Psychological outreach programmes for the depressed elderly: a meta-analysis of effects and dropout

Cuijpers P

Authors' objectives
To investigate the effectiveness and drop-out rates of outreach programmes for the depressed elderly.

Searching
PsycLIT and MEDLINE (the search dates were unclear) were searched using the search terms 'depression' and 'elderly'. Studies used in earlier meta-analyses, and the references of some important recent reviews of the literature, were also screened.

Study selection

Study designs of evaluations included in the review
There were no restrictions on study design but at least pre-test and post-test data had to be presented.

Most interventions had 10 to 20 sessions (range: 5 to 46). The measurements were taken pre- and post- treatment in all studies and were followed-up in some studies for up to 24 months (range: 0 to 24).

Specific interventions included in the review
Psychological outreach programmes for the elderly. Conditions included problem-solving therapy, cognitive behaviour therapy (CBT), psychodynamic therapy, supportive therapy, social contact, CBT bibliotherapy, and reminiscence. Studies of exercise and music therapy were excluded.

Participants included in the review
The participants had to be aged 55 years or over. The mean age of the patients ranged from 55 to 83 years. In all the studies, the majority of participants were female; the proportion of women ranged from 55 to 98%.

Outcomes assessed in the review
The level of depression was measured using the Beck Depression Inventory, Hamilton Rating Scale of Depression, Geriatric Depression Scale, Minnesota Multiphasic Personality Inventory, Depression Scale, Brief Symptom Inventory - Depression Scale, and the Zung.

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 reviewers performed the selection.

Assessment of study quality
The studies were evaluated on several methodological criteria. These included the use of a control group, random assignment to conditions, data presented on drop-out, follow-up measures, the use of reliable measures, and whether depression was diagnosed. The author does not state how the papers were assessed for validity, or how many of the reviewers performed the validity assessment.

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.

The drop-out rates were reported. A multiple regression analysis was performed with the drop-out rate as the dependent variable, in order to determine if the characteristics of the interventions and the participants were related to
the drop-out.

**Methods of synthesis**

How were the studies combined?

[A: A mean post-test effect size was calculated when control groups were present. An effect size of the improvement from pre-test to post-test was also calculated.] All the effect sizes were corrected for the small sample bias. Meta-analyses were conducted, mainly based on the work of Hedges and Olkin (see Other Publications of Related Interest). A random-effects model was used to calculate the mean effect size (ES). Orwin's fail-safe N (the number of studies with an ES of zero needed to reduce the ES to 0.20) and the drop-out rates were also calculated.

How were differences between studies investigated?

A specific test for heterogeneity was not performed. However, the random-effects model used for the meta-analysis incorporated a test for homogeneity for each meta-analysis.

**Results of the review**

Fourteen studies comprising 799 participants were included in the review.

Twelve studies used random assignment and eight of these included a control group (waiting-list, placebo or no treatment). The others compared two or more interventions.

The mean ES was 0.77 (95% confidence interval, CI: 0.55, 0.98). Heterogeneity was not found. 'Orwin's fail-safe N' was 40.

Several studies did not use a control group. Hence, the authors calculated the ES on the basis of the improvement from pre- to post- test. The mean ES was 1.07 (95% CI: 0.92, 1.22). Heterogeneity was not found. 'Orwin's fail-safe N' was 104.

A test was performed to examine if the ES in the controlled studies differed from that in the studies without a control group. There was a small, non significant difference between the two ESs (1.14 and 1.06). The ES in the 6 studies in which participants were selected on the presence of a formally diagnosed major depression, was larger (ES 1.25) than that in the studies without such a selection criteria (ES 0.90); this difference was not significant.

Four studies compared the effects of CBT with 7 other therapies. There was a non significant trend that CBT was more effective than the other therapies (ES 0.20). Five studies compared behaviour therapy with 8 other therapies, but it was not significantly more effective than any of them (ES 0.05).

Data were presented at 1, 3 and 6 months follow-up in several studies. For each of these periods, the ESs from post-test to follow-up were calculated. The results indicated that the effects remained stable for 1 to 6 months.

A multiple regression analysis was performed in order to identify those characteristics of the participants and outreach programmes that were significantly related to the outcome. Only participation in a cognitive behavioural intervention reached a significant level, indicating that the effects of cognitive behavioural interventions are larger.

The mean drop-out rate of the interventions was 0.23 (standard deviation 0.13; range: 0 to 0.47). The multiple regression analysis found four significant predictors of drop-out: participation in a group; participation in a cognitive behavioural intervention; the percentage of female participants; and the number of sessions. These four variables accounted for as much as 94% of the variance (F=28.47, p=0.0002).

**Authors' conclusions**

The author concluded that the present meta-analysis had several limitations. First, depressed persons were recruited from the community; it is clear that depressed persons who volunteer for a research programme are different from those who participate in a regular outreach programme. Second, most of the selected studies had small sample sizes, and hardly any placebo or no treatment control groups were used.
Despite these limitations, this meta-analysis clearly indicated that the effects of interventions in which depressed elderly are actively recruited from the community are large. These effects are comparable to the effects of psychotherapy treatment of depression in younger age groups.

**CRD commentary**
The author presented a clear review question. The inclusion and exclusion criteria were appropriate. Sufficient details of the individual studies were tabulated clearly and the studies were combined appropriately.

The search strategy only involved two databases and no attempt was made to identify unpublished literature, thus a publication bias cannot be ruled out. A validity assessment was undertaken, but this was not scored in any way. It would have been useful to have performed a sensitivity analysis including only those studies of high quality. There was considerable heterogeneity in the interventions and scales used to measure the outcomes. In the light of this heterogeneity, the meta-analysis should have been undertaken with caution. Furthermore, no consideration was given as to which of the individual interventions appeared to be more effective than the others.

The author's conclusions addressed the limitations of the current research. Despite these limitations, this was a fairly thorough meta-analysis, which highlighted important issues for future research.

**Implications of the review for practice and research**
The author states that future research is needed to examine the differences between depressed persons who volunteer for a research programme and persons participating in an outreach programme. It is also necessary to examine whether outreach programmes would reach depressed persons who would otherwise have not sought help.

The author suggests that future research should examine what effects an outreach programme has on drop-outs. If their depression gets worse, for example because of negative experiences in the programme, it should be considered whether the positive effects on the majority of participants outweigh the negative effects on the others.

**Bibliographic details**

**PubMedID**
9489580

**Other publications of related interest**

**Indexing Status**
Subject indexing assigned by NLM

**MeSH**
Aged; Aged, 80 and over; Cognitive Therapy; Community Mental Health Services /utilization; Community-Institutional Relations; Depressive Disorder /psychology /therapy; Female; Humans; Male; Middle Aged; Models, Psychological; Patient Dropouts; Treatment Outcome

**AccessionNumber**
11998003512

**Date bibliographic record published**
30/11/1999
Date abstract record published
30/11/1999

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.