The effects of family interventions on relatives' burden: a meta-analysis

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**Authors' objectives**
To assess whether family interventions have a positive effect on the burden of relatives of psychiatric patients.

**Searching**
The author searched the electronic databases MEDLINE and PsycLIT (1993 to November 1997) using the search terms 'schizophrenia' and 'family interventions' or 'family therapy'. The author also referred to a previous meta-analysis and the search used in that study (see Other Publications of Related Interest no.2). Other literature reviews were also searched for additional studies.

**Study selection**

**Study designs of evaluations included in the review**
Studies which compared experimental conditions to a control group or where two interventions were compared to each other.

**Specific interventions included in the review**
Any intervention for relatives of psychiatric patients. Interventions investigated in the included studies were: family interventions in a group, individual or combined setting, to reduce the objective (family relations, relationship with patient, and social support) or subjective (relatives' mental health and elements of subjective distress) dimensions of burden and distress. Interventions ranged from one educational session to intensive family treatment. In most interventions information on mental illness was presented as well as discussion. In some interventions relatives could share their experiences, learn how to cope with problematic behaviours of the patient and receive individual counselling and advice. The number of sessions ranged from one to twenty or more. Four interventions had six sessions or less, six interventions had nine to twelve sessions and five interventions had thirteen sessions of more.

**Participants included in the review**
Families with a patient undergoing treatment for schizophrenia or other psychiatric conditions. Some participants were being treated in a mental hospital. In other studies, the patients were participating in an on-going out-patient treatment study, or they were in day care and living at home.

**Outcomes assessed in the review**
Studies had to use one or more outcome measures that could be classified as an element of the relatives' burden of care. The measure had to refer to an element that could be interpreted as subjective burden or as objective burden. Measures of patient characteristics or relatives' attitude towards treatment were not sufficient for inclusion.

Outcomes reported in the included studies were: relatives' burden and distress, relatives' knowledge, relatives' attitude towards treatment and the relapse rate of the patients. The outcome measures were determined by using the conceptual framework from Schene (see Other Publications of Related Interest no.1).

**How were decisions on the relevance of primary studies made?**
The author does not state how the papers were selected for the review, or how many of the reviewers performed the selection.

**Assessment of study quality**
The author does not report a formal method for assessing validity but does state that the methodological characteristics of the included studies were examined and were reported in a table in the review (use of control group, randomisation, drop-outs, follow-up, reliable measures).
Data extraction
The author does not state how the data were extracted for the review, or how many of the reviewers performed the data extraction. Data were extracted for the categories of study identification, contents, conditions, number of participants, number of sessions, format, measurements taken, randomisation, percentage of schizophrenic participants, percentage of parents, percentage of women, and outcome measures (stress, relationship with family, family distress, and other).

Where insufficient data were available to calculate the effect size directly, the formulae provided by Wolf (see Other Publications of Related Interest no.3) were used to estimate the effect size.

Studies had to report at least pretest and post-test data. Either the data with which the standardised effect size could be calculated had to be presented, or statistics with which estimates of the effect size could be made.

Methods of synthesis
How were the studies combined?
Combined effect sizes (ES) were calculated with 95% confidence intervals (Cis) using the random-effects model of Hedges and Olkan (Other Publications of Related Interest no.4).

How were differences between studies investigated?
The proportion of variance explained by fluctuations in the sample was calculated. Where this exceeded 75% the studies were considered to be homogeneous.

Since there were significant differences found in two of the three meta-analyses, cluster analyses were performed for two subgroups: small-effect studies and large-effect studies.
Cluster analyses were also performed where at least five studies reported data on one concept listed within one of three subgroups of relatives' burden (relatives' psychological distress, relationship with the patient, and family functioning).

Results of the review
Sixteen studies were included in the review. Results are presented for the 14 studies which include a comparison group; in nine studies participants were assigned randomly to conditions; and in eight studies follow-up measurements were given. Number of participants: 4,984.

Relatives' burden:

Improvement in relatives' burden over all studies (n = 12): ES 0.46 (95% CI: 0.14, 0.77; Var. 23%), p < 0.01.
Improvement in relatives' burden in small-effect studies (n = 8): ES 0.09 (95% CI: -0.06, 0.23; Var. 100%), p > 0.05.
Improvement in relatives' burden in large-effect studies (n = 5): ES 0.76 (95% CI: 0.76, 1.23; Var. 100%), p < 0.001.
Relatives' burden post-test over all studies (n = 14): ES 0.46 (95% CI: 0.18, 0.45; Var. 79%), p < 0.001.
Relatives' burden post-test in small-effect studies (n = 11): ES 0.14 (95% CI: 0.00, 0.28; Var. 100%), p < 0.05.
Relatives' burden post-test in large-effect studies (n = 3): ES 0.60 (95% CI: -0.52, 0.67; Var. 100%), p < 0.01.
Relatives' burden at follow-up over all studies (n = 8): ES 0.23 (95% CI: -0.03, 0.49; Var. 66%), p < 0.05.
Relatives' burden at follow-up in small-effect studies (n = 6): ES 0.05 (95% CI: -0.19, 0.30; Var. 100%), p > 0.05.
Relatives' burden at follow-up large-effect studies (n = 2): ES 0.73 (95% CI: -0.31, 1.14; Var. 100%), p < 0.001.

Cluster analysis for concepts within the three subgroups of relatives' burden found that the effects on all three subgroups were large in the large-effects studies (n = 6) and small in the other studies (n = 10).
Authors' conclusions
The author states that it can be concluded that family interventions for relatives of psychiatric patients can have considerable effects on relatives' burden. Family interventions can have considerable effects on the relatives' psychological distress, the relationship between patient and relative, and family functioning. Taken together, the studies in this meta-analysis resulted in only moderate effect sizes at follow-up. While a group of studies was identified in which considerably larger effect sizes were found, the author was unable to examine which variables determined these positive outcomes.

CRD commentary
The author stated the research question and inclusion and exclusion criteria. The literature search appears thorough although it is not stated whether the search included unpublished or non-English language publications. It is possible therefore that additional relevant studies may have been missed. The author does not report whom, or how many of the reviewers, performed the selection of studies or the data extraction. There is an error in the printed paper that omitted the continuation of table 1, so it is not possible to check the remaining seven studies or total the number of participants in the studies. Tables which show confidence intervals are very misleading as a negative sign is used to show both negative numbers and the limits of the confidence intervals.

Heterogeneity was investigated by stratifying the analysis, however, the results of the overall pooled estimates where significant heterogeneity was present should be interpreted with caution.

The review statistically pooled effect sizes despite considerable heterogeneity and it is difficult to provide a clinically meaningful interpretation from these figures. Heterogeneity was addressed with variance testing and the results used for further analysis into the differences between studies.

The authors' conclusions appear to follow from their results but should be viewed with caution because of the methodological limitations of the review. As stated by the authors, conclusions are difficult to state because of the considerable differences between the participant and setting characteristics of the included studies.

Implications of the review for practice and research
Practice: The author states that it should be considered whether interventions of less than 10 sessions deserve a place in mental health care if future research confirms the absence of effects for this duration of intervention.

Research: The authors states that more research is urgently needed to clarify which of factors are most predictive of the success of family interventions.

Bibliographic details

Other publications of related interest

Indexing Status
Subject indexing assigned by CRD

MeSH
Aged; Caregivers /psychology; Family /psychology; Frail Elderly; Home Nursing /psychology; Homes for the Aged; Mental Health; Pilot Projects; Surveys and Questionnaires; Social Support; Stress, Psychological
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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.