Helping caregivers of persons with dementia: which interventions work and how large are their effects?

Pinquart M, Sorensen S

CRD summary
The authors concluded that interventions for caregivers of dementia have some effects on reducing burden and depressive symptoms, and on increasing ability/knowledge and subjective well-being. Given some methodological limitations of the review, the reliability of the conclusions is unknown.

Authors’ objectives
To assess the effectiveness of interventions aimed at caregivers of persons with dementia.

Searching
PsycINFO, MEDLINE, AgeLine and PSYNDEX were searched; the search terms were reported. The authors included studies reported in English, German or any language for which they could get a translation. Book chapters, conference presentations and dissertations were also included in the review. The search dates covered 1982 to 2005.

Study selection
Studies of caregivers providing care to persons with dementia were eligible for inclusion. The mean age of the caregivers was 63 years, the majority were women, and 80% co-resided with the care receiver. Most of the caregivers were spouses (60%); 39% were adult children. They had been caregivers for a mean of 3.6 years and provided, on average, 83 hours per week of care.

The interventions included in the review were psychoeducation, cognitive-behavioral therapy (CBT), counselling/case management, support, training of care receiver, respite, multicomponent interventions and miscellaneous interventions. Eligible trials had to compare an intervention with no intervention. The majority of interventions involved group treatments (56%); 33% used individual treatments and 11% used combined treatments. The number of intervention sessions ranged from 1 to 180.

To be eligible for inclusion, studies had to report one of the following outcomes: caregiver burden, depression, indicators of subjective well-being (SWB; e.g. life-satisfaction, happiness), knowledge and/or coping abilities of the caregiver, care receiver symptoms and institutionalisation.

Controlled studies were eligible for inclusion; study types were not specified. To be eligible for inclusion, studies had to report data that could be used to estimate effect sizes.

It appears that two authors independently selected the studies, with any disagreements resolved by discussion.

Assessment of study quality
The quality of the studies was assessed using the following criteria: randomisation, baseline comparability, sample size, attrition and the use of a validated outcome measure. A score from 0 to 5 was calculated, with higher values indicating better study quality.

The authors did not state how many reviewers performed the validity assessment.

Data extraction
The authors calculated adjusted effect sizes (ESs) for each intervention within a study. Outliers that were more than two standard deviations (SDs) from the mean were recoded to the value of two SDs.

The authors did not state how many reviewers performed the data extraction.
Methods of synthesis
For most outcomes, pooled weighted mean ESs with 95% confidence intervals (CIs) were calculated using random-effects meta-analysis. Heterogeneity was assessed using Cochran's Q statistic. The risk of institutionalisation was estimated by calculating the log odds ratio (OR) with 95% CI. Subgroup analyses were conducted by timing of outcome measurement or length of follow-up, and by subcategories within interventions. Regression analyses were conducted to explore the data and to examine the impact of study quality on the outcomes.

Results of the review
One hundred and twenty-seven studies, with at least 5,930 participants, were included in the review. Psychoeducational interventions had significant effects on burden (42 studies; ES -0.15, 95% CI: -0.25, -0.04, p<0.01), depression (32 studies; ES -0.27, 95% CI: -0.41, -0.13, p<0.001), SWB (13 studies; ES 0.24, 95% CI: 0.04, 0.44, p<0.05), ability or knowledge (34 studies; ES 0.46, 95% CI: 0.28, 0.64, p<0.001; significant heterogeneity, p<0.001) and symptoms of the care receiver (33 studies; ES -0.17, 95% CI: -0.29, -0.04, p<0.01), but not institutionalisation. Subgroup analysis demonstrated that ‘active’ psychoeducational interventions were more effective than ‘information only’ interventions.

CBT was significantly associated with improvements in burden (9 studies; ES -0.36, 95% CI: -0.73, -0.01, p<0.01) and depression (11 studies; ES -0.70, 95% CI: -1.10, -0.30, p<0.01), but not with any other outcomes.

Counselling had a significant effect on burden (4 studies; ES -0.50, 95% CI: -0.86, -0.14, p<0.001), and supportive interventions improved SWB (1 study; ES 2.03, 95% CI: 1.36, 2.70, p<0.001).

Training of care receiver was significantly associated with symptoms of the care receiver (8 studies; ES -0.35, 95% CI; -0.67, -0.02, p<0.05).

Respite was significantly associated with burden (12 studies; ES -0.26, 95% CI: -0.39, -0.12, p<0.001), depression (10 studies; ES -0.12, 95% CI; -0.24, -0.00, p<0.01) and SWB (5 studies; ES 0.27, 95% CI; 0.03, 0.51, p<0.05).

Multicomponent interventions were only significantly associated with delayed institutionalisation (15 studies; OR 0.65, 95% CI; 0.44, 0.98, p<0.05; significant heterogeneity, p<0.001). Subgroup analysis demonstrated that 'structured' multicomponent approaches were more effective than 'unstructured' approaches.

Regression analysis demonstrated variation in effects by study participant, gender, year of publication and study design.

Authors’ conclusions
Interventions for caregivers of dementia patients have small but meaningful effects on reducing burden and depressive symptoms and increasing ability/knowledge and SWB and, for a subset of interventions, reducing the risk of institutionalisation.

CRD commentary
The inclusion criteria were clearly defined for the interventions, participants and outcomes, and broadly defined for the study design. Published and non-published literature were sought, thus limiting the potential for publication bias. The authors stated that two reviewers ‘ coded’ the data, suggesting that they attempted to minimise bias and error during some of the review process. The quality of the studies was assessed and examined in regression analyses. However, it is not clear how many of the studies were of ‘good’ quality. Given the likelihood of clinical heterogeneity and the unknown quality of the included studies, the results of the meta-analyses should be considered as exploratory only. Thus, the reliability of the conclusions is unknown.

Implications of the review for practice and research
Practice: The authors stated that clinicians should tailor interventions to suit the specific needs of a caregiver.

Research: The authors stated that future studies need to investigate what combinations of interventions are most effective for different outcomes. In addition, studies with long follow-up time periods are needed, and measures of long-term success for some outcomes are required.
Funding
National Institute of Aging career development award (K01 AG022072).

Bibliographic details
Pinquart M, Sorensen S. Helping caregivers of persons with dementia: which interventions work and how large are their

PubMedID
16686964

DOI
10.1017/S1041610206003462

Other publications of related interest
Thompson CA, Spilsbury K, Hall J, Birks Y, Barnes C, Adamson J. Systematic review of information and support

Indexing Status
Subject indexing assigned by NLM

MeSH
Aged; Aged, 80 and over; Alzheimer Disease /nursing /psychology; Caregivers /education /psychology; Case
Management; Cognitive Therapy; Combined Modality Therapy; Cost of Illness; Counseling; Depression /psychology;
Female; Humans; Institutionalization; Male; Middle Aged; Outcome and Process Assessment (Health Care); Quality of
Life /psychology; Respite Care; Social Support

AccessionNumber
12007007076

Date bibliographic record published
09/08/2008

Date abstract record published
01/12/2008

Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract
contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on
the reliability of the review and the conclusions drawn.