological limitations including small numbers of participants and relatively poor standard of reporting.

Psychodynamic Interpersonal. Carreira *et al* (2008) was the only paper included in the review that compared the impact of psychotherapy on people with and without a cognitive impairment. This study presented a sub-group analysis of a larger RCT (Reynolds *et al*, 2006) comparing maintenance paroxetine and interpersonal psychotherapy (IPT) in participants aged 70 years of age or older who had depression. Carreira *et al* looked at 52 people in the pill placebo arm who had received either monthly maintenance IPT sessions or clinical management (CM). Their analysis suggested that participants with cognitive impairment who received IPT fared significantly better than those who received just clinical management (relapsing on average after 58 weeks compared to 17 weeks). No differential benefit of IPT over CM was observed for individuals without impairment. The authors suggested that IPT may have helped to resolve interpersonal conflict with caregivers in the cognitively impaired group. In a small trial of 40 people with mild levels of cognitive impairment who were randomised to either receive six, 50 minute individual sessions of Psychodynamic Interpersonal Therapy (PIT) or usual care, Burns *et al* (2005) did not find any significant differences on their main outcome measures.

Validation Therapy. Two level I studies tested Validation Therapy (VT) which incorporates a range of recognised psychotherapy and counselling techniques including empathic listening (Feil, 2003; Neal and Briggs, 2003). Both studies were set in long-term care facilities in which the level of cognitive functioning of participants was relatively low and both compared VT with both a usual care control arm and an active intervention: sensorial reminiscence for Deponte and Missan (2007), and a social contact group for Toseland *et al,* (1997). Although the adoption of a third treatment arm has potential methodological advantages, both reports are unclear about a number of design issues, including blinding. The results from both studies were inconclusive: Deponte and Missan found decreased behavioural distress in both the VT and the reminiscence arms, while the reminiscence arm had also improved cognitive functioning. Toseland *et al* found lowered levels of verbal and physical aggression in the VT group at both 3 months and 12 months, but nursing staff reported greater improvements in levels of aggression in the two control group arms.

A level II study (Tondi *et al*, 2007) compared Nursing home residents with dementia individuals receiving VT and group therapy, and found that that VT participants showed lower levels of behavioural distress and carer distress. A level III study (the Closing Group of Putman et al, 2007) also reported results for a VT group which ran twice a week for two years within long-term care facilities, but which did not show any significant changes in outcome measures.

Generic Group Psychotherapy. Although psychotherapies such as CBT can be delivered within a group as well as an individual format, some therapies rely specifically on the dynamics created by a group in order to function. Two level I, one level II and two level III studies using group therapy were identified, all of which were aimed at people with mild to moderate levels of cognitive impairment. The Early Stage level I Memory Loss Support (ESML) group involved nine, weekly group sessions in which family members attended the first part of the group. Logsdon *et al* (2010) randomised 96 participants (with mild or moderate levels of impairment) to ESML and 46 to usual care with preliminary findings being reported by Logsdon, McCurry and Teri (2006). This study was based on an established body of previous research (e.g. Snyder *et al,* 1995; Yale, 1995; Snyder, Jenkins and Joosten, 2007) and as such was powered to find significant differences. After controlling for baseline differences and changes in cognition, the authors reported significant improvements in quality of life and depression. However, the study only provides pre and post-intervention scores, with no follow-up.

Marshall *et al* (2014) report a level I pilot study of the “Living well with Dementia” (LivDem) intervention, which had similar inclusion criteria, session length and session frequencies to the ESML. However, while ESML sessions were provided by 3 or 4 trained and experienced facilitators, at least two of whom were master’s level professionals, the LivDem therapists were memory clinic staff who had attended a two day training course, but otherwise had little experience of therapy. After adjusting for baseline differences between the two groups, they found a non-significant trend for improvements in self-esteem and quality of life in the intervention arm, with an effect size similar to that of Logsdon *et al*. A level II study (Cheston and Jones, 2009) compared attendance at a therapy group and psycho-educational group for a small number of participants with mild or moderate levels of dementia. Changes in depression were not significant after adjusting for baseline differences. In a level III repeated measures study, Cheston, Jones and Gilliard (2003) found significant improvements in levels of depression and anxiety during the intervention compared to a six week baseline period, which were maintained at follow-up. Gaugler *et al* (2011) also described a level III repeated measures study of a 10 to 13 week intervention which aimed to develop the coping skills of people living in the community during the early stages of dementia. Carers reported a number of significant improvements in coping.

Multi-component interventions. Three level I and one level III studies reported interventions that described eclectic combinations of different forms of therapeutic work. In a level I study, Bakker *et al* (2011) tested the impact of a multi-disciplinary 13-week combined group and individual intervention described as Integrative Interactive Rehabilitation (IRR). This involved elements of Cognitive and Behavioural Therapies, counselling and family therapy. The IRR arm of the study comprised 81 participants with mild or moderate levels of dementia, and who have at least three neuropsychiatric symptoms. Compared to the control arm, the intervention arm showed significant reductions in both the number and the severity of psychiatric symptoms, as well as providing significant benefits for carers. Although overall, the study was at a low risk of bias, the validity of results may have been compromised by a failure to blind outcome measures evaluation.

Hilgeman *et al* (2014) described a level I study testing an eclectic intervention named Preserving Identity and Planning for Advanced Care or PIPAC. The four-session individual intervention employed a combination of self-adjusting, future planning and self-maintaining, reminiscence-based work. After controlling for baseline differences, results revealed clinically meaningful differences between intervention and control arms at post-treatment for depressive symptoms, quality of life, health-related quality of life indicators, coping styles and decisional conflict.

Jha *et al* (2013) reported a level I peri-diagnostic intervention in which participants with suspected dementia were referred to a specialist mental health team and received pre-diagnostic well-being assessment and counseling followed by a diagnostic consultation with written feedback and six monthly home visits for post-diagnostic support. Although well-being was improved compared to usual care, there was no significant change in other outcomes variables. A level III repeated measures study by Weber *et al* (2009) found significant improvements in anxiety and apathy after combining pharmacological treatment, group therapies (music, movement and psychodynamic), individual and family therapies with people with dementia referred to a Day Hospital.

Methodological rigour and risk of bias. The standard of reporting of papers was of mixed quality. For example, while the DAISY study (Waldorf *et al*, 2012; Phung, *et al*, 2013) in particular stood out for its methodological rigour, other studies including Hirazakura *et al* (2008) and Tondi *et al* (2007) had weak designs and were poorly reported. Moreover, the literature is marked by profound variability: differences in aims and outcome measures; in populations and domains of working; and in how interventions are delivered and by whom. Due to this heterogeneity it was not possible to carry out a meta-analysis.

The majority of the Level I studies that we have reported on were either pilot studies, preliminary reports or gave no indication that their sample sizes had been based on a power calculation. Only four studies (CORDIAL, DAISY AND ESML and the Integrative Psychotherapeutic Nursing Home Programme reported by Bakker *et al*, 2011) provided evidence of being adequately powered to find statistical change.

Conclusions.

In this review we have attempted to summarise the main findings of individual and group psychotherapy interventions with people with dementia. However, our conclusions are tempered by a number of limitations: we only reviewed papers which reported in English and we thus excluded a range of reports of psychotherapy (e.g. Fabris, 2006; Scheurich et al, 2008; Scheurich and Fellgiebel, 2009). In addition, we focussed on psychotherapy with people with Alzheimer's disease, vascular, Lewy body or mixed dementia. We also excluded both support groups and family therapy, which have both been reviewed recently elsewhere. Finally, our while we tried to maintain a broad definition of psychotherapy, it is possible that we excluded some interventions which did not meet the BACP definition but which still have psychotherapeutic characteristics. Table Five summarises the key findings from the studies which we did review:

INSERT TABLE FIVE ABOUT HERE

When compared to those studies reported in a review of the same area, eighteen years ago (Cheston, 1998), not only did we identify many more studies examining the impact of psychotherapy, but the quality of the design of the studies is much higher. We will now examine the strength of the evidence available

Quality of evidence. Where participants are in the early stages of dementia, the strongest evidence that we found was from Logsdon *et al's* study demonstrating that a 9-week group intervention delivered by experienced therapists significantly reduced levels of depression and improved quality of life. There was also preliminary evidence supporting the potential of cognitive behavioural or behavioural interventions, although here studies were limited by their relatively small sample sizes, and, for two studies by the inclusion of additional, non-psychotherapeutic interventions. The evidence to support a person-centred counseling approach is also inconclusive. The DAISY study showed that an early psychosocial counselling and support intervention reduced levels of depression, but despite a substantial effect size, their findings did not meet the conservative level for significance which they had set. Although two other level I studies identified significant effects, once again these trials were relatively small.

For people with mild to moderate levels of impairment living in Nursing Homes, then Bakker *et al*'s study provides some evidence that individually tailored and eclectic packages of psychotherapy interventions can help to reduce challenging behaviour. While the use of a number of different psychotherapies means that it is not possible to be clear about the impact of individual interventions, in many ways, multi-component psychotherapies are more representative of the eclectic forms of psychotherapies used by many professionals, especially Clinical Psychologists. However, the intensive, multi-disciplinary intervention that was required to achieve this impact is one that many clinical services will struggle to replicate.

There is less evidence to support the use of psychotherapy for people who have more severe impairments. Carreira *et al* showed that after monthly maintenance psychotherapy sessions, lower cognitive performance was associated with longer time to recurrence. Two level I studies using person-centred principles within long-term care facilities also found promising results, albeit within the context of under-powered studies. There were also mixed results for the impact of VT with the quality of reporting of these studies also limiting the conclusions that can be drawn.

Even where studies focused on people with relatively mild levels of cognitive impairment, the language, memory and other deficits inherent in the diagnosis of dementia, inevitably meant that adaptations to the usual psychotherapeutic process were made. However, reporting of these adaptations was limited, and there was no consensus about the critical areas for adaptation. Typically, skills based therapies often emphasized behavioural rather than cognitive interventions and took therapy at a slower pace with more repetition of core skills. However, other studies (e.g. Marshall *et al*) encouraged adaptation to these deficits through discussion and the sharing of experiences.

More generally, the psychotherapeutic literature is marked by heterogeneity. For instance, the experience, training and supervision of therapists varied widely, and relatively few studies provided any evidence that the delivery of the intervention was standardised, for instance through the use of treatment manuals. While using experienced and qualified therapists may increase the likelihood of finding positive benefits from psychotherapy, it is also likely to increase the costs associated with its implementation, and to reduce the accessibility of services for people with dementia. In this respect it is encouraging that one of the only studies to provide a cost-analysis (Spector *et al*) also employed highly qualified Clinical Psychologists and concluded that the intervention was cost-neutral.

Despite our exclusion of family and marital therapy from this review, nevertheless many studies actively involved carers, with one study (Stanley *et al*) recruiting a friend or family member to act as a co-therapist to provide skills training. However, even when families were not involved to this extent, then there are still important clinical and practical reasons for therapists to work alongside them. What is less clear is how therapy might take into account the quality of marital relationships.

A number of design flaws also limit our ability to interpret these results. First of all, a statistically significant result is not equivalent to a therapeutically significant impact. Many studies did not report effect sizes, whilst for those that did, the effect sizes were often modest. One exception, was the DAISY trial (Waldorff et al, Phung et al) which found a effect size of -1.58 for the reduction in levels of depression which the researchers treated as non-significant. Secondly, the validity of many studies was threatened by the absence of a psychological placebo as a control condition in which non-specific elements of therapy were included. Where the control condition is treatment as usual, then it is not possible to know whether any changes in outcome were related to the intervention rather than to non-specific elements of the therapeutic process. For instance within group therapies, simply convening people who share the same condition into a group may have an impact, while in individual therapy clients may value the process of meeting someone who is interested in their life for one hour per week, regardless of the impact of any specific form of therapy.

At the same time, the notion of a psychological placebo is, in itself, challenging: psychotherapy simply cannot be prescribed for someone in the same way as medication can be (Bannister and Fransella, 1980). Thus, the application of the RCT model to psychotherapy tends to favour those interventions which incorporate a discrete set of techniques that can be reliably taught and operationalized, such as Cognitive-Behaviour Therapy, over more complex, longer-lasting psychodynamic interventions (e.g. Sinason, 1992; Davenhill, 2007). Additionally, RCTs do not, on their own address the challenges of defining appropriate outcomes: for instance whether the goal of psychotherapy be to improve insight, to reduce anxiety and depression or to reduce challenging behavior and carer stress? Importantly, there is a need to develop a more nuanced understanding of those elements of therapy that help people affected by dementia to change or, equally relevantly, not to change. This would help to identify those generic factors that are common across different forms of therapy – such as how people manage shame and stigma, or how fears of a loss of internal control are contained (Cheston, 2015). Thus, arguably, the most significant impact of psychotherapy in work with people affected by dementia resides not in doing therapy, but in helping everyone involved in dementia care to be more therapeutic.

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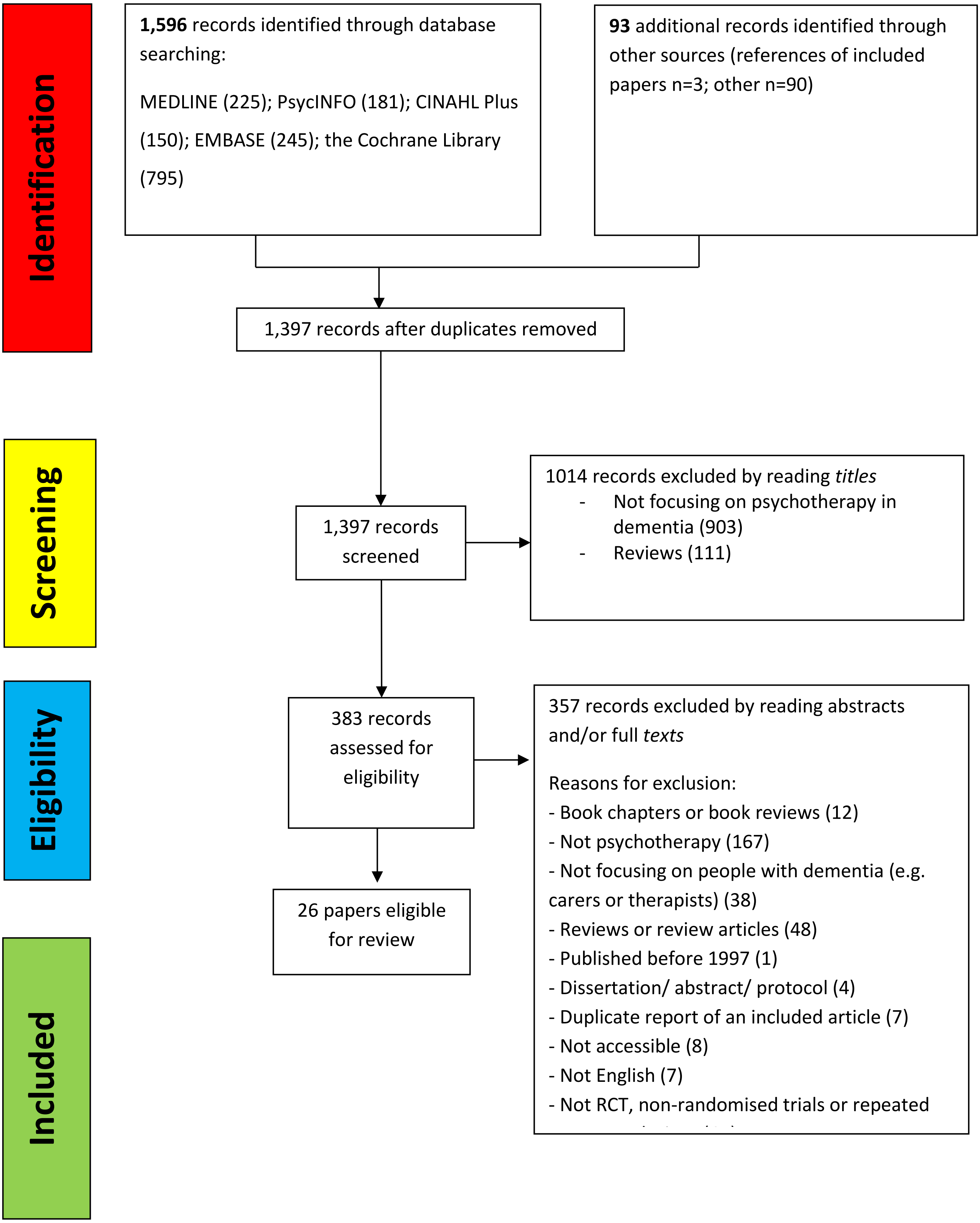
Figure One: flow of information through the different phases of the systematic review



1,596 records identified through database searching:

MEDLINE (225); PsycINFO (181); CINAHL Plus (150); EMBASE (245); the Cochrane Library (795)

93 additional records identified through other sources (references of included papers n=3; other n=90)

1,397 records after duplicates removed

1,397 records screened

1014 records excluded by reading *titles*
- Not focusing on psychotherapy in dementia (903)
- Reviews (111)

383 records assessed for eligibility

357 records excluded by reading abstracts and/or full *texts*

Reasons for exclusion:
- Book chapters or book reviews (12)
- Not psychotherapy (167)
- Not focusing on people with dementia (e.g. carers or therapists) (38)
- Reviews or review articles (48)
- Published before 1997 (1)
- Dissertation/ abstract/ protocol (4)
- Duplicate report of an included article (7)
- Not accessible (8)
- Not English (7)
- Not RCT, non-randomised trials or repeated

26 papers eligible for review

Table One: characteristics of Interventions

LEVEL I STUDIES: RANDOMISED AND CONTROLLED STUDIES				
Reference and setting	**Study sample – total (intervention/ control) and mode of delivery**	**Inclusion and exclusion criteria**	**Details of intervention and control procedures:** (therapist information, length and number of sessions, modifications to usual therapy).	**Adherence to treatment** (e.g. fidelity and supervision)
Cognitive-Behaviour Therapy				
Spector *et al* (2015)	N=50 (25/25); participant-carer dyads, community (UK)	**Inclusion criteria**: participants had a diagnosis of dementia with a cognitive impairment in the mild-to-moderate range (a CDR score of 0.5, 1 or 2); clinical anxiety (shown by a score of 11 or above on the RAID); living in the community; had a self-identified carer who was willing to participate in the therapy; were able to understand and communicate in English; were willing to engage in therapy involving discussion of thoughts and feelings. **Exclusion criteria**: psychiatric disorder (such as psychosis) or challenging behaviour (for example severe agitation), likely to prevent engagement in therapy; or	**Intervention**: Participant–carer dyads participated in up to ten weekly sessions, each lasting approximately 1 hour. Delivered by four Clinical Psychologists who were CBT therapists and had received a 2h training session on the manual. The intervention was based on a cognitive model of anxiety, and involved 3 phases: building a collaborative relationship, psycho-education about CBT and anxiety in dementia, self-monitoring, developing an individualised formulation and identifying goals; the application of change processes (including identifying and practicing strategies for feeling safe, identifying and challenging unhelpful cognitions and behavioural experiments); ending the therapy and developing a blueprint for the future by integrating skills into everyday life and considering the future involvement of carers).	One session per dyad was independently coded using CTS-R to assess adherence

		the presence of an intellectual disability or severe physical illness, which could have an impact on participation.	Carer's involvement ranged from very little (for example attending brief parts of some sessions) to being present at all times. Carers were asked to support the person with dementia in implementing strategies, for example applying what has been discussed during sessions in everyday life.	
Stanley *et al* (2013) The Peaceful Mind Program	N=26 couples (11/15); community (USA)	**Inclusion criteria**: a diagnosis of dementia with a mild to moderate level of cognitive impairment (indicated by a CDR score between 0.5 and 2.0; anxiety indicated by an NPI-A score of 4 or more; could communicate in English; were willing to participate; and having a collateral (adult who spent at least 8 hours weekly with them) who was willing to participate. **Exclusion criteria**: a significant psychiatric diagnosis (major depression, active psychosis or bipolar disorder); active suicidal intent; or recent verbal or physical aggression.	**Intervention**: 12 weekly in-home sessions over the initial 3 months, up to eight brief telephone booster appointments during months 3-6; 30-60 min. duration; delivered by: master's level graduate student clinicians and a pre-doctoral intern. **Therapy mode**: individual with a "collateral" (friend or family member) also providing weekly skill learning and as a coach for the participants' practice between sessions. **Control**: diagnostic feedback plus usual care	All sessions recorded with a random 20% independently rated for adherence. Clinical supervision by experienced therapists. Manualised intervention plan developed from previous research
Kurz *et al* (2012) CORDIAL	N=201 (100/101); community (Germany)	**Inclusion criteria:** diagnosis of Alzheimer's Disease; mild level of cognitive impairment shown by MMSE score of 21 or above; and a carer looking after them "*several times per week"* **Exclusion criteria:** acute psychological or	**Intervention**: 12 x 60 minute weekly sessions delivered by "*experienced behavioural therapists*", who attended a day's intensive training. Intervention consisted of a mixture of individual sessions and sessions with a carer. Session content split between 4 modules which combined neuro-rehabilitation and psychotherapy: elements included day structuring and activity planning	The intervention was standardised through use of a manual. Therapists were regularly supervised by the lead therapist, and as part of this, the

		physical disorder; carer unavailable; on-going formal psychotherapy or cognitive retraining; regular visits to day care; imminent Institutionalisation; poor levels of German; alcohol or substance dependency.	as well as behavioural strategies to cope with memory problems. **Control**: standard care (not standardised, but could include input from an Occupational Therapist, physiotherapist, carer counselling and support and medication)	sessions protocols were frequently reviewed.
Burgener *et al* (2008)	N=43 (24/19); community (USA)	**Inclusion criteria**: a confirmed diagnosis of Alzheimer's disease, Lewy body dementia, vascular, frontal lobe, or mixed dementia; early-middle disease stage as indicated by score above 2 on the CDRS	**Intervention**: (group sessions) Taiji - 3 times weekly for 40 weeks (60 min); CBT bi-weekly for 40 weeks (90 min); support group bi-weekly for 40 weeks (alternating with CBT) (90 min); provided by: an experienced Taiji instructor and master's level social workers certified in individual and family therapy **Control**: attention-control education programmes and delayed intervention	None stated, although CBT group followed guidelines by Teri and Gallagher-Thompson (1991), and the support group that set out by Yale (1995).
Person-centered counselling				
Phung, (2013), Waldorf, (2012) **DAISY**	N=330 (163/167); community (Denmark)	**Inclusion criteria**: people recently diagnosed (within the past 12 months) with mild Alzheimer's Disease, Lewy body, mixed or vascular dementia and living at home; aged over 50; having a MMSE score of at least 18; and having a participating carer. **Exclusion criteria:** people with severe somatic or psychiatric comorbidities (including impaired hearing or vision) that	**Intervention**: Counselling was based on a Constructivist approach – "*each patient or care giver was given the possibility of expressing his or her life story and what is of personal importance and of great value*". The intervention consisted of a combination: of counselling sessions for the person with dementia on their own, for the carer alone, and for them together (with the option of a family session); telephone counselling sessions at 3–4 week intervals; an information and support group involving separate courses for participants and caregivers; and written information for both	No stated fidelity measures – however, this would be difficult in practice as the intervention involved a semi-tailored design, with some components tailored for the needs of an individual participant or care giver and with

		would significantly impair their participation; a diagnosis of frontal-temporal dementia; involvement in other research.	participants and caregivers. Counselling was provided by a trained nurse **Control**: The control group received the same standardised and structured follow-up intervention as the intervention arm (in effect "*a service well above the level of usual care for patients with dementia in Denmark*")	other components common for all participants
Tappen and Williams (2009)	N=30 (15/15); a long-term care facility (length of stay in the facility ranged from 160 to 1,750 days) (USA)	**Inclusion criteria**: diagnosis of probable Alzheimer's Disease, an MMSE score of 25 or less, and ability to speak English. **Exclusion criteria**: being "entirely mute".	**Intervention**: 3 individual sessions per week for 16 weeks of 30-60 minutes provided by a trained graduate nursing student. Participants were given the opportunity to share their feelings and concerns. Strategies used to facilitate participation included: speaking as equals, establishing commonalities and Listening skills (e.g. paraphrasing, summarizing and reflecting). "*We did not directly confront the issue of memory loss, although the topic was discussed if the individual initiated the conversation and chose to explore it.*" **Control**: usual care in the long-term facility	A supervisor reviewed weekly audio recorded sessions, and met the therapist for supervision (at least weekly for the first month) and then every 2 weeks.
Hirazakura *et al* (2008)	N=46 (15/31); long-term facility (Japan)	**Inclusion criteria:** A diagnosis of mild-to-moderate AD, were aged 65 years and older, had MMSE scores within the range of 8–23 and no evidence of stroke or obstructive pulmonary disease. **Exclusion criteria**: possible or probable vascular dementia and other dementias;	**Intervention**: emotion therapy "*consists of thematic stories of various areas cited from well-written books … [it] does not simply remind patients of events that happened to them like in reminiscence therapy, but allows them to feel emotions elicited by thematic stories …Emotional therapy appealed to the feelings of the patients and elicited emotions. The teacher should not*	None stated

		psychiatric disorders such as schizophrenia, depression, behavioral problems, or drug or alcohol abuse.	*simply explain the material to the subjects but share in the same emotions*”. 1-2 group sessions per week (60-75 min duration) for six months; provided by retired high school teachers **Control**: usual care “*included games, painting pictures, simple gymnastics, watching TV, and so on*”.	
Psychodynamic Interpersonal				
Carreira *et al* (2008) Reynolds *et al* (2006)	N=52 (35/17); community (USA)	**Inclusion criteria**: Carreira *et al* analysed a subgroup of older (70 years and over) depressed participants enrolled in the placebo pill arm of a drug trial RCT (Reynolds *et al*) who met criteria for major depression (scores of above 15 on the HRSD); and scoring above 17 on the MMSE.	**Intervention**: monthly individual sessions over two years; 45 min duration; provided by trained clinician **Control**: 30 minute clinical management sessions	Sessions were audiotaped and evaluated for treatment fidelity by an independent rater blind to treatment assignment.
Burns *et al* (2005)	N=40 (20/20); community (UK)	**Inclusion criteria**: a diagnosis of Alzheimer’s disease; mild dementia indicated by CDR of 1; a MMSE score of 15 or above; living in their own home with a carer in regular contact; and the ability to communicate verbally.	**Intervention**: 6 x 50 minute individual sessions with a carer involved provided by trained psychotherapist **Control**: standard care (general advice regarding the diagnosis and treatment of dementia plus out-participant review) with an option to receive the therapy after end of study	Psychotherapy was manualised with treatment fidelity ensured by regular supervision using audiotapes. One session from each individual therapy was rated for adherence to the model.
Validation therapy				

Deponte and Missan (2007).	N=30 (VT=10, SR=10, C=10); Nursing Homes (Italy).	**Inclusion criteria:** Nursing Home resident for at least 6 months; diagnosis of dementia; aged over 70; and lack of concomitant psychiatric pathologies	**Validation Therapy**: group therapy 2 times per week for three months; 45-60 min duration **Sensorial Reminiscence**: same schedule as for VT by a different therapist, but further details not given **Control**: further details not given	None stated.
Toseland *et al* (1997)	N=88 (VT=31/ SC=29/ UC=28); 4 nursing homes (USA)	**Inclusion criteria:** a clear diagnosis of dementia; willing to attend groups; at least a moderate level of dementia and displayed *"problem behaviours"* (e.g. physical aggression, verbally abusive behaviours, disruptive vocalizations or motor restlessness). **Exclusion criteria**: a severe cognitive impairment (shown by more than 8 errors on SPMSQ and answering more than 50% of questions incorrectly on VSI).	**Validation Therapy:** 4 group sessions of 30 minutes each week for a total of 52 weeks. Separate therapists for each home received 4 days training, and regular supervision. **Social contact**: equal length of intervention to VT, by trained and supervised therapists (different from those providing VT). Sessions included music, dancing and games. **Control**: usual care	Therapists in both VT and SC conditions received weekly phone and monthly in-person supervision. One session each month in both arms was randomly reviewed for threats to treatment integrity.
Generic group psychotherapy				
Marshall *et al* (2014) LivDem	N=58 (28/30); community (UK)	**Inclusion criteria**: diagnosed with Alzheimer's disease, vascular, Lewy-Body or mixed dementia in the last 18 months; participant acknowledged that they have a memory problem; MMSE score at least 18; with carer able to provide support; communication abilities sufficient to allow	**Intervention**: 10 x 75 minutes group sessions provided by facilitators within a memory clinic (5 occupational therapists, 4 nurses, 3 support workers, psychology assistant and a trainee clinical psychologist). First and last session included family members **Control**: waiting list control receiving usual care	All sessions were recorded, with three sessions from each centre being randomly selected for independent fidelity rating. Therapists also received supervision

		participation in the group **Exclusion criteria**: diagnosis of Frontal-temporal dementia; significant history of pre-morbid mental health difficulties		from experienced therapists.
ESML Logsdon *et al* (2010), Logsdon, McCurry and Teri (2006)	142 couples (96/46); community (USA)	**Inclusion criteria**: a diagnosis of dementia; MMSE score of 18 or higher; aware of their memory loss and able to communicate verbally; able to participate independently in a group setting; no significant history of severe mental illness that would impede their ability to take part in a group; and both the person with dementia and family care partner agreed to participate in the evaluation.	**Intervention**: 9 x 90 min weekly group sessions which included the family member for part of the session. Sessions were provided by 3 or 4 trained facilitators, of whom at least two were master's level professionals experienced in working with people with dementia and who had run previous ESML groups. **Control**: waiting-list control receiving usual care (and provided with written educational material)	Facilitators attended a daylong training workshop each year and received a standardized procedure manual with step-by-step instructions for each session.
Multi-component therapy				
Hilgeman *et al* (2014) **PIPAC**	N=19 couples (10/8); community (USA)	**Inclusion criteria:** the ability to read and speak English; aged 55 years or older; a self-reported or proxy reported dementia diagnosis; either mild or very mild dementia (scores of either .5 or 1 on the CDRS); and a family or friend being available to participate in the assessment.	**Multi-component intervention**: 4 individual sessions over 4-6 weeks; provided by trained "*interventionists*". The aim of the Preserving Identity and Planning for Advance Care (PIPAC) intervention is to maximize coping and enhance quality of life and well-being in the early stages of dementia. Participants complete a reminiscence activity (e.g. making a scrapbook) and are encouraged to make the transition from '*what it has meant to live well in the past*' to discus '*what it will*	Treatment fidelity measured by various methods including a treatment manual, interventionists completing a checklist after each session and a follow-up focus group.

			mean to live well in the future' which is modified from the participant-centered Advanced Care Planning. **Control**: minimal support-based intervention via phone or a brief face-to-face interaction; after completion an opportunity was given to receive the intervention.	
Jha *et al* (2013)	N=34 (17/17); community (UK)	**Inclusion criteria**: people with memory problems or suspected dementia referred to the local specialist mental health team	**Intervention**: a recovery oriented intervention package that involved two phases: a clinical phase (pre-diagnostic counselling and wellbeing assessment; therapeutic diagnostic consultation; and written feedback); and a 6-month post-diagnostic recovery phase (6 x 60 minute individual home visits by recovery nurses). **Control**: A fixed package of care on monthly visits for 6 months without previously being assessed for wellbeing or attending a dedicated diagnostic clinic. Following the initial assessment, they were offered further monthly hour-long contact consisted of general conversation around neutral topics or issues.	None stated
Bakker *et al* (2011)	N=168 (81/87); nursing homes or institutions (Netherlands)	**Inclusion criteria**: DSM diagnosis of dementia, amnestic disorder, or other cognitive disorder; aged over 65 years; 3 or more neuropsychiatric symptoms on the NPI; MMSE scores between 18 and 27; Barthel Index score between 5 and 19; and informed consent. **Exclusion criteria**: delirium; life-	**Intervention**: *Integrative Interactive Rehabilitation* (IRR). Individually tailored mix of different therapies according to need. Included behaviour therapy (95%), counselling (80%), CBT (58%), interpersonal (49%) and family therapy (39%); provided in group or individual mode over 13 weeks by a multi-disciplinary team (nurses, a psycho-geriatrician, a clinical psychologist, a social worker, a music therapist, a psychomotor	Specific written guideline provided for each specialism. Treatment compliance was "*continuously monitored"* during the intervention for participants and

		threatening somatic co-morbidity; active coercive admission regime (according to psychiatric legislation); and insufficient command of the Dutch language.	therapist, a creative therapist, a physiotherapist, an occupational therapist, a speech therapist, a dietician, and a welfare worker). **Control**: high level, multidisciplinary care provided in nursing home or home care "*mostly emotion oriented*"	caregivers. Additionally, at the end of the IRR program, each discipline had to evaluate active participant participation.
LEVEL II STUDIES: CONTROLLED BUT NOT RAMNDOMISED TRIALS				
Reference and setting	**Study sample – total (intervention/ control) and mode of delivery**	**Inclusion and exclusion criteria**	**Details of intervention and control procedures:** (therapist information, length and number of sessions, modifications to usual therapy).	**Adherence to treatment** (e.g. fidelity and supervision)
Validation Therapy				
Tondi *et al* (2007)	N=50 (22/19); nursing home (Italy)	**Inclusion criteria**: not specified, although all participants were Nursing Home residents with a diagnosis of dementia and severe levels of cognitive impairment	**Intervention**: both individual therapy (3 sessions 20 minute each week) and weekly group therapy (45-50 minutes) for 4 months. No details about therapist training or supervision. **Control**: usual care.	None stated
Generic group psychotherapy				

Cheston and Jones (2009)	N=16 (8/8); community (UK)	**Inclusion criteria:** diagnosis of probable dementia AD or vascular dementia; acknowledge at least occasionally that they had a memory problem; be willing to attend a group; have an MMSE score of at least 18	**Psychotherapy**: 10 weekly group sessions; 75 min; provided by an experienced clinical psychologist and an assistant clinical psychologist **Psycho-education**: psycho-education sessions facilitated by external experts	None stated, although the Clinical Psychologist received monthly group analytic supervision.
LEVEL III STUDIES: REPEATED MEASURES STUDIES				
Reference and setting	**Study sample – total and mode of delivery**	**Inclusion and exclusion criteria**	**Details of intervention:** (therapist information, length and number of sessions, modifications to usual therapy).	**Adherence to treatment** (e.g. fidelity and supervision)
Cognitive-Behavioural Therapy				
Paukert et al (2010) Peaceful Mind	N=8 individual therapy (with a collateral as co-therapist); community	Participants were excluded if: they did not have a documented diagnosis of dementia; they could not communicate adequately (indicating too severe a level of impairment); were aged under 60; or anxiety was not a problem for them.	Up to 12 weekly individual sessions for the first 3 months (30 to 60 minutes), were provided in the participant's home, followed by a brief telephone call. In the second 3 months of treatment, telephone booster sessions occurred weekly for 4 weeks and biweekly for 8 weeks. The intervention provided jointly between a clinician and a "*collateral*" (a friend or family member) who attended each session to learn the skills and coach participant practice between sessions. Modules included: self-awareness, breathing, calming statements, increasing activity, and sleep skills (not all modules were taught to all participants). Delivered by "*advanced clinical psychology doctoral graduate students*".	All sessions were audio-taped, and supervision was provided by experienced clinical psychologists and a social worker.

Validation Therapy				
Putman (2007) The closing group	N=8; nursing home (USA)	**Inclusion criteria:** a diagnosis of dementia, resident at nursing home, MMSE score of 10-25, GDS score of severe, symptoms interfering with daily functioning, requiring frequent staff intervention following the consensus of treatment team; score of at least 1 and a severity of 5 on the CMAI	Group counselling - 2 group sessions per week for 2 years; 120 min per session. “*Naomi Feil’s principles of validation were used whenever possible when communicating with participants*” (p. 168)	None stated.
Generic Group Psychotherapy				
Gaugler (2011) The Memory Club	Gaugler - N=63 (31 carers); Community (USA)	**Inclusion criteria**: dyads of people with early stage dementia and their partners; an MMSE score above 18. An earlier paper on the same intervention by Zarit (2014) stated that inclusion was based on the person’s awareness of their memory loss. **Exclusion criteria**: not specified by Gaugler. However, Zarit states these as people with primarily psychiatric symptoms (consistent with FD and LBD); people who were unable to recognise changes in themselves due to dementia or if they could not acknowledge memory problems.	Between 10 and 13 weekly sessions, each lasting between 90 and 120 minutes moderated by 2 facilitators. Sessions involved: joint interaction with both the person with dementia and their carers; separate group sessions; and a “*wrapping-up*” session in which the carer/person with dementia dyads reunited. Sessions were organized around specific topics related to early-stage dementia and also included expert speakers.	Session topics and order of sessions varied across 3 sites due to local factors. In order to ensure consistency there were regular telephone conference calls to discuss issues of clinical concern.
Cheston, Jones and Gilliard	N=19; community (UK)	**Inclusion criteria:** Probable AD, vascular dementia or Lewy body dementia; participant acknowledging they have a	Six treatment centres, each of which ran 10 weekly group session of 75 min duration provided by two therapists (lead by a Clinical Psychologist and a local	None stated, although the Clinical Psychologist received

(2003)		memory problem; MMSE score at least 18. **Exclusion criteria:** a significant pre-morbid history of mental health problems	clinician who had received 2 days training).	monthly group analytic supervision.
Multi-component therapy				
Weber *et al* (2009)	N=76; (Switzerland) – Psychotherapeutic Day Hospital	**Inclusion criteria**: 76 consecutive referrals to the day hospital, aged 54–98 years with a clinical diagnosis of dementia. **Exclusion criteria**: people with psychomotor agitation associated with physical aggression; people with acute psychiatric symptoms such as acute suicidal thoughts and life threatening behaviours.	Multi-dimensional approach combining pharmacological treatment, group therapies (music, movement and psychodynamic), sociotherapy as well as individual and family therapy. Participants attend the therapeutic community two to three times per week for a 6-hour day. During each attended week, each participant participates in four mixed-gender groups of a maximum 10 participants. "*The care team includes two residents in psychiatry, one senior resident, one movement therapist, one music therapist, one psychologist, one social worker and four nurses*" (p. 93)	None stated.

Table Two: Risk of bias in Level I and II studies

	Eligibility criteria were specified	Participants were randomly allocated to interventions	Allocation sequence adequately generated	Allocation was concealed	Baseline similarity	Blinding of all subjects	Blinding of all therapists	Blinding of all assessors	Measures of key outcomes from more than 85% of subjects	Intention to treat	Between- intervention group statistical comparisons	Point measures and measures of variability	Therapy was standardised
LEVEL I STUDIES													
Cognitive-Behavioural Therapy													
Spector *et al* (2015)	🟢	🟢	🟢	🟢	🔴	🔴	🔴	🟢	🔴	🟢	🟢	🟢	🟢
Stanley *et al* (2013)	🟢	🟡	🟡	🟡	🟢	🟡	🔴	🟢	🔴	🟢	🟢	🟢	🟢

Kurz *et al* (2012)	🟢	🟢	🟢	🟢	🔴	🟡	🟡	🟢	🟢	🟢	🟢	🟢	🟢
Burgener *et al* (2008)	🟢	🟢	🟡	🟡	🟢	🟡	🟡	🟡	🔴	🟢	🟢	🟢	🟢
Person-centred Counselling													
Waldorf et al (2012)/ Phung et al (2013)	🟢	🟢	🟢	🟢	🟢	🟡	🟡	🟢	🟢	🟢	🟢	🟢	🟢
Tappen and Williams (2009)	🟢	🟢	🟡	🟡	🔴	🟡	🟡	🟢	🔴	🟡	🟢	🟢	🟢
Hirazakura *et al* (2008)	🟢	🟢	🟢	🟡	🟢	🟡	🟡	🟡	🔴	🟡	🟡	🔴	🟡
Psychodynamic Interpersonal Psychotherapy													
Carreira *et al* (2008) Reynolds *et al*	🟢	🟢	🟡	🟡	🟢	🟡	🔴	🟢	🟡	🟡	🟢	🟢	🟢

(2006)													
Burns *et al*	🟢	🟢	🟢	🟡	🟡	🟡	🔴	🟢	🟢	🟢	🟢	🟢	🟢
Validation Therapy													
Deponte and Missan (2007)	🟢	🟢	🟡	🟡	🟢	🟡	🟡	🟡	🟢	🟡	🟢	🟢	🟡
Toseland *et al* (1997)	🟢	🟢	🟡	🟡	🟡	🟡	🟢	🟡	🔴	🟡	🟢	🟢	🟢
Generic Group Psychotherapy													
Marshall *et al* (2014)	🟢	🟢	🟢	🟢	🔴	🔴	🔴	🟢	🟢	🟢	🟢	🟢	🟢
Logsdon *et al* (2010) Logsdon, McCurry and Teri (2006)	🟢	🟢	🟢	🟡	🟢	🔴	🔴	🟡	🟢	🟢	🟢	🟢	🟢

Multi-component therapy													
Hilgeman *et al* (2014)	🟢	🟢	🟢	🟡	🟡	🟡	🔴	🟢	🟢	🟢	🟢	🟢	🟢
Jha *et al* (2013)	🟢	🟢	🟢	🟢	🔴	🔴	🟢	🟢	🔴	🟡	🟢	🟢	🟡
Bakker *et al* (2011)	🟢	🟢	🟢	🟢	🟢	🔴	🟡	🔴	🟢	🟢	🟢	🟢	🟢
LEVEL II STUDIES													
Validation Therapy													
Tondi *et al* (2007)	🔴	🔴	🔴	🟡	🟢	🟡	🟡	🟡	🔴	🟡	🔴	🔴	🟡
Generic Group Psychotherapy													

Cheston and Jones (2008)	🟢	🔴	🔴	🔴	🔴	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢

Table Three: risk of bias assessments in Level III studies

CONSORT ITEM		Paukert et al (2010)	Putman et al (2007)	Gaugler et al (2011)	Cheston, Jones and Gilliard (2003)	Weber et al (2009)
Title and abstract	1	🟢	🟢	🟢	🟢	🟢
Background and objectives	2a	🟢	🟢	🟢	🟢	🟢
	2b	🟢	🟢	🟢	🔴	🟢
Methodology						
Trial design	3a	🟢	🔴	🟢	🟢	🟢
	3b	🟡	🟡	🟡	🟡	🟢
Participants	4a	🟢	🟢	🟢	🟢	🟢
	4b	🟢	🟢	🟢	🟢	🟢
Interventions	5	🟢	🟢	🟢	🟢	🟢
Outcomes	6a	🟢	🔴	🟢	🟢	🟢
	6b	🟡	🟡	🟡	🟡	🟢
Sample size	7a	🟡	🔴	🔴	🔴	🟡
	7b	🟡	🟡	🟡	🟡	🟢
Statistical methods	12a	🔴	🟢	🟢	🟢	🟡
	12b	🔴	🔴	🟢	🔴	🟢
Results						
Participant flow	13a	🟢	🟢	🟢	🟢	🟢
	13b	🟢	🟢	🔴	🟢	🟢

Recruitment	14a	🔴	🔴	🟢	🔴	🟢
	14b	🟢	🟡	🟡	🟡	🟡
Baseline data	15	🟢	🟢	🟢	🟢	🟢
Numbers analysed	16	🟢	🟢	🟡	🟢	🟢
Outcomes and estimation	17a	🟢	🟢	🟢	🟢	🟢
	17b	🟡	🟡	🟡	🟡	🟢
Ancillary analyses	18	🔴	🟢	🟢	🟢	🟢
Harms	19	🔴	🟢	🔴	🔴	🔴
Discussion						
Limitations	20	🟢	🟢	🟢	🟢	🟢
Generalisability	21	🟢	🟢	🟢	🟢	🟢
Interpretation	22	🟢	🟢	🟢	🟢	🟢
Other information						
Funding	25	🟢	🟢	🟢	🟢	🔴
OVERALL SCORE		**23**	**23**	**25**	**23**	**27**

Table Four: outcomes from studies

Name	Aims	Design	Outcome measures (participant reported, carer reported)	Quantitative outcome findings (qualitative results noted as reported in papers)
Level I studies				
Cognitive-Behaviour Therapy				
Spector *et al* (2015)	To develop a cognitive–behavioural therapy (CBT) manual for anxiety in dementia and determine its feasibility through a randomised controlled trial.	CBT plus TAU vs TAU Pilot study Data collected at baseline, 15 weeks and 6 months	**Person with Dementia.** *Primary outcome* Anxiety (RAID), *Secondary Outcome* Cognition (MMSE), Quality of Life (QOL-AD), Affect (HADS and CSDD), Behavioural disturbance (NPI) **Interpersonal relationship** Relationship with carer (QCPR total), **Carer** Quality of Life (QoL-AD), Affect (HADS) *Health Economic measure* (CSRI)	After adjustment for baseline anxiety and cognition, Anxiety (RAID) at 15 weeks fell short of statistical significance (-3.10, 95% CI -6.55 to 0.34) for CBT compared with TAU. There were significant improvements in depression (CSDD) at 15 weeks after adjustment (-5.37, 95% CI -9.50 to -1.25). Improvements remained significant at 6 months. However, the authors did not adjust for CSDD baseline. CBT was cost neutral.
Stanley *et al* (2013) Peaceful Mind	To test the effectiveness of the intervention on participant anxiety, worry, depression	CBT plus TAU vs TAU Pilot study Data collected at	**Person with Dementia.** *Primary outcome* - Anxiety (NPI-A, RAID) *Secondary outcome* – Anxiety (GAI, PSWQ-A) Depression (GDS)	Significant effect in the intervention group at 3-months follow up in RAID (p=0.014) and in QOL-AD (p=0.007) scales. No other scale significant at 3 or 6-months follow-up. Significant difference only in caregivers' NPI-A

	and quality of life.	baseline, 3 months and 6 months	Quality of Life (QoL-AD), **Carer** Distress (NPI-A) Depression (PHQ-9)	at 3-months follow up (p=0.017).
Kurz et al (2012) CORDIAL	To evaluate the feasibility, acceptance, efficacy and usefulness of a CR intervention in people with mild dementia and their carers.	Cognitive rehabilitation (CR) and behavioural therapy vs TAU. Full trial Data collected at baseline, 3 months and 9 months	**Person with dementia** *Primary Outcome* - Daily activities (B-ADL) *Secondary Outcome* - Functional ability (AFIB) Quality of life (DEMQOL) Depression (GDS) Patient behavioural disturbances (NPI) Cognition - Memory (WMS-R sub-scales), Attention (Trail Making Test) and Verbal fluency (Regensburg test) **Carer** Depression (BDI) Burden (ZBI)	No difference in primary outcome. Ratings of quality of life made by people affected by dementia (but not by carers) improved in the intervention group. Post-hoc analysis suggested significant reductions in depression for female participants post-intervention (change from baseline in intervention group -2.39, SD=4.21 vs -0.54, SD=3.51 in the control group; p=0.039) and follow-up (-2.19, SD 4.20; +0.27, SD 4.08; p=0.015). Carers' burden post-intervention significantly increased in the treatment group (2.18, SD=7.49; 0.27, SD=8.74; p=0.042). The difference was no longer significant at follow up.
Burgener *et al* (2008)	To test 2 research questions: what are the effects of a multimodal intervention on cognitive, physical functioning and behavioural outcomes of	Multimodal intervention (Taiji exercises, cognitive-behavioural therapies, support group) vs attention-control educational	**Person with Dementia.** Cognition (MMSE) Physical functioning: SLS (single-leg stance), BBS (Berg balance scale) and CIRS (Cumulative illness rating scale) Affect (GDS) Self-esteem (SES)	Significant differences found at 20 weeks for mental ability (MMSE: 25.2, SD=3.1 vs 22.4, SD=7.6; p=0.05) and self-esteem (40.2, SD=5.1 vs 35.5, SD=5.6; p=0.01). There were no significant improvements in outcomes from 20 to 40 weeks, indicating no additional benefits of continuing the intervention, although "*a continued stabilization effect was noted*" (p9)

	people with dementia; and whether the optimal length of the intervention is 20 or 40 weeks.	programme. Pilot study. Data collected at baseline, 20 weeks and 40 weeks (the end of intervention)		
Person-centred counselling				
Danish Alzheimer Intervention Study (DAISY) Waldorff *et al* (2012) and Phung *et al* (2013).	To assess the efficacy of an early psychosocial counselling and support programme for people with mild Alzheimer's disease and their carers.	Multifaceted and semi-tailored counselling vs control support. Full trial. Data collected at baseline, 3, 6 and 12 months (end of intervention) (Waldorf) and 36 months (Phung)	**Person with dementia** *Primary Outcomes* Cognition (MMSE) Depression (CSDD) Quality of life (EQ-5D proxy rating) *Secondary Outcomes* Quality of Life (EQ-5D participant rating and QoL-AD, participant and proxy ratings) Activity of Daily Living - ADSC-ADL **Carers** *Primary Outcomes* Depression (GDS) Quality of life (EQ-5D)	At 12 months, participants in the treatment arm had reduced levels of depression as measured by the CSDD with an effect size of –1.58 (–2.79 to –0.37, p=0.0103) and improved quality of life (proxy-rated QoL-AD) of 2.14 (0.83 to 3.45; p=0.0013). However, at 36 months follow-up the positive effects disappeared and no long-term effects of DAISY intervention were found. To avoid finding spurious effects, the study authors set a significance level at p=0.0005, a decision which they acknowledged was subsequently criticised for being too conservative
Tappen and Williams (2009)	To test a newly developed, empirically based modified	Therapeutic conversation vs TAU.	**Person with dementia** Mood (AD-RD, DMAS) Depression (MADRS)	Significant decline in AD-RD sub-scales for sadness (F[2,27] = 5.01, p = 0.03) and apathy (F[2,27] = 4.21, p = 0.05. A significant decline in depression MADRS (F[2,27] = 5.52, p=0.02) and

	counselling approach (Therapeutic Conversation)	Data collected at baseline and post-intervention (16 weeks)		DMAS (F[2,27] =3.59, p-0.06).
Hirazakura *et al* (2008)	To examine emotional therapy for people with Alzheimer's disease (AD)	Emotional therapy vs control. Data collected at baseline and after 6 and 12 months of the intervention	**Person with dementia** Cognition (MMSE) Activities of Daily Living (Barthel Index)	Significant increase in MMSE scores at 6 months from average of 16 (SD=4) at baseline to 18 at 6 months (SD=5; p<0.01) and 19 (SD=5; p<0.01) at 12 months. MMSE decreased in the control group. No significant effect on Barthel index.
Psychodynamic Interpersonal Psychotherapy				
Carreira *et al* (2008) Reynolds *et al* (2006)	To evaluate the effects of maintenance interpersonal psychotherapy on recurrence rates of depression in elderly	Interpersonal Psychotherapy (IPT) vs supportive clinical management (CM) Data collected for up to two years, or at relapse.	**Person with dementia** Recurrence of depression Cognition (DRS)	Reynolds et al, tested the efficacy of maintenance paroxetine and IPT and found that monthly maintenance psychotherapy did not prevent recurrent depression. However, in looking at a sub-group, Carreira et al showed that lower cognitive performance was associated with longer time to recurrence in IPT (58 weeks) than in CM (17 weeks) (HR = 1.41 [95% CI=1.04, 1.91], p = 0.03). No differential benefit for IPT compared to CM was identified in participants with average cognitive performance.
Burns *et al* (2005)	To assess whether psychotherapeutic	Psychodynamic interpersonal	**Person with dementia** Depression (CSSD)	No improvement was found on the majority of outcome measures, although there was some

	intervention could benefit cognitive function, affective symptoms and global well-being of people with dementia	therapy (PIT) vs TAU Data collected at baseline, 6 weeks (end of intervention) and 3 months follow-up	Cognition (MMSE and RMBPC) Activities of daily living (BADLS) Global Assessment (CIBIC) **Carer** Psychological well-being (GHQ9) Depression (BDI) Coping - Ways of coping checklist	evidence that at 3-month follow-up, carers of those with less cognitive impairment blamed themselves less for the problems (mean value 0.14 for PIT vs 0.35 for control, P=0.031). Participants reported being able to discuss difficulties with the counsellor. Over 80% of participants agreed that doing things helps them feel less frustrated and that they felt good to get things off their chest and felt calm after thinking about their past.
Validation Therapy				
Deponte and Missan (2007)	To test the effects of validation therapy on cognitive function and emotions	Validation therapy (VT) vs sensorial reminiscence (SR) vs no treatment Data collected at baseline and 3 months	**Person with Dementia.** Cognitive function (MMSE) Emotions (BANSS) Behavioural distress (NPI)	The VT arm showed a reduction in NPI scores (p<0.03), and the SR group showed improvement in MMSE (p<0.05), BANSS (p<0.02) and NPI (p<0.01). The control group showed a general decline, only significant in BANSS (p<0.05).
Toseland *et al* (1997)	To examine the effectiveness of validation group therapy for reducing problem behaviours, use of physical restraints and use of	Validation therapy (VT) vs social contact (SC) vs usual care (UC) Data collected at baseline, 3 and 12 months	**Person with Dementia.** Psychosocial functioning (MOSES) Agitation (CMAI-N - nurse-derived rating and CMAI-O - observer-derived rating) Positive Behaviour – GPIB Overall Functioning – MDS+	CMAI scores showed VT participants less verbally aggressive than UC group at 12 months (p<0.01) and less physically aggressive at both 3 and 12-months follow up (p<0.001). Staff reported that it was easier to intervene to reduce problem behaviours in the VT arm at 3 months and in both VT and SC at 12 months. MOSES scores suggest that increases in

	psychotropic medications, and increasing positive social interactions.			depression found in the SC group did not occur in the VT group. However, staff reported significantly less physically non-aggressive behaviour at 12 months in SC and UC but not VT. VT was not effective in reducing the use of physical restraints or psychotropic medications as recorded on MDS+.
Generic Group Psychotherapy				
Marshall *et al* (2014)	To report a pilot study in which participants with a recent diagnosis of dementia were randomised to either a 10-week group intervention or a waiting-list control	Psychotherapy group vs waiting list control. Pilot Study Data collected at baseline, 10 weeks and 20 weeks	**Person affected by dementia** Quality of life (QoL-AD) participant rating Depression (CSDD) Self-esteem (SES) MMSE **Carer** Quality of life (QoL-AD) carer rating Caregiver health (GHQ)	Quality of life and self-esteem were improved in the intervention group compared to control group, but this feel short of statistical difference after adjusting for baseline differences. The effect size for change in the Primary outcome (Qol-AD) measure was d=.46.
Logsdon *et al* (2010) Logsdon, McCurry and Teri (2006)	To evaluate the efficacy of early-diagnosis support groups for people with dementia and caregivers.	Psychotherapy group (ESML) vs waiting list control. Full trial. Data collection at pre and post-treatment (9 week	**Person with Dementia.** *Primary outcome* - Quality of life (QoL-AD and SF-36) *Secondary Outcomes* Depression (GDS) Memory (RMBPC) Self-efficacy (SES) **Interpersonal relationship**	Compared to the control arm and when controlling for age, sex and change in MMSE scores, ESML participants reported significantly improved QoL-AD scores (b = 1.74; $p < .001$), $R^2 = .05$, effect size $d = .44$. ESML participants' scores on the GDS significantly improved (b = −1.34, $p < .01$), $R^2 = .05$, effect size $d = .36$. Post hoc analysis indicated that ESML participation

		long intervention)	Communication (FAM) **Carer** Carer Strain (PSS)	appears to have been most beneficial for participants who were experiencing higher levels of distress at baseline. No care partner outcomes were significantly different for the two conditions.
Multi-component therapy				
Hilgeman *et al* (2014) PIPAC	To conduct limited-efficacy testing of the Preserving Identity and Planning for Advance Care intervention on people with early dementia	A four-session, multi-component intervention group focused on reminiscence and future planning vs a minimal support phone contact comparison group. Pilot study. Data collected at baseline and post-treatment	**Person with dementia** *Primary Outcomes* Depression and anxiety (CSDD) Quality of life (QoL-AD and BASQID) and Health-related quality of life (EQ-5D) Meaning in life – (MLS) Emotional support and Anticipated support scales Uncertainty in future planning (DCS) *Secondary Outcomes* Coping - (IMMEL)	ANCOVAs were used to examine the main effect of treatment on post-test outcomes while controlling for baseline values and results were reported using partial eta squared effect sizes derived from these. At post-treatment assessment, the intervention group reported less depressive symptomatology than the control group (effect size =0.27) and an increased quality of life on the BASQID (effect sizes=0.07). There was a main effect for treatment for decisional conflict (effect size =0.21) with participants in the intervention group reporting less overall conflict or discomfort in Advanced Care Planning, feeling more supported at post-treatment and less distressed about incomplete information regarding decision-making.
Jha *et al* (2013)	To examine whether recovery-orientated	Recovery-focused pre-diagnostic assessment and	**Person affected by dementia** *Primary outcome* Wellbeing (WHO-5)	After accounting for baseline variability, the only significant effect was greater improvement in well-being in the recovery group as shown by

	psychiatric assessment and therapeutic intervention enhances the wellbeing of people with dementia	counselling, diagnostic consultation and post-diagnostic support vs TAU. Preliminary trial. Data collected at baseline and endpoint (6 months)	*Secondary Outcomes* Cognition (MMSE) Depression (CSDD) Quality of life (EQ-5D) **Carer** *Secondary Outcome* Stress (ZBI)	the WHO-5, (61, SD=10 vs 58, SD=13; p=0.03), with trends for improvement in other measures.
Bakker *et al* (2011)	To test the effectiveness of an integrative psychotherapeutic nursing home program (integrative reactivation and rehabilitation) to reduce multiple neuropsychiatry symptoms of cognitively impaired participants and caregiver burden	Integrative Reactivation and Rehabilitation (IRR) vs TAU. Data collected at baseline (within 2 weeks of inclusion), after 3 months (end of the intervention) and at 6 month follow up (9 months after baseline)	**Person with dementia** *Primary outcome* Multiple Neuropsychiatric symptoms (NPI) *Secondary Outcomes* Cognition (MMSE), Quality of life (MOS, EQ-5D and visual analogue scale) Admission to a nursing home (measured as length of stay) Risk of admission to a nursing home (Global Deterioration Scale) DSM-IV somatic comorbidity **Carer** Carer strain (NPI-emotional distress scale and Carer Burden) Carer Competence List	At 3 months there was a significantly larger reduction in both caregiver-rated NPI symptoms (-1.31, SD 2.47, p=0.003) and severity (-11.16, SD, 21.02, p=0.003) for IRR compared to TAU. This increased reduction was maintained at follow up for both symptoms (-1.02, SD=2.32, p=0.03) and severity (-9.91, SD=23.51, p=0.04). Carers in the IRR arm reported less burden both post-intervention (-17.69, SD=28.05, p=0.001) and at follow-up (-24.76, SD=28.29, p=0.001), as well as higher levels of competence post intervention (+6.26, SD=10.31, p=0.01) and at follow-up (+5.93, SD=10.31, p=0.005).

Level II studies				
Exploratory group therapy				
Cheston and Jones (2009)	To compare the effectiveness of exploratory psychotherapy and psycho-educational group	Exploratory psychotherapy vs psycho-educational group; small scale study Pilot study Data collected at baseline and 10 weeks (post-intervention)	**Person with dementia** *Primary outcomes* Depression (CSDD) Anxiety (RAID) *Secondary outcomes* Depression (BASDEC) Anxiety (BAI) Cognitive functioning (MMSE)	Significant improvement in the psychotherapy group for CSDD (9.5, range 0-14 to 7.00, range 1-11; p=0.013) and RAID (9. 00, range 0-17 to 7.25, range 2-14; p=0.05). Changes not significant when baseline differences are accounted for.
Validation Therapy				
Tondi *et al* (2007)	To assess the effectiveness of VT	A case control study: validation therapy (VT) vs TAU Data collected at baseline and 4 months (post intervention)	**Person with dementia** Behavioural Distress (NPI and BANSS)	In the VT group, NPI scores decreased in 23 of 27 participants, stayed steady in 4 and did not increase in any participants. NPI scores in the control group increased in 10 of 23 participants, stayed steady in 9 and decreased in 4. Carer's distress score in VT group reduced from 8.6 to 3.5, no change in the control group.
Level III studies				

Cognitive-Behavioural Therapy				
Paukert *et al* (2010) Peaceful Mind	To describe the intervention and results of an open trial pilot study to evaluate the feasibility and utility of the intervention	CBT, single group study Data collected at baseline, 3 months (post-intervention) and 6 months follow-up	**Person with dementia** Anxiety (NPI-A, RAID, GAI, PSWQ-A) Depression (GDS) Behavioural distress (RMBPC) **Carer** Distress at partner's anxiety (NPI-A distress question).	At 3 months, 86% of participants had a 20% or more reduction of anxiety from baseline, according to the NPI-A. At 6 months, 66% were improved on the NPI-A. Reduction in anxiety on the other scales ranged between 25% and 50% at 3 months, and between 43% and 57% at 6 months. GDS scores for people with dementia reduced at 3 months in 75% of participants and at 6 months for 57%. At 3 and 6 months, 5 of 7 and 3 of 6 carers, respectively, reported that their distress over the participant's anxiety had decreased
Validation Therapy				
Putman *et al* (2007) The Closing Group	To examine the effects of the Closing Group intervention on agitation and anxiety, socialization, restraints and antipsychotic drug use.	Repeated measures design. Data collection – "*For evaluation purposes, assessments of "before" and "after" the participation of the project were compared*" (p 169)	**Person with dementia** Agitation (CMAI) Cognition (MMSE and GDS) Depression (CSDD) *"A daily tracking sheet was developed internally and was used to monitor the occurrence of agitation or anxiety, weepiness, interaction between participants, participation, and restraint use"* (p168).	No significant effects on MMSE, GDS or CDS scores. While participating in the Closing Group intervention, participants showed considerably less '*screaming*' and '*complaining*' than initially (mean score difference 0.126, p=0.013). Individuals in commentaries referred to the group as '*my people*', suggesting success. Six out of 16 families responded to a satisfaction survey, generally satisfied but some suggested group meetings more than once a day.

Generic Group psychotherapy				
Gaugler *et al* (2011) The Memory Club	To test the effectiveness of The Memory Club in decreasing distress, enhancing preparation for care and improving feelings of confidence managing dementia	Joint support group; single group repeated measures design. Data collected pre and post intervention (between 10 and 13 weeks)	**Person with dementia** Depression (GDS) Activities of Daily Living (IADL) Effectiveness **Carer** Effectiveness Depression (GDS) Preparation for memory problems Preparation for care needs Preparation activities checklist	Levels of IADL dependency significantly increased (from 2.07, SD=0.61 to 2.19, SD=0.65; p<0.05). Carers, however, reported a number of improvements: in task effectiveness (2.8, SD=0.72 to 2.99, SD=0.77; p<0.05); feeling prepared to meet the care needs of their partners (2.56, SD=1.01 to 2.87, SD=0.97; p<0.05); and taking part in more activities (8.28, SD=1.82 to 9.21, SD=1.55; p<0.001). Carers' satisfaction with the course was also high, over 90% of the sample saying they would recommend the programme. Over 80% of people with dementia would recommend it.
Cheston, Jones and Gilliard (2003)	To evaluate impact of a 10 week, psychodynamic oriented group therapy	Psychodynamic-oriented counselling groups; repeated measures design. Data collected at baseline (6 weeks before group starts), start of group, end of group and after 10 week follow-up	**Person with dementia** Depression (CSDD and HADS) Anxiety (RAID and HADS)	CSDD scores at baseline (7.58, SD 2.19) and at the start of the intervention (8.32, SD 2.19) significantly improved at the end of therapy (6.42, SD 2.04) and were maintained at follow-up (6.37, SD=3.09). For RAID baseline scores (7.32, SD=4.34) and at the start of the intervention (6.71, SD=3.2) fell post-intervention (5.37, SD 2.5) and were maintained at follow-up (5.53, SD=2.63). Changes for both CSDD (p=0.034) and RAID (p=0.05) were significant.

Multi-component psychotherapy				
Weber *et al* (2009)	To explore the impact of the intervention on participants' outcomes	Psychotherapeutic day hospital programme: psychodynamic group, sociotherapy and individual interviews Data was collected at admission, 3, 6 and 12 months and discharge	**Person with dementia** Behavioural distress (NPI) Therapeutic community assessment completed by client (CAS) and staff (SAS) Group Evaluation scale (GES)	Except for the CAS, all other outcome measures displayed statistically significant differences across the different time points of the day hospital treatment. Mean total NPI scores reduced from 30.46 (SD 18.25) at admission to 18.49 (SD 17.71) at discharge (p=0.001), with significant changes in both anxiety (p=0.001) and apathy (p=0.019). These changes remained significant when demographic variables, drug treatment change and occurrence of significant life events were accounted for.

Cognition: MMSE – Mini-Mental State Examination; AFIB – Aachen Functional Item Inventory; DRS - Dementia Rating Scale; WMS-R – Wechsler Memory Scale-Revised; GDS – Global Deterioration Scale

Affect: BDI – Beck Depression Inventory; GDS - Geriatric Depression Scale; CMAI – Cohen Mansfield Agitation Inventory; PHQ-9 – Patient Health Questionnaire; GHQ-9 – General Health Questionnaire; AD-RD - The Alzheimer's Disease and Related Disorders Mood Scale; DMAS - Dementia Mood Assessment Scale; MADRS - Montgomery-Asberg Depression Rating Scale; CSDD – Cornell Scale for Depression in Dementia; BASDEC - Brief assessment schedule depression cards; BAI - Beck Anxiety Inventory; NPI-A – Neuropsychiatric Inventory-Anxiety; PSWQ-A - Penn State Worry Questionnaire -Abbreviated; GAI – Geriatric Anxiety Inventory; HADS – Hospital Anxiety and Depression Scale.

Psychosocial functioning: MOSES – Multidimensional Observational Scale for Elderly Subjects.

Global change: Clinician's Interview-Based Global Impression of Change - CIBIC

Self-esteem: SES - Rosenberg's Self-Esteem Scale.

Activities of Daily Living: Alzheimer's Disease Cooperative Study activities of daily living scale ADSC-ADL; B-ADL – Bayer Activities of Daily Living; BADLS – Bristol Activities of Daily Living Scale.

Behavioural distress: Geriatric Indices of Positive Behaviour – GIPB; RMBPC - Revised memory and behaviour problem checklist; BANSS – Bedford Alzheimer's Nursing Severity Scale; IADL – Instrumental Activities of Daily Living

Quality of Life: QoL-AD – Quality of Life in Alzheimer's Disease; EQ-5D - EuroQol-5; SF-36 - Medical Outcome Study short form; BASQUID - Bath Assessment of Subjective Quality of Life in Dementia; MOS - MOS Short-Form General Health Survey

Carer strain: ZBI – Zarit Burden Inventory; PSS - Perceived stress scale

Relationship: QCPR - Quality of Caregiver and Patient Relationship; FAM – Family Assessment Measure

General: Minimum Data Set (Resident Assessment Protocol) - MDS+

Advanced planning: DCS - Decisional Conflict Scale

Well-being: WHO-5 – WHO Wellbeing index

Coping: IMMEL - Index for Managing Memory Loss

Health Economic change: CSRI – Client Services Receipt Inventory

Table Five: Summary of Study details.

Population	Diagnostic inclusion criteria	• AD, LBD, VD or mixed (18) • Alzheimer's Disease only (2) • Dementia plus anxiety, depression or challenging behavior (3)
	Level of cognitive impairment	• Mild/early (16) • Mild and moderate (3) • Moderate and/or severe (4)
	Setting	• Community (16) • Nursing Home/residential (7)
Intervention	Intervention type	• Individual (6) • Individual and carer couples (3) • Group (9) • Individual and group (3) • Individual, couple and group (2)
	Main therapeutic modality	• Cognitive and Behaviour Therapy (5) • Person-centred therapy (3) • Psychodynamic Interpersonal (2) • Validation Therapy (4) • Generic Group Therapy (5) • Multiple psychotherapy components (4)
	Length of intervention	• 8 sessions or less (3) • 9 to 12 (8) • 13 to 30 (6) • more than 30 (6)
	Therapist qualifications	• Masters or above (9) • Graduates level (7) • Psychotherapists/experienced therapists (2) • Not stated or clear (5)
	Involvement of carers	• As co-therapists (3) • Partial (e.g. attendance at some sessions) (8) • Not directly involved (12)
Comparators	Control conditions	• TAU (9) • Waiting list (4) • TAU condition plus control intervention (2) • Control intervention (3) • No comparison arm (5)