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Review

Managing depression in older age: Psychological interventions

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ABSTRACT

The number of studies on psychological treatments of depression in older adults has increased considerably in the past years. Therefore, we conducted an updated meta-analysis of these studies. A total of 44 studies comparing psychotherapies to control groups, other therapies or pharmacotherapy could be included. The overall effect size indicating the difference between psychotherapy and control groups was $g = 0.64$ (95% CI: 0.47–0.80), which corresponds with a NNT of 3. These effects were maintained at 6 months or longer post randomization ($g = 0.27$; 95%CI: 0.16–0.37). Specific types of psychotherapies that were found to be effective included cognitive behavior therapy ($g = 0.45$; 95% CI: 0.29–0.60), life review therapy ($g = 0.59$; 95% CI: 0.36–0.82) and problem-solving therapy ($g = 0.46$; 95% CI: 0.18–0.74). Treatment compared to waiting list control groups resulted in larger effect sizes than treatments compared to care-as-usual and other control groups ($p < 0.05$). Studies with lower quality resulted in higher effect sizes than high-quality studies ($p < 0.05$). Direct comparisons between different types of psychotherapy suggested that cognitive behavior therapy and problem-solving therapy may be more effective than non-directive counseling and other psychotherapies may be less effective than other therapies. This should be considered with caution, however, because of the small number of studies. There were not enough studies to examine the long-term effects of psychotherapies and to compare psychotherapy with pharmacotherapy or combined treatments. We conclude that it is safe to assume that psychological therapies in general are effective in late-life depression, and this is especially well-established for cognitive behavior therapy and problem-solving therapy.

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1. Introduction

It is well-established that psychological interventions are effective in the treatment of depression in adults, and that includes cognitive behavior therapy (CBT) [1], interpersonal psychotherapy (IPT) [2], behavioral activation therapy [3], problem-solving therapy (PST) [4], and possibly psychodynamic therapy [5] and non-directive counseling [6]. Whether psychological therapies are also effective in older adults has been less well-established. Depression in older adults tends to be more chronic than in their younger counterparts. And due to such a chronic nature and developmental stage that increase individual's exposure risk factors (e.g., medical condition, loss and grief, decreasing social support), psychotherapies may be less effective in older adults than in their younger counterparts.

Although several trials with different kinds of psychological treatment have focused specifically on older adults, the field is changing rapidly. In an earlier meta-analysis of these studies, we included 25 randomized trials [7], and other meta-analyses from this period included comparable numbers of studies [8–10]. Since 2010, however, 15 more randomized trials have been conducted, indicating that the field is expanding rapidly. It may be possible to examine research questions that were not answered sufficiently with meta-analyses of earlier trials. For example, several new trials have focused on life review treatments of depression, and earlier meta-analyses had to be careful in drawing definite conclusions on this type of therapy.

Since the overall meta-analyses focusing on psychological treatments in older adults from 2006 to 2008, no general meta-analyses have been conducted. Meta-analyses that were conducted since focused on specific types of therapies [11–14]. We decided therefore, to conduct a new meta-analysis of trials on psychological treatments of depression in older adults. Because the number of trials has increased since the previous comprehensive meta-analysis, we focus specifically on subgroup analyses. In these subgroup analyses we can examine whether specific characteristics of the studies are associated with higher or lower effect sizes, for example different types of psychotherapy, types of control groups, recruitment methods, diagnosis, or treatment format.

2. Methods

2.1. Identification and selection of studies

We constructed a database of papers on the psychological treatment of depression that has been described in detail elsewhere [15] and that has been used in a series of earlier published meta-analyses (www.evidencebasedpsychotherapies.org). This database has been continuously updated through comprehensive literature searches (from 1966 to January 2014). In these searches, we examined 14,902 abstracts from Pubmed, PsycInfo, Embase and the Cochrane Register of Trials. These abstracts were identified by combining terms indicative of psychological treatment and depression (both MeSH terms and text words). For this database, we also checked the primary studies from earlier meta-analyses of psychological treatment for depression to ensure that no published studies were missed. From the 14,902 abstracts, we retrieved 1613 full-text papers for possible inclusion in the database.

We included (a) randomized controlled trials in which (b) a psychological intervention (c) was compared to a control condition (d) in older adults (>50 years of age) (e) with depression (established through a diagnostic interview or through a cut-off on a self-report scale). We included randomized trials in which psychological treatments were compared with a control group, with another psychological treatment, and with pharmacotherapy. We also included studies in which the combination of psychotherapy and pharmacotherapy was compared with psychotherapy alone or pharmacotherapy alone.

We excluded studies in younger adults, adolescents or children (<18 years). Comorbid general medical or psychiatric disorders were not used as an exclusion criterion. No language restrictions were applied.

2.2. Quality assessment and data extraction

We assessed the validity of included studies using four criteria of the 'Risk of bias' assessment tool, developed by the Cochrane Collaboration [16]. This tool assesses possible sources of bias in randomized trials, including the adequate generation of allocation sequence; the concealment of allocation to conditions; the prevention of knowledge of the allocated intervention (masking of assessors); and dealing with incomplete outcome data (this was assessed as positive when intention-to-treat analyses were conducted, meaning that all randomized patients were included in the analyses).

We also coded additional aspects of the included studies, including characteristics of the participants, the interventions and the study. Quality assessment and data extraction was done by two independent researchers.

2.3. Meta-analyses

For each comparison between a psychotherapy condition and a control or comparison group, the effect size indicating the difference between the two groups at post-test was calculated (Hedges's g). Because several studies had relatively small sample sizes, we corrected the effect size for small sample bias [18].

In the calculations of effect sizes, we used only those instruments that explicitly measured symptoms of depression. If more than one depression measure was used, the mean of the effect sizes was calculated, so that each comparison yielded only one effect (using the methods described in Borenstein et al.) [19]. If dichotomous outcomes were reported without means and standard deviations, we used the procedures described by Borenstein et al. [19] to calculate the standardized mean difference.

To calculate pooled mean effect sizes, we used the computer program comprehensive meta-analysis (version 2.2.021). Because we expected considerable heterogeneity among the studies, we used a random effects pooling model in all analyses. Numbers-needed-to-treated (NNT) were calculated using the formulae provided by Kraemer and Kupfer [20]. The NNT indicates the number of patients that have to be treated in order to generate one additional positive outcome [21]. As a test of homogeneity of effect sizes, we calculated the I^2-statistic as an indicator of heterogeneity in percentages. A value of 0% indicates no observed heterogeneity, and larger values indicate increasing heterogeneity, with 25% as