The effectiveness of behavioural therapy for the treatment of depression in older adults: a meta-analysis

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CRD summary
The review concluded that behavioural therapy in depressed older adults appeared to have comparable effectiveness with alternative psychotherapies. The authors' conclusions reflected the evidence presented, but limitations in methodology and in the evidence presented should be borne in mind.

Authors' objectives
To determine the effectiveness of behavioural therapy for the treatment of depression in older adults.

Searching
MEDLINE, EMBASE, CINAHL, AMED, PsycINFO, The Cochrane Library, Web of Science, British Nursing Index and NHS evidence for mental health were searched to July 2009; some search terms were reported. There were no language restrictions. Several sources of grey literature and reference lists of relevant systematic reviews and retrieved studies were searched.

Study selection
Randomised controlled trials (RCTs) of behavioural therapy compared with waiting list controls, treatment as usual or other psychotherapies in older adults (55 years or over) with or without physical comorbidities and with clinical depression were eligible for inclusion. Studies with younger populations were included so long as separate data for the older population could be separated. Clinically depressed participants had to be diagnosed using structured diagnostic interviews and self-rated or clinician-rated scales. Studies of participants with comorbid dementia, severe cognitive impairment, diagnosed with psychosis, bipolar disorder, substance misuse or primary diagnosis of other mental health disorders were excluded. Studies were excluded where behavioural therapy was used in combination with cognitive techniques that address negative cognitions associated with depression. The primary outcome was a change in depression symptoms using self-rated or clinician-rated measures.

Behaviour therapy was conducted via face-to-face sessions or through work book and weekly telephone support. Other psychotherapies (cognitive therapy, brief psychotherapy or psychodynamic therapy) were delivered by psychologists or researchers. Baseline depression diagnosis varied between studies. Outcomes were measured using the Hamilton Depression Rating Scale (HDRS), Beck Depression Inventory (BDI), geriatric depression scale (GDS) or the depression subscale of the Brief Symptom Inventory (BSI (Depression)). The mean age of participants ranged from 66 years to 68 years. The proportion of women ranged from 38% to 85%. Authors report that all participants were living independently in the community. Studies were published between 1982 and 1999.

One reviewer selected studies for inclusion and consulted with a second reviewer where necessary.

Assessment of study quality
Study quality was assessed using the Cochrane risk of bias tool for treatment allocation, concealment of allocation, blinding, incomplete outcome data, non-selective outcome reporting and other potential biases.

Two reviewers independently assessed quality. Disagreements were resolved through discussion.

Data extraction
Data were extracted for post-treatment mean and standard deviation self-rated depression symptom scores in the treatment and control groups and standardised mean differences (SMD) together with 95% confidence intervals (CIs) were calculated. Where more than one self-rated measure was reported, precedence was given to the Geriatric Depression Scale (GDS), in the absence of GDS, the Beck Depression Inventory (BDI) was used.

Data were extracted for post-treatment mean and standard deviation clinician rated depression data, from the Hamilton
Depression Rating Scale (HDRS), in treatment and control groups and used to calculate the mean difference and 95% CIs.

Effect sizes were considered small (standard mean difference, SMD 0 to 0.32), medium (SMD 0.33 to 0.55) and large (SMD 0.56 or more). Data on drop-outs were used to calculate odds ratios (ORs) to indicate the likelihood of drop-outs occurring in the intervention groups compared to the comparison group.

Data were extracted by one reviewer and checked for accuracy by a second reviewer.

Methods of synthesis
Pooled estimates were calculated using a random-effects model. Statistical heterogeneity was assessed using the $I^2$ statistic (high=75%, moderate=50%, low=25%). Sensitivity analyses were conducted to estimate the impact on treatment effects of diagnosis of depression at baseline, type of professional delivering the intervention, treatment mode and presence of physical comorbidity.

Results of the review
Four RCTs (256 participants, range 30 to 95) were included in the meta-analysis. All of the included trials reported use of random assignment to treatment allocation. Sequence allocation was unclear in all trials. No trials reported adequate details for blinding of outcome assessors. Details of dealing with incomplete outcome data were unclear in three trials. Three studies were reported to be at risk of other potential threats to study bias.

There were no significant differences for post-treatment self-rated depression between behavioural therapy and a waiting list control (three RCTs, $I^2=78\%$), cognitive therapy (four RCTs, $I^2=43\%$) or brief psychodynamic therapy (two RCTs, $I^2=0\%$).

Behaviour therapy was significantly more effective than a waiting list control for post-treatment clinician-rated depression (weighted mean difference -5.68, 95% CI -7.71 to -3.66; three RCTs, $I^2=0\%$). But there were no significant differences between behavioural therapy and cognitive therapy (four RCTs, $I^2=21\%$) or brief psychodynamic therapy (two RCTs, $I^2=0\%$).

Sensitivity analyses (where there were sufficient studies) reported similar results to the overall analyses. Reported drop-out rates did not differ significantly between intervention and cognitive or psychodynamic therapy groups. No comparisons of drop-outs for intervention compared to waiting list control were reported.

Authors' conclusions
Behavioural therapy in depressed older adults appeared to have comparable effectiveness with alternative psychotherapies.

CRD commentary
The review question was clear with clearly defined inclusion and exclusion criteria. Several relevant sources were searched. Attempts were made to locate unpublished data and no restrictions were placed on language, which reduced potential for publication and language biases. Studies quality was assessed using an appropriate tool and results were reported. Appropriate methods were used to reduce reviewer error and bias in the quality assessment and data extraction stages. Only one reviewer selected studies for inclusion, so reviewer error and bias could not be ruled out of this phase.

Data were combined and reasons for statistical heterogeneity were explored where possible. The authors appropriately highlighted limitations in the review, which included the small number of studies, small sample sizes and results that may not be generalisable to participants in residential settings. The latest publication date was 1999 and so results may not be applicable to a present day setting.

The authors' conclusions reflected the evidence presented, but the limitations in methodology and in the evidence presented should be borne in mind.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.
Research: The authors stated a need for further robust research with larger sample sizes, clear trial design and intervention and longer follow-up as well as concomitant economic evaluations.

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