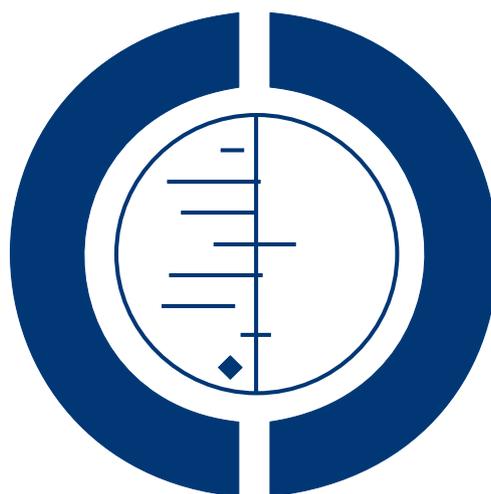


# 'Third wave' cognitive and behavioural therapies versus other psychological therapies for depression (Review)

Hunot V, Moore THM, Caldwell DM, Furukawa TA, Davies P, Jones H, Honyashiki M, Chen P, Lewis G, Churchill R



**THE COCHRANE  
COLLABORATION®**

This is a reprint of a Cochrane review, prepared and maintained by The Cochrane Collaboration and published in *The Cochrane Library* 2013, Issue 10

<http://www.thecochranelibrary.com>

**WILEY**

## TABLE OF CONTENTS

HEADER . . . . .	1
ABSTRACT . . . . .	1
PLAIN LANGUAGE SUMMARY . . . . .	2
SUMMARY OF FINDINGS FOR THE MAIN COMPARISON . . . . .	3
BACKGROUND . . . . .	6
OBJECTIVES . . . . .	7
METHODS . . . . .	8
RESULTS . . . . .	16
Figure 1. . . . .	17
Figure 2. . . . .	21
DISCUSSION . . . . .	23
AUTHORS' CONCLUSIONS . . . . .	25
ACKNOWLEDGEMENTS . . . . .	26
REFERENCES . . . . .	26
CHARACTERISTICS OF STUDIES . . . . .	33
DATA AND ANALYSES . . . . .	43
Analysis 1.1. Comparison 1 Third wave CBT vs other psychological therapies, Outcome 1 Clinical response at post-treatment. . . . .	44
Analysis 1.2. Comparison 1 Third wave CBT vs other psychological therapies, Outcome 2 Clinical response at follow-up. . . . .	45
Analysis 1.3. Comparison 1 Third wave CBT vs other psychological therapies, Outcome 3 Treatment acceptability (dropout) at post-treatment. . . . .	46
Analysis 1.4. Comparison 1 Third wave CBT vs other psychological therapies, Outcome 4 Treatment acceptability (dropout) at follow-up. . . . .	47
Analysis 1.5. Comparison 1 Third wave CBT vs other psychological therapies, Outcome 5 Remission at post-treatment. . . . .	47
Analysis 1.6. Comparison 1 Third wave CBT vs other psychological therapies, Outcome 6 Depression levels at post-treatment. . . . .	48
Analysis 1.7. Comparison 1 Third wave CBT vs other psychological therapies, Outcome 7 Depression levels at follow-up. . . . .	49
APPENDICES . . . . .	49
CONTRIBUTIONS OF AUTHORS . . . . .	53
DECLARATIONS OF INTEREST . . . . .	54
SOURCES OF SUPPORT . . . . .	54

[Intervention Review]

# 'Third wave' cognitive and behavioural therapies versus other psychological therapies for depression

Vivien Hunot<sup>1</sup>, Theresa HM Moore<sup>2</sup>, Deborah M Caldwell<sup>2</sup>, Toshi A Furukawa<sup>3</sup>, Philippa Davies<sup>2</sup>, Hannah Jones<sup>4</sup>, Mina Honyashiki<sup>5</sup>, Peiyao Chen<sup>5</sup>, Glyn Lewis<sup>6</sup>, Rachel Churchill<sup>1</sup>

<sup>1</sup>Centre for Academic Mental Health, School of Social and Community Medicine, University of Bristol, Bristol, UK. <sup>2</sup>School of Social and Community Medicine, University of Bristol, Bristol, UK. <sup>3</sup>Departments of Health Promotion and Behavior Change and of Clinical Epidemiology, Kyoto University Graduate School of Medicine / School of Public Health, Kyoto, Japan. <sup>4</sup>Division of Psychiatry, Institute of Mental Health, The University of Nottingham, Nottingham, UK. <sup>5</sup>Department of Health Promotion and Human Behavior, Kyoto University Graduate School of Medicine / School of Public Health, Kyoto, Japan. <sup>6</sup>Mental Health Sciences Unit, UCL, London, UK

Contact address: Rachel Churchill, Centre for Academic Mental Health, School of Social and Community Medicine, University of Bristol, Oakfield House, Oakfield Grove, Bristol, Avon, BS8 2BN, UK. [rachel.churchill@ccdanc.org](mailto:rachel.churchill@ccdanc.org) [rachel.churchill@bristol.ac.uk](mailto:rachel.churchill@bristol.ac.uk)

**Editorial group:** Cochrane Depression, Anxiety and Neurosis Group.

**Publication status and date:** New, published in Issue 10, 2013.

**Review content assessed as up-to-date:** 1 February 2013.

**Citation:** Hunot V, Moore THM, Caldwell DM, Furukawa TA, Davies P, Jones H, Honyashiki M, Chen P, Lewis G, Churchill R. 'Third wave' cognitive and behavioural therapies versus other psychological therapies for depression. *Cochrane Database of Systematic Reviews* 2013, Issue 10. Art. No.: CD008704. DOI: 10.1002/14651858.CD008704.pub2.

Copyright © 2013 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.

## ABSTRACT

### Background

So-called 'third wave' cognitive and behavioural therapies represents a new generation of psychological therapies that are increasingly being used in the treatment of psychological problems. However, the effectiveness and acceptability of third wave cognitive and behavioural therapy (CBT) approaches as a treatment for depression compared with other psychological therapies remain unclear.

### Objectives

1. To examine the effects of all third wave CBT approaches compared with all other psychological therapy approaches for acute depression.
2. To examine the effects of different third wave CBT approaches (ACT, compassionate mind training, functional analytic psychotherapy, extended behavioural activation and metacognitive therapy) compared with all other psychological therapy approaches for acute depression.
3. To examine the effects of all third wave CBT approaches compared with different psychological therapy approaches (psychodynamic, behavioural, humanistic, integrative, cognitive-behavioural) for acute depression.

### Search methods

We searched the Cochrane Depression, Anxiety and Neurosis Group Specialised Register (CCDANCTR to 01/01/12), which includes relevant randomised controlled trials from *The Cochrane Library* (all years), EMBASE (1974-), MEDLINE (1950-) and PsycINFO (1967-). We also searched CINAHL (May 2010) and PSYINDEX (June 2010) and reference lists of the included studies and relevant reviews for additional published and unpublished studies. An updated search of CCDANCTR restricted to search terms relevant to third wave CBT was conducted in March 2013 (CCDANCTR to 01/02/13).

---

'Third wave' cognitive and behavioural therapies versus other psychological therapies for depression (Review)

Copyright © 2013 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.

1

## Selection criteria

Randomised controlled trials that compared various third wave CBT with other psychological therapies for acute depression in adults.

## Data collection and analysis

Two review authors independently identified studies, assessed trial quality and extracted data. Study authors were contacted for additional information where required. We rated the quality of evidence using GRADE methods.

## Main results

A total of three studies involving 144 eligible participants were included in the review. Two of the studies (56 participants) compared an early version of acceptance and commitment therapy (ACT) with CBT, and one study (88 eligible participants) compared extended behavioural activation with CBT. No other studies of third wave CBT were identified. The two ACT studies were assessed as being at high risk of performance bias and researcher allegiance. Post-treatment results, which were based on dropout rates, showed no evidence of any difference between third wave CBT and other psychological therapies for the primary outcomes of efficacy (risk ratio (RR) of clinical response 1.14, 95% confidence interval (CI) 0.79 to 1.64; very low quality) and acceptability. Results at two-month follow-up showed no evidence of any difference between third wave CBT and other psychological therapies for clinical response (2 studies, 56 participants, RR 0.22, 95% CI 0.04 to 1.15). Moderate statistical heterogeneity was indicated in the acceptability analyses ( $I^2 = 41\%$ ).

## Authors' conclusions

Very low quality evidence suggests that third wave CBT and CBT approaches are equally effective and acceptable in the treatment of acute depression. Evidence is limited in quantity, quality and breadth of available studies, precluding us from drawing any conclusions as to their short- or longer-term equivalence. The increasing popularity of third wave CBT approaches in clinical practice underscores the importance of completing further studies to compare various third wave CBT approaches with other psychological therapy approaches to inform clinicians and policymakers on the most effective forms of psychological therapy in treating depression.

## PLAIN LANGUAGE SUMMARY

### 'Third wave' cognitive and behavioural therapies versus other psychological therapies for depression

Major depression is a very common condition, in which people experience persistently low mood and loss of interest in pleasurable activities, accompanied by a range of symptoms including weight loss, insomnia, fatigue, loss of energy, inappropriate guilt, poor concentration and morbid thoughts of death. Psychological therapies are an important and popular alternative to antidepressants in the treatment of depression. Many different psychological therapy approaches have been developed over the past century, including behavioural, cognitive-behavioural (CBT), 'third wave' CBT, psychodynamic, humanistic and integrative therapies.

In this review, we focused on third wave CBT approaches, a group of psychological therapies that target the process of thoughts (rather than their content, as in CBT) to help people become aware of their thoughts and accept them in a non-judgemental way. The aim of the review was to find out whether third wave CBT was more effective and acceptable than other psychological therapy approaches for people with acute depression. The review included three studies, involving a total of 144 people. The studies examined two different forms of third wave CBT, consisting of acceptance and commitment therapy (ACT) (two studies) and extended behavioural activation (BA) (one study). All three studies compared these third wave CBT approaches with CBT. The results suggested that third wave CBT and CBT approaches were equally effective in treating depression. However, the quality of evidence was very low because of the small number of studies of poor quality that we included in the review; therefore it is not possible to conclude whether third wave CBT approaches might be more effective and acceptable than other psychological therapies in the short term or over a longer period of time. Given the increasing popularity of third wave CBT approaches in clinical practice, further studies should be prioritised to establish whether third wave CBT approaches are more helpful than other psychological therapies in treating people with acute depression.

## SUMMARY OF FINDINGS FOR THE MAIN COMPARISON [\[Explanation\]](#)

Mindfulness-based 'third wave' cognitive and behavioural therapies compared with other psychological therapies for depression						
<b>Patient or population:</b> individuals with depression <b>Settings:</b> primary, secondary and community care <b>Intervention:</b> mindfulness-based 'third wave' cognitive and behavioural therapies <b>Comparison:</b> other psychological therapies						
Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Other psychological therapies	Mindfulness-based 'third wave' cognitive and behavioural therapies				
Clinical non-response at post-treatment	Study population		RR 1.14 (0.79 to 1.64)	144 (3 studies)	⊕○○○ very low <sup>a,b,c</sup>	
	427 per 1000	487 per 1000 (337 to 700)				
	Moderate					
	422 per 1000	481 per 1000 (333 to 692)				
Clinical non-response at follow-up: ACT vs other psychological therapies Follow-up: 2 months	Study population		RR 0.31 (0.08 to 1.26)	56 (2 studies)	⊕○○○ very low <sup>a,b,c</sup>	
	351 per 1000	109 per 1000 (28 to 443)				
	Moderate					
	347 per 1000	108 per 1000 (28 to 437)				

<b>Treatment acceptability at post-treatment</b> Dropout rates	<b>Study population</b>	<b>RR 1.12</b> (0.47 to 2.67)	144 (3 studies)	⊕○○○ <b>very low</b> <sup>a,b,c</sup>
	<b>134 per 1000</b> <b>150 per 1000</b> (63 to 358)			
	<b>Moderate</b>			
<b>Treatment acceptability at follow-up: ACT versus other psychological therapies</b> Dropout rates Follow-up: 2 months	<b>Study population</b>	<b>RR 1.07</b> (0.1 to 11.23)	56 (2 studies)	⊕○○○ <b>very low</b> <sup>a,c,d,e</sup>
	<b>135 per 1000</b> <b>145 per 1000</b> (14 to 1000)			
	<b>Moderate</b>			
<b>Non-remission at post-treatment</b>	<b>Study population</b>	<b>RR 0.89</b> (0.6 to 1.3)	88 (1 study)	⊕○○○ <b>very low</b> <sup>e,f,g</sup>
	<b>578 per 1000</b> <b>514 per 1000</b> (347 to 751)			
	<b>Moderate</b>			
<b>Depression levels at post-treatment (HAM-D)</b>	<b>578 per 1000</b> <b>514 per 1000</b> (347 to 751)			
	Mean depression levels at post-treatment in the intervention groups was <b>1.65 lower</b> (4.17 lower to 0.88 higher)		113 (3 studies)	⊕○○○ <b>very low</b> <sup>a,b,c</sup>

<b>Depression levels at follow-up: ACT vs other psychological therapies (HAM-D)</b> Follow-up: 2 months	Mean depression levels at follow-up of ACT vs other psychological therapies in the intervention groups were <b>4.51 lower</b> (7.47 to 1.55 lower)	49 (2 studies)	⊕○○○ <b>very low</b> <sup>a,c,e</sup>
--	--	-------------------	--

\*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **risk ratio** of the intervention (and its 95% CI).  
**CI:** Confidence interval; **RR:** Risk ratio.

GRADE Working Group grades of evidence.  
**High quality:** Further research is very unlikely to change our confidence in the estimate of effect.  
**Moderate quality:** Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.  
**Low quality:** Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.  
**Very low quality:** We are very uncertain about the estimate.

<sup>a</sup>The method of sequence generation/allocation concealment was unclear in two studies. As with all psychological therapy trials, blinding of clinicians/participants was not achievable. The risk of bias was assessed as high for researcher allegiance and as unclear for treatment fidelity and therapist qualifications.  
<sup>b</sup>Only two third wave approaches were included and/or the comparator psychological therapy approaches were limited to CBT.  
<sup>c</sup>Sample sizes were small and/or confidence intervals were wide.  
<sup>d</sup>Moderate statistical heterogeneity was indicated.  
<sup>e</sup>Compared against only one other psychological therapy approach.  
<sup>f</sup>As with all psychological therapy trials, blinding of clinicians/participants was not achievable. The risk of bias was assessed as high for researcher allegiance and as unclear for treatment fidelity and therapist qualifications.  
<sup>g</sup>Only one study provided clinical remission data.

## BACKGROUND

### Description of the condition

Major depression is characterised by persistent low mood and loss of interest in pleasurable activities, accompanied by a range of symptoms, including weight loss, insomnia, fatigue, loss of energy, inappropriate guilt, poor concentration and morbid thoughts of death (APA 2000). Somatic complaints are also a common feature of depression, and people with severe depression might develop psychotic symptoms (APA 2000).

Depression is the third leading cause of disease burden worldwide and is expected to show a rising trend over the next 20 years (WHO 2004; WHO 2008). A recent European study has estimated the point prevalence of major depression and dysthymia (a mild long-term form of depression) at 3.9% and 1.1%, respectively (ESEMED/MHEDEA 2004). As the largest source of non-fatal disease burden in the world, accounting for 12% of years lived with disability (Ustun 2004), depression is associated with marked personal, social and economic morbidity and loss of functioning and productivity and creates significant demands on service providers in terms of workload (NICE 2009). Depression is also associated with a significantly increased risk of mortality (Cuijpers 2002). The strength of this association, even when confounders such as physical impairment, health-related behaviours and socio-economic factors are taken into account, has been shown to be comparable with, or greater than, the strength of the association between smoking and mortality (Mykletun 2009).

### Description of the intervention

Clinical guidelines recommend pharmacological and psychological interventions, alone or in combination, for the treatment of moderate to severe depression (NICE 2009). The prescribing of antidepressants has increased dramatically in many Western countries over the past 20 years, mainly with the advent of selective serotonin reuptake inhibitors and newer agents such as venlafaxine, and antidepressants remain the mainstay of treatment for depression in healthcare settings (Ellis 2004; NICE 2009).

Whilst antidepressants are of proven efficacy in acute depression (Cipriani 2005; Guaiana 2007; Arroll 2009; Cipriani 2009; Cipriani 2009a; Cipriani 2009b), adherence rates remain very low (Hunot 2007; van Geffen 2009), in part because of patients' concerns about side effects and possible dependency (Hunot 2007). Furthermore, surveys consistently demonstrate patients' preference for psychological therapies over antidepressants (Churchill 2000; Riedel-Heller 2005). Therefore, psychological therapies can provide an important alternative or adjunctive intervention for depressive disorders.

A diverse range of psychological therapies is now available for the treatment of common mental disorders (Pilgrim 2002). Psy-

chological therapies may be broadly categorised into four separate philosophical and theoretical schools, comprising psychoanalytic/dynamic (Freud 1949; Klein 1960; Jung 1963), behavioural (Watson 1924; Skinner 1953; Wolpe 1958), humanistic (Maslow 1943; Rogers 1951; May 1961) and cognitive approaches (Lazarus 1971; Beck 1979). Each of these four schools incorporates several differing and overlapping psychotherapeutic approaches. Some psychotherapeutic approaches, such as cognitive analytic therapy (Ryle 1990), explicitly integrate components from several theoretical schools. Other approaches, such as interpersonal therapy for depression (Klerman 1984), have been developed to address characteristics considered to be specific to the disorder of interest. Increasing interest in the role of cognition gave rise to a 'cognitive revolution' in the field of psychology in the 1970s (Mahoney 1978). The most influential approaches were rational emotive behaviour therapy (Ellis 1962), cognitive behaviour modification (Meichenbaum 1977) and cognitive therapy (Beck 1979). The latter developed as an approach to understanding and treating depression. However, both Beck and Ellis acknowledged the value of behaviour therapy (Rachman 1997), and during the 1980s and 1990s, the two approaches were merged to form cognitive-behavioural therapy (CBT).

CBT is generally regarded as a family of allied therapies (Mansell 2008) that draw on a common base of behavioural and cognitive models of psychological disorders and utilise a set of overlapping techniques (Roth 2008). In CBT, cognition is central to the treatment of psychological disorders, with emotions and behaviour thought to be mediated by cognitive processes. The fundamental aim of CBT is to identify unhelpful cognitions or 'negative automatic thoughts' derived from long-standing negative beliefs/assumptions about the self, other people or the world. The CBT model proposes that by challenging their meaning and eliciting more realistic thoughts and assumptions, emotions and behaviours can be changed (Clark 1995). An extensive evidence base is available on the effectiveness of CBT, which is recommended as the first-line psychological therapy approach for depression (NICE 2009).

Although the evolution of CBT over the past three decades has tended to overshadow approaches that are more behavioural in nature, evidence supporting purely behavioural approaches has continued to emerge. The findings from Jacobson 1996, a component analysis trial of CBT, suggested that behavioural components alone might work just as well as CBT. These findings revitalised interest in purely behavioural treatments for depression and the development of a more fully realised behavioural intervention based on a contextual approach (Martell 2001).

Prompted by continuing debate in this area, a recent systematic review of 17 randomised controlled trials (RCTs) demonstrated equivalence between CBT and behavioural therapy in terms of depression recovery rates, symptom levels and participant dropout (Ekers 2008). Proponents of a new generation of behavioural therapies, the 'third wave' of CBT (Hayes 2004; Hofmann 2010),

have suggested that rational challenging of thoughts (a principal feature of CBT interventions) is less important than was believed (Longmore 2007) and have sought new strategies by which change can be achieved (Segal 2002). Whilst differing perspectives on which approaches should be categorised as third wave interventions continue to be put forth (Hofmann 2010), those frequently described by experts in the field as third wave include acceptance and commitment therapy (ACT) (Hayes 2004), compassionate mind training (CMT) (Gilbert 2005), functional analytic psychotherapy (FAP) (Kohlenberg 1991), metacognitive therapy (MCT) (Wells 2008), mindfulness-based cognitive therapy (MBCT) (Teasdale 1995), dialectical behaviour therapy (DBT) (Linehan 1993), and the expanded model of behavioural activation (BA) (Martell 2001) (see [Types of interventions](#) section for a detailed description of each type of therapy).

### How the intervention might work

Third wave CBT approaches conceptualise cognitions and cognitive thought processes as psychological or 'private' events (Hayes 2006; Hofmann 2008) and target the emotional response to the situation, focusing primarily on the *function* of cognitions, such as thought suppression (trying to suppress distressing thoughts) or experiential avoidance (trying to avoid any thoughts, feelings and memories that are causing distress) (Hofmann 2008). This contrasts with traditional CBT, which links thoughts, feelings and behaviours and targets the situation or trigger that generates the emotional response, encouraging cognitive appraisal of these triggers and focusing on changing the *content* of cognitions.

Third wave approaches use strategies such as mindfulness exercises (eg, body scan, mindfulness of senses meditation), acceptance of unwanted thoughts and feelings and/or cognitive defusion (stepping back and seeing thoughts as just thoughts) to elicit change in the thinking process and to reduce symptoms of depression. Whilst third wave CBT methods are more often delivered in an experiential rather than didactic manner (Hayes 2004), features of traditional behavioural and cognitive therapies, such as goal setting, exposure and skills acquisition (Hayes 2006), continue to play an important role in helping to reduce depressive symptoms.

### Why it is important to do this review

Corrigan 2001 suggested that proponents of third wave CBT approaches were 'getting ahead of the data'. However, over the past twelve years, an increasing number of third wave CBT trials have been conducted, and the findings have been summarised in several systematic reviews. For example, Hayes and colleagues conducted a narrative review across all conditions/disorders to provide empirical support for dialectical behaviour therapy (DBT) (a treatment used most commonly for borderline personality disorder), functional analytic psychotherapy (FAP) and acceptance and commit-

ment therapy (ACT), but no meta-analyses were conducted (Hayes 2004). Another systematic review of mindfulness-based cognitive therapy (MBCT) focused on prevention of relapse or recurrence of major depression (Coelho 2007). Ost 2008 undertook a review and meta-analysis of third wave CBT approaches for any disorder compared with treatment as usual or any other intervention, and drew attention to the 'less stringent' research methodology used in third wave treatment RCTs. However, for each third wave approach, effect sizes were calculated across disorders, rather than by individual disorder. Other reviews of psychological therapies for depressive disorders have not attempted to differentiate between CBT and third wave CBT approaches (Churchill 2001; Cuijpers 2008).

Amongst CBT practitioners, much interest has been expressed in the application of third wave CBT approaches, and the updated National Institute for Health and Care Excellence treatment guidelines for depression (NICE 2009) have already recommended MBCT specifically for preventing depression in patients who have had three or more episodes of depression. Although these guidelines also recommend the use of behavioural activation (BA) for moderate to major depressive disorder, they acknowledge that the evidence for BA is currently less robust. Furthermore, the reviews upon which the recommendation for BA was based, in keeping with the approach of other recent systematic reviews, combined studies using pure behavioural therapy with those using an 'extended' behavioural activation approach (Churchill 2001; Cuijpers 2008; Ekers 2008; NICE 2009), the latter of which is increasingly regarded as a third wave CBT intervention because of its explicit focus on moving attention away from depressive 'ruminative' thoughts (Addis 2004).

Given the popularity of third wave CBT approaches and the growing body of evidence, a comprehensive review of the effectiveness and acceptability of third wave CBT interventions for depression is required to inform clinical practice and future clinical guideline development. This review serves as part of a programme of 12 reviews covering behavioural, cognitive-behavioural, psychodynamic, interpersonal, cognitive analytic and other integrative, humanistic and third wave cognitive and behavioural psychological therapies, all compared with treatment as usual or with one another.

## OBJECTIVES

1. To examine the effects of all third wave CBT approaches compared with all other psychological therapy approaches for acute depression.
2. To examine the effects of different third wave CBT approaches (ACT, compassionate mind training, functional analytic psychotherapy, extended behavioural activation and

metacognitive therapy) compared with all other psychological therapy approaches for acute depression.

3. To examine the effects of all third wave CBT approaches compared with different psychological therapy approaches (psychodynamic, behavioural, humanistic, integrative, cognitive-behavioural) for acute depression.

## METHODS

### Criteria for considering studies for this review

#### Types of studies

Randomised controlled trials (RCTs) were eligible for inclusion in this review. Trials employing a cross-over design were included in the review (whilst it is acknowledged that this design is rarely used in psychological therapy trials), but only data from the first active treatment phase were used. Cluster RCTs were also eligible for inclusion.

Quasi-randomised controlled trials, in which treatment assignment is decided through methods such as alternate days of the week, were not eligible for inclusion.

#### Types of participants

##### Participant characteristics

Studies of men and women aged  $\geq 18$  years were included. A Cochrane review on psychotherapy for depression in children and adolescents ( $< 18$  years) has been undertaken separately and is soon to be published (Watanabe 2004). The increasing prevalence of memory decline (Ivnik 1992), cognitive impairment (Rait 2005) and multiple comorbid physical disorders/polypharmacy (Chen 2001) in individuals over 74 years of age may differentially influence the process and effect of psychological therapy interventions. Therefore, to ensure that older patients are appropriately represented in the review (Bayer 2000; McMurdo 2005), an upper age cut-off of  $< 75$  years was used (when a study may have included individuals  $\geq 75$ , we included it so long as the average age was  $< 75$ ), and a previously published Cochrane review on psychotherapeutic treatments for older depressed people (Wilson 2008) is being updated concurrently by the review authors.

##### Setting

Studies could be conducted in a primary, secondary or community setting and included volunteers. Studies involving inpatients were excluded. Studies that focused on specific populations-nurses, care givers, depressed participants at a specific workplace-were included if all participants met the criteria for depression.

### Diagnosis

We included all studies that focused on acute phase treatment of clinically diagnosed depression.

1. Studies adopting any standardised diagnostic criteria to define participants suffering from an acute phase unipolar depressive disorder were included. Accepted diagnostic criteria included Feighner criteria, Research Diagnostic Criteria and criteria of the *Diagnostic and Statistical Manual of Mental Disorders, Third Edition (DSM-III)* (APA 1980), *DSM-III-Revised (R)* (APA 1987), *DSM-Fourth Edition (IV)* (APA 1994), *DSM-IV-Text Revision (TR)* (APA 2000) and *International Classification of Diseases, Tenth Edition (ICD)-10* (WHO 1992). Earlier studies may have used *ICD-Ninth Edition (9)* (WHO 1978), but ICD-9 is not based on operationalised criteria, so studies using ICD-9 were excluded from this category.

2. Mild, moderate and severe depressive disorders are all included in primary care (Mitchell 2009; Rait 2009; Roca 2009). To fully represent the broad spectrum of severity of depressive symptoms encountered by healthcare professionals in primary care, studies that used non-operationalised diagnostic criteria or a validated clinician or self-report depression symptom questionnaire, such as the Hamilton Rating Scale for Depression (Hamilton 1960) or the Beck Depression Inventory (Beck 1961), to identify depression caseness as based on a recognised threshold, were included. However, it was planned to examine the influence of including this category of studies in a sensitivity analysis.

Accepted strategies for classifying mild, moderate and severe depression on the basis of criteria used in the evidence syntheses underpinning the NICE 2009 guidelines for depression were used when possible.

Studies focusing on chronic depression or treatment-resistant depression (ie, studies that list these conditions as inclusion criteria) were excluded from the review. Studies in which participants were receiving treatment to prevent relapse after a depressive episode (ie, where participants were not depressed at study entry) were also excluded. Treatments for chronic depression and treatment-resistant depression will be covered in separate Cochrane reviews. Studies of people described as 'at risk of suicide' or with dysthymia or other affective disorders such as panic disorder were included if participants met the criteria for depression as stated above, but otherwise were excluded.

We did not include subgroup analyses of people with depression selected from people with mixed diagnoses because such studies would be susceptible to publication bias (the study authors reported such subgroup studies because the results were "interesting"). In other words, we included these studies only if the inclusion criteria for the entire study satisfied our eligibility criteria.

### Comorbidity

Studies involving participants with comorbid physical or common mental disorders were eligible for inclusion as long as the comorbidity was not the focus of the study. In other words, we excluded studies that focused on depression among individuals with Parkinson's disease or after acute myocardial infarction but accepted studies that may have included some participants with Parkinson's disease or with acute myocardial infarction.

## Types of interventions

### Experimental intervention

For the purposes of the current version of the review, the key criterion for categorising a CBT approach as third wave was that the intervention focused on modifying the function of thoughts rather than on modifying their content. Third wave CBT approaches eligible for inclusion were grouped into seven main categories, according to the theoretical principles set out by trial authors, as follows.

### Acceptance and commitment therapy

In acceptance and commitment therapy (ACT) (Hayes 1999; Hayes 2004), therapists aim to transform the relationship between the experience of symptoms and difficult thoughts/feelings, so that symptoms no longer need to be avoided and become just uncomfortable transient psychological events (Harris 2006). In this way, symptom reduction becomes a by-product of treatment (Harris 2006). Clients are encouraged to develop psychological flexibility through six core principles: cognitive defusion (perceiving thoughts, images, emotions and memories as what they are, rather than what they appear to be); acceptance (allowing these to come and go without struggling with them); contact with the present moment (awareness of and receptiveness to the here and now); use of the observing self (accessing a transcendent sense of self); personal values (discovering what is most important to one's true self); and committed action (setting goals according to values and carrying them out responsibly) (Hayes 1999). In terms of committed action, ACT uses methods in line with traditional behaviour therapy, such as exposure, skills acquisition and goal setting.

### Compassionate mind training

The key principles of compassionate mind training (CMT), also known as compassion-focused therapy (Gilbert 2005; Gilbert 2009), involve motivating individuals to care for their own well-being, to become sensitive to their own needs and distress and to extend warmth and understanding towards themselves (Gilbert 2009). By developing this style of thinking, individuals may promote the generation of prosocial behaviours that others are more

likely to engage with and reward (Allen 2005). Within the therapeutic relationship, the client is encouraged to employ self-soothing actions whilst engaging in CBT techniques, compassionate meditation and imagery.

### Functional analytic psychotherapy

In functional analytic psychotherapy (FAP), therapists regard cognition as a form of covert behaviour (the activity of thinking, planning, believing and organising) (Kohlenberg 1991), with the relationship between cognition and behaviour seen as a sequence of two behaviours. Major FAP enhancements to CBT include the use of an expanded rationale for the causes and treatment of depression. Based on the premise that the closer in time and place a behaviour is to its consequences, the greater will be the effect of those consequences, the client-therapist relationship is used as an *in vivo* teaching opportunity to highlight processes that occur during therapy and link these with situations in day-to-day life (Kohlenberg 2002).

### Behavioural activation

The original behavioural activation (BA) approach manualised by Jacobson 1996 includes teaching relaxation skills, increasing pleasant events and providing social and problem-solving skills training; this is regarded as a traditional behavioural therapy model. More recently, the BA approach has been extended by Martell 2001 by building on the original behavioural models of depression (Lewinsohn 1974) and introducing a contextual approach to depression. The extended BA model suggests that just as avoidance maintains anxiety, avoidant coping patterns (withdrawal from situations and people) maintain depressed mood, and, therefore, avoidant coping is targeted as a primary problem. After functional analysis, in which a detailed assessment of how an individual maintains depressive behaviour is carried out, the individual is taught to formulate and accomplish behavioural goals and is encouraged to move attention away from prevailing negative thoughts towards direct, immediate experience (Hopko 2003). Traditional behavioural therapy strategies such as activity charts, relaxation training and frequent pleasant events are also used (Dobson 2009). A second BA approach, behavioural activation treatment for depression (BATD) (Lejuez 2001), proposes that depression is maintained through the use of reinforcers such as increased social attention and escape from aversive tasks. After functional analysis, as described in the extended BA model above, access to reinforcers such as sympathy and escape from responsibility is weakened, and healthy behaviour is systematically activated through the use of goal setting and increased activities (Hopko 2003).

### Metacognitive therapy

Metacognitive therapy (MCT) for depression (Wells 2008; Wells 2009) is based on the premise that depression is maintained by

problematic and difficult to control thinking patterns dominated by rumination and excessive self-focused attention on thoughts and feelings. Depression is maintained and intensified by activation of rumination and patterns of attention. MCT incorporates attention training (ATT) as a means of increasing awareness of thinking and regaining flexible control over it. The programmed practice of ATT serves to counteract depressive inertia through the provision of a set of daily exercises, which consist of actively listening and focusing attention in the context of simultaneous sounds presented at different loudness and spatial locations. MCT also focuses on reducing rumination and unhelpful coping behaviours, and modifies positive (e.g. 'thinking about the causes of depression will help me prevent it') and negative (e.g. 'there's nothing I can do about my thoughts') metacognitive beliefs about rumination. Although MCT is commonly regarded as a third wave CBT approach, [Hofmann 2008](#) reports that Adrian Wells does not view it as such.

### **Mindfulness-based cognitive therapy (MBCT)**

Mindfulness-based cognitive therapy (MBCT) has been designed as a manualised group-skills training programme intended to address vulnerability between episodes of recurrent major depression ([Williams 2008](#)). MBCT combines cognitive therapy principles with the practice of mindfulness meditation, in which close attention is paid to the present moment, whilst thoughts, feelings and body sensations are noted with an attitude of curiosity and non-judgement. This non-reactive stance creates the possibility of working more helpfully with sadness, fear and worry-emotions that are central to preventing depression. [Segal 2002](#) and colleagues have suggested that the intensity of negative thinking and low concentration experienced by people with acute depression may make it difficult for these individuals to fully participate in MBCT. For these reasons, MBCT has not yet been evaluated as a treatment for acute depression. However, studies of MBCT will be included in this review if, in the future, they are used/modified for the treatment of acute depression.

### **Dialectical behaviour therapy (DBT)**

DBT was originally developed as a treatment for chronically suicidal or self-injurious women with borderline personality disorder ([Linehan 1993](#); [Koons 2001](#)). However, the coping skills that serve as an essential component of DBT can be conceptualised as skills that are useful for managing life, independent of diagnosis; recently, standard DBT has been modified for use with depressed older adults ([Lynch 2000](#)). Skills hypothesised to be particularly relevant in treating this population include acceptance of elements of life that cannot be changed (radical acceptance), increased awareness without judgement (mindfulness), attentional control (mindfulness), better tolerance of pain (distress tolerance), acting opposite to depressive urges (opposite action) and increased

interpersonal effectiveness ([Lynch 2003](#)). Although DBT is commonly regarded as a third wave CBT approach, [Hofmann 2008](#) noted that Marsha Linehan herself does not view it as a form of third wave CBT, but rather as a form of CBT that includes acceptance strategies.

### **Comparators**

The control comparison consisted of all other types of psychological therapies, categorised as psychodynamic, behavioural, humanistic, integrative and cognitive-behavioural approaches.

### **Psychodynamic therapies**

Grounded in psychoanalytic theory ([Freud 1949](#)), psychodynamic therapy (PD) uses the therapeutic relationship to explore and resolve unconscious conflict through transference and interpretation, with development of insight and circumscribed character change as therapeutic goals, and relief of symptoms as an indirect outcome. Brief therapy models have been devised by [Malan 1963](#), [Mann 1973](#) and [Strupp 1984](#).

### **Behavioural therapies**

Building on Skinner's theory of depression as an interruption in established sequences of health behaviour positively reinforced by the social environment ([Skinner 1953](#)), behavioural therapies focus attention on facilitating access to pleasant events and positive reinforcers. The frequency of aversive events is decreased ([Lewinsohn 1973](#)) through monitoring of pleasant events, activity scheduling, social skills development and time management training ([Hopko 2003](#)).

### **Humanistic therapies**

Contemporary models of humanistic therapies differ from one another somewhat in clinical approach, but all focus attention on the therapeutic relationship ([Cain 2002](#)), within which therapist 'core conditions' of empathy, genuineness and unconditional positive regard ([Rogers 1951](#)) are regarded as cornerstones for facilitating client insight and change.

### **Interpersonal, cognitive analytic and other integrative therapies**

Integrative therapies are approaches that combine components of different psychological therapy models. Integrative therapy models include interpersonal therapy (IPT) ([Klerman 1984](#)), cognitive analytic therapy (CAT) ([Ryle 1990](#)) and Hobson's conversational model ([Hobson 1985](#)), manualised as psychodynamic interpersonal therapy ([Shapiro 1990](#)). With its focus on the interpersonal context, IPT was developed to specify what was thought to be a set of helpful procedures commonly used in psychotherapy for

depressed outpatients (Weissman 2007), drawing in part from attachment theory (Bowlby 1980) and cognitive-behavioural therapy (isIPT [ND]) within a time-limited framework. CAT, also devised as a time-limited psychotherapy, integrates components from cognitive and psychodynamic approaches. The conversational model integrates psychodynamic, interpersonal and person-centred model components.

Counselling interventions traditionally draw from a wide range of psychological therapy models, including person-centred, psychodynamic and cognitive-behavioural approaches, applied integratively, according to the theoretical orientation of practitioners (Stiles 2008). Therefore, studies of counselling usually will be included in the integrative therapies reviews. However, if the counselling intervention consists of a single discrete psychological therapy approach, it will be categorised as such, even if the intervention is referred to as 'counselling'. If the intervention is manualised, this will inform our classification.

### Cognitive-behavioural therapies

In cognitive-behavioural therapy, therapists aim to work collaboratively with patients to understand the link between thoughts, feelings and behaviours, and to identify and modify unhelpful thinking patterns, underlying assumptions and idiosyncratic cognitive schemata about the self, others and the world (Beck 1979). Cognitive change methods for depression are targeted at the automatic thought level in the first instance and include thought catching, reality testing and task assigning as well as generating alternative strategies (Williams 1997). Behavioural experiments are then used to re-evaluate underlying beliefs and assumptions (Bennett-Levy 2004).

### Format of psychological therapies

The psychological therapy intervention was required to be delivered through face-to-face meetings between patient and therapist. Interventions in which face-to-face therapy was augmented by telephone or Internet-based support were included in the review. Psychological therapy approaches conducted on an individual or group basis were eligible for inclusion. The number of sessions was not limited, and we accepted psychological therapy interventions delivered in a single session.

### Excluded interventions

The earlier model of behavioural activation (BA) developed and tested by Jacobson 1996 was defined primarily by the proscription of cognitive interventions (Dimidjian 2006) and does not include more contemporary procedures such as identifying and understanding the functional aspects of behaviour change (Martell 2001). For the purposes of this review, this earlier version of BA was classified as a comparator behavioural therapy intervention.

Counselling interventions traditionally draw from a wide range of psychological therapy models, including person-centred, psychodynamic and cognitive-behavioural approaches, applied integratively, according to the theoretical orientation of practitioners (Stiles 2008). Therefore, studies of counselling were usually included in the integrative therapies reviews. However, if the counselling intervention consisted of a single discrete psychological therapy approach, it was categorised as such, even if the intervention was referred to as 'counselling'. If the intervention was manualised, this informed our classification.

Studies of long-term, continuation or maintenance therapy interventions designed to prevent relapse of depression or to treat chronic depressive disorders were excluded from the review. Similarly, studies of interventions designed to prevent a future episode of depression were excluded.

Guided self-help, in which the practitioner provides brief face-to-face non-therapeutic support to patients who are using a self-help psychological therapy intervention, was excluded, as were bibliotherapy and writing therapies.

Psychological therapy that was provided wholly by telephone or over the Internet was not eligible for inclusion.

Studies of dual modality treatments, in which participants are randomly assigned to receive a combination of psychological and pharmacological treatments concurrently, were included in the review only if the study of interest compared two psychological models and both groups were prescribed the same concomitant pharmacological/placebo intervention. Otherwise, these studies were excluded from the current review and will be examined in a separate programme of reviews on combination treatments for depression.

Component or dismantling studies, in which the effectiveness of individual components of third wave CBT approach is investigated, were not included. It was planned to extract data from these studies for inclusion in a separate overview of psychological therapies for depression, in which multiple treatments meta-analysis (MTM) will be used to compare the relative effectiveness of all psychotherapies, regardless of whether they have been directly compared in direct RCTs. If data were sufficient, we planned to use the MTM model proposed in Welton 2009 to allow conclusions to be drawn regarding which components, or combinations of components, are most effective in reducing depressive symptoms. See 'Unit of analysis issues' for further detail on MTM.

Psychological therapy models based on social constructionist principles (that focus on the ways in which individuals and groups participate in the construction of their perceived social reality), including couples therapy, family therapy, solution-focused therapy (de Shazer 1988), narrative therapy, personal construct therapy, neuro-linguistic programming and brief problem solving (Watzlavick 1974), were excluded. These therapies work with patterns and dynamics of relating within and between family, social and cultural systems to create a socially constructed framework of ideas (O'Connell 2007), rather than focusing on an individual's real-

ity. Previously published Cochrane reviews on couples therapy for depression (Barbato 2006) and family therapy for depression (Henken 2007) will be updated concurrently.

When an intervention did not meet the inclusion criteria for an active psychological therapy approach, a post hoc decision was made through team discussion regarding its inclusion as an attention placebo control condition.

## Types of outcome measures

### Primary outcomes

1. Treatment efficacy: the number of participants who responded to treatment, as determined by changes in Beck Depression Inventory (BDI) (Beck 1961), Hamilton Rating Scale for Depression (HAM-D) (Hamilton 1960) or Montgomery-Asberg Depression Rating Scale (MADRS) (Montgomery 1979) scores, or in scores from any other validated depression scale. Many studies define response as 50% or greater reduction on BDI, HAM-D, etc., with some studies defining response using Jacobson's Reliable Change Index; we accepted the study authors' original definition. If the original authors reported several outcomes corresponding with our definition of response, we gave preference to BDI as a self-rating scale and to HAM-D as an observer-rating scale.

2. Treatment acceptability: the number of participants who dropped out of psychological therapy for any reason.

### Secondary outcomes

3. The number of participants who remitted while receiving treatment, based on the endpoint absolute status of participants, as measured by the Beck Depression Inventory (BDI) (Beck 1961), the Hamilton Rating Scale for Depression (HAM-D) (Hamilton 1960), the Montgomery-Asberg Depression Rating Scale (MADRS) (Montgomery 1979) or any other validated depression scale. Examples of definitions of remission include 10 or less on BDI, 7 or less on HAM-D and 10 or less on MADRS; we accepted the study authors' original definition. If the original authors reported several outcomes that corresponded with our definition of response, we gave preference to BDI as a self-rating scale and to HAM-D as an observer-rating scale.

4. Improvement in depression symptoms, based on a continuous outcome of group mean scores at the end of treatment using BDI, HAM-D, MADRS or any other validated depression scale.

5. Improvement in overall symptoms, as determined by using the Clinical Global Impressions scale (CGI) (Guy 1976).

6. Improvement in anxiety symptoms, as measured using a validated continuous scale, either assessor-rated, such as the Hamilton Anxiety Scale (HAM-A) (Hamilton 1959), or self-report, including the Trait subscale of the Spielberger State-Trait Anxiety Inventory (STAI-T) (Spielberger 1983) and the Beck Anxiety Inventory (BAI) (Beck 1988).

7. Adverse effects, such as completed suicides, attempted suicides and worsening of symptoms, when reported, were summarised in narrative form.

8. Social adjustment and social functioning, including Global Assessment of Function (Luborsky 1962) scores, when reported, were summarised in narrative form.

9. Quality of life, as assessed with the use of validated measures such as Short Form (SF)-36 (Ware 1993), Health of the Nation Outcome Scales (HoNOS) (Wing 1994) and World Health Organization Quality of Life (WHOQOL) (WHOQL 1998), when reported, was summarised in narrative form.

10. Economic outcomes (eg, days of work absence/ability to return to work, number of appointments with primary care physician, number of referrals to secondary services, use of additional treatments), when reported, were summarised in narrative form.

### Timing of outcome assessment

Post-treatment outcomes and outcomes at each reported follow-up point were summarised. When appropriate and if the data allowed, outcomes were categorised as short term (up to 6 months post-treatment), medium term (7 to 12 months post-treatment) or long term (longer than 12 months).

## Search methods for identification of studies

### Electronic searches

#### The Cochrane Depression, Anxiety and Neurosis Review Group's Specialised Register (CCDANCTR)

We searched two clinical trials registers created and maintained by the Cochrane Depression, Anxiety and Neurosis Group (CCDAN)-the CCDANCTR-Studies Register and the CCDANCTR-References Register-in June 2010, and updated searches were carried out in April 2011 and February 2012 (Register up to date as of 01/01/12), using an extensive list of search terms for a programme of reviews on all psychological therapies for depression. An updated search restricting to search terms relevant to third wave CBT was conducted in March 2013 (Register up to date as of 01/02/13).

References to trials for inclusion in the Group's registers are collated from routine (weekly) searches of MEDLINE, EMBASE and PsycINFO, quarterly searches of the Cochrane Central Register of Controlled Trials (CENTRAL) and additional ad hoc searches of other databases (PSYINDEX, LILACS, AMED, CINAHL). These searches employ generic terms for depression, anxiety and neuroses, together with sensitive (database-specific) RCT filters. Details of CCDAN's generic search strategies can be found on the Group's website.

References to trials are also sourced from international trials registers via the World Health Organization's trials portal (<http://apps.who.int/trialsearch/>); drug companies; and handsearching of key journals, conference proceedings and other (non-Cochrane) systematic reviews and meta-analyses.

### CCDANCTR-Studies Register

The CCDANCTR-Studies Register contains more than 11,000 trials for the treatment or prevention of depression, anxiety and neurosis. Each trial has been coded using the [EU-Psi coding manual](#) (as a guide) and includes information on intervention, condition, comorbidities, age, treatment setting, etc.

The studies register was searched using the following search terms: Condition = (depress\* or dysthymi\*) and Intervention = (\*therap\* or training)

### CCDANCTR-References Register

The CCDANCTR-References Register contains bibliographic records of reports of trials coded in the CCDANCTR-Studies Register, together with several other uncoded references (total number of records > 31,500). This register was searched using a comprehensive list of terms for 'psychotherapies', as indicated in [Appendix 1](#). Records already retrieved from the search of the CCDANCTR-Studies Register were de-duplicated.

The update search employed the following list of terms for third wave CBT:

Title/Abstract/Keywords = depress\* AND Free-Text = (mindfulness\* or "third wave" or third-wave or (\*therap\* and (acceptance\* or commitment\*)) or experiential or (cognitive\* and (restructur\* or defusion)) or (behavio\* and (activation or modification)) or (thought\* and suppress\*) or rumination)

### CINAHL and PSYINDEX

In addition to CCDANCTR, we searched CINAHL in May 2010 and PSYINDEX in June 2010 (see [Appendix 2](#)).

No restriction on date, language or publication status was applied to the searches.

### Searching other resources

#### Reference lists

The references of all selected studies were searched for additional published reports and citations of unpublished studies. Relevant review papers were checked.

#### Personal communication

Subject experts were contacted to check that all relevant studies, published and unpublished, had been considered for inclusion.

### Other websites

A website related specifically to mindfulness-based therapies <http://www.mindfulexperience.org/> was searched.

## Data collection and analysis

### Selection of studies

Two review authors (RC and VH) examined the abstracts of all publications obtained through the search strategy. Full articles of all studies identified by either of the review authors were then obtained and inspected by the same two review authors to identify trials meeting the following criteria.

1. Randomised controlled trial.
2. Participants had depression diagnosed by operationalised criteria.

3. Any third wave CBT approach (ACT, compassionate mind training, functional analytic psychotherapy, extended behavioural activation model, metacognitive therapy, MBCT or DBT) compared with any other psychological therapy approach. Conflicts of opinion regarding eligibility of a study were discussed with a third review author after the full paper had been retrieved and consultation with the study authors sought, if necessary, until consensus was reached. External subject or methodological experts were consulted as necessary.

### Data extraction and management

Data from each study were extracted independently by two review authors. Any disagreement was discussed with an additional review author, and, when necessary, the authors of the studies were contacted for further information.

Information related to study population, sample size, interventions, comparators, potential biases in the conduct of the trial, outcomes including adverse events, follow-up and methods of statistical analysis was abstracted from the original reports into specially designed paper forms and then was entered onto a spreadsheet.

### Main comparisons

1. Third wave CBT versus other psychological therapies

### Assessment of risk of bias in included studies

Risk of bias was assessed for each included study using The Cochrane Collaboration's 'Risk of bias' tool ([Higgins 2008a](#)). The following six domains were considered.

1. Sequence generation: Was the allocation sequence adequately generated?
2. Allocation concealment: Was allocation adequately concealed?

3. Blinding of participants, personnel and outcome assessors for each main outcome or class of outcomes: Was knowledge of the allocated treatment adequately prevented during the study?

4. Incomplete outcome data for each main outcome or class of outcomes: Were incomplete outcome data adequately addressed?

5. Selective outcome reporting: Are reports of the study free of any suggestion of selective outcome reporting?

6. Other sources of bias: Was the study apparently free of other problems that could put it at high risk of bias? Additional items to be included here are therapist qualifications, treatment fidelity and researcher allegiance/conflict of interest.

A description of what was reported to have happened in each study was provided, and a judgement on the risk of bias was made for each domain within and across studies, based on the following three categories.

1. Low risk of bias.
2. Unclear risk of bias.
3. High risk of bias.

Two review authors independently assessed the risk of bias in selected studies. Any disagreement was discussed with a third review author. When necessary, study authors were contacted for further information. All risk of bias data were presented graphically and described in the text. Allocation concealment was used as a marker of trial quality for the purpose of undertaking sensitivity analyses.

## Measures of treatment effect

### Continuous outcomes

When studies used the same outcome measure for comparison, data were pooled by calculating the mean difference (MD). When different measures were used to assess the same outcome, data were pooled with standardised mean difference (SMD) and 95% confidence intervals (95% CIs) calculated.

### Dichotomous outcomes

These outcomes were analysed by calculating a pooled risk ratio (RR) and 95% CIs for each comparison and were presented in this form for ease of interpretation.

### Unit of analysis issues

### Cluster-randomised trials

Cluster-randomised trials were to be included as long as proper adjustment for the intracluster correlation could be conducted in accordance with the *Cochrane Handbook for Systematic Reviews of Interventions* (Higgins 2008).

### Cross-over trials

Trials employing a cross-over design were to be included in the review, but only data from the first active treatment phase were used.

### Studies with multiple treatment groups

Multiple-arm studies (those with more than two intervention arms) can pose analytic problems in pair-wise meta-analysis. For studies with more than two relevant active treatment arms, data were managed in this review as follows.

### Continuous data

Means, SDs and numbers of participants for all active treatment groups were pooled across treatment arms as a function of the number of participants in each arm to be compared against the control group (Law 2003; Higgins 2008; Higgins 2008b).

### Dichotomous data

Data from relevant active intervention arms were collapsed into a single arm for comparison, or data from relevant active intervention arms were split equally between comparator arms.

### Multiple treatment meta-analysis

One method that retains the individual identity of each intervention and allows multiple intervention comparisons to be made, without the need to lump or split intervention arms, is a multiple treatment meta-analysis (MTM) (Lu 2004; Caldwell 2005; Cipriani 2009b). MTM (also known as mixed treatment comparison or network meta-analysis) refers to ensembles of trial evidence in which direct and indirect evidence on relative treatment effects is pooled. The objective of an MTM is to combine all available trial evidence into an internally consistent set of estimates while respecting the randomisation in the evidence. An MTM provides estimates of the effect of each intervention relative to every other, whether or not they have been directly compared in trials. One can also calculate the probability that each treatment is the most effective. We did not intend to use an MTM in this review, as we were unlikely to have sufficient data for the analysis. However, this review forms part of a series of 12 reviews that have contributed studies to an overview of reviews (Becker 2008; Higgins 2008b) in which MTM has been used as the main analytic strategy.

### Dealing with missing data

Missing dichotomous data were managed through intention-to-treat (ITT) analysis, in which it was assumed that participants who dropped out after randomisation had a negative outcome. It was also planned to conduct best/worse case scenarios for the clinical response outcome, in which it would be assumed that dropouts in the active treatment group had positive outcomes

and those in the control group had negative outcomes (best case scenario), and that dropouts in the active treatment group had negative outcomes and those in the control group had positive outcomes (worst case scenario), thus providing boundaries for the observed treatment effect. If a large amount of information was missing, these best/worst case scenarios were to be given greater emphasis in the presentation of results.

Missing continuous data were analysed on an endpoint basis, including only participants with a final assessment, or were analysed by using the last observation carried forward to the final assessment (LOCF), if LOCF data were reported by the trial authors. When standard deviations (SDs) were missing, attempts were made to obtain these data by contacting trial authors. When SDs were not available from trial authors, they were calculated from P values, t-values, confidence intervals or standard errors, if these were reported in the articles (Deeks 1997).

When a vast majority of actual SDs were available and only a minority of SDs were unavailable or unobtainable, it was planned to use a method for imputing SDs and calculating percentage responders; the method devised by Furukawa and colleagues (Furukawa 2005; Furukawa 2006; da Costa 2012) was used. If this method was employed, data would be interpreted with caution and the degree of observed heterogeneity would be taken into account. A sensitivity analysis would also be undertaken to examine the effect of the decision to use imputed data.

When additional figures were not available or obtainable and it was not deemed appropriate to use the Furukawa method as described above, the study data were not included in the comparison of interest.

### Assessment of heterogeneity

Statistical heterogeneity was formally tested using the  $\text{Chi}^2$  test, which provides evidence of variation in effect estimates beyond that of chance. Because the  $\text{Chi}^2$  test has low power to assess heterogeneity when a small number of participants or trials are included, the P value was conservatively set at 0.1. Heterogeneity was also quantified using the  $I^2$  statistic, which calculated the percentage of variability due to heterogeneity rather than to chance. We expected, a priori, that considerable clinical heterogeneity would be noted between studies, and so  $I^2$  values in the range of 50% to 90% were considered to represent substantial statistical heterogeneity and were to be explored further. However, the importance of the observed  $I^2$  depended on the magnitude and direction of treatment effects and the strength of evidence for heterogeneity (Higgins 2003; Deeks 2008). Forest plots generated in RevMan 5 now provide an estimate of  $\tau^2$ , the between-study variance in a random-effects meta-analysis. To provide an indication of the spread of true intervention effects, we also used the  $\tau^2$  estimate to determine an approximate range of intervention effects using the method outlined in Section 9.5.4 of the *Cochrane Handbook for Systematic Reviews of Interventions* (Deeks 2008). This was to be done only for the primary outcomes.

### Assessment of reporting biases

As far as possible, the impact of reporting biases was minimised by undertaking comprehensive searches of multiple sources (including trial registries), increasing efforts to identify unpublished material and including non-English language publications.

We tried to identify outcome reporting bias in trials by recording all trial outcomes, planned and reported, and noting where outcomes were missing. When we found evidence of missing outcomes, we attempted to obtain any available data directly from the authors. When sufficient numbers of trials allowed for a meaningful analysis, funnel plots were constructed to establish the potential influence of reporting biases and small-study effects.

### Data synthesis

Given the potential heterogeneity of psychological therapy approaches for inclusion, together with the likelihood of differing secondary comorbid mental disorders in the population of interest, a random-effects model was used in all analyses.

### Subgroup analysis and investigation of heterogeneity

#### Clinical heterogeneity

1. Baseline depression severity: The severity of depression on entry into the trial was expected to have an impact on outcome. Heterogeneity analyses categorised baseline severity as mild, moderate or severe.
2. Number of sessions: Differences in the numbers of therapy sessions received were likely, and this was expected to affect treatment outcomes. Numbers of sessions were categorised as 1 to 7 sessions, 8 to 12 sessions, 13 to 20 sessions and more than 20 sessions.
3. Type of comparison: The type of comparator used was likely to influence the observed effectiveness of the intervention. When possible, comparators were categorised as psychodynamic, BT, humanistic, integrative or CBT.
4. Strength of therapeutic alliance/perceived therapist empathy based on validated measures such as the Barrett-Lennard Relationship Inventory (Barrett-Lennard 1986) or the Working Alliance Inventory (Horvath 1986): When reported, this information was summarised in narrative form.

#### Sensitivity analysis

1. Fidelity to treatment: Studies that did not assess fidelity to the psychological therapy model(s) under evaluation through assessment of audiotapes or videotapes of therapy sessions were to be excluded.
2. Study quality: Allocation concealment was used as a marker of trial quality. Studies that did not use allocation concealment were to be excluded.

3. Trials in which missing data were imputed were to be excluded.
4. Trials that included the use of antidepressant treatment (naturalistic use; combination treatment used in both psychological therapy arms) were to be excluded.
5. Trials included in the review after post hoc decisions were made about their eligibility as third wave cognitive-behavioural therapeutic approaches were to be excluded.

### Summary of findings table

A summary of findings table was produced to present the main findings of the review; it includes a summary of the quality of evidence, the magnitude of effects of psychological therapy interventions examined and a summary of available data on main outcomes. Findings are expressed as measures of risk ratio and absolute risk for the main outcomes of clinical response and treatment acceptability, as well as for the secondary outcomes of remission and depression levels ([Higgins 2011](#)).

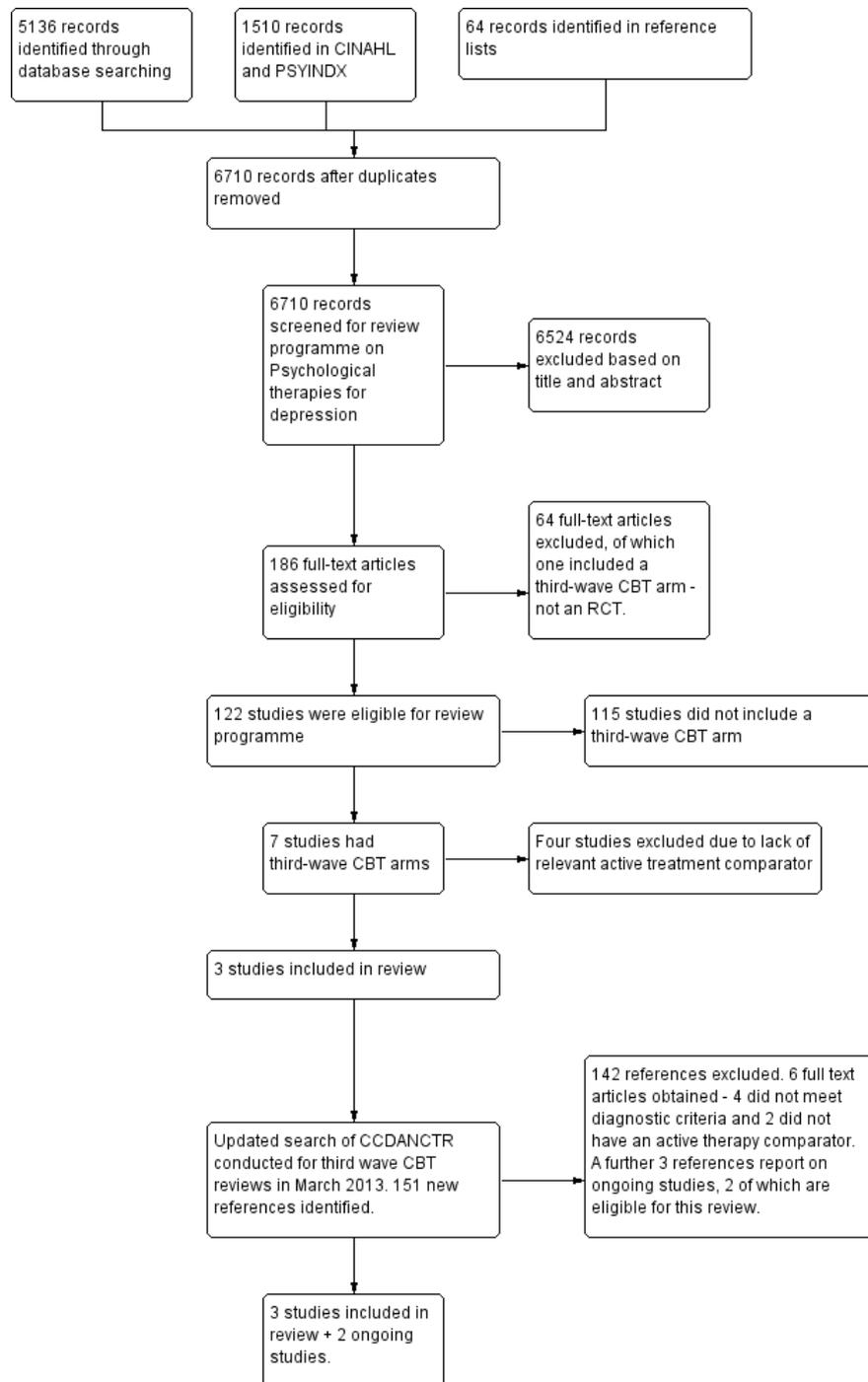
## RESULTS

### Description of studies

#### Results of the search

We conducted full psychotherapy searches in June 2010, and updated searches were carried out in April 2011 and February 2012 (CCDANCTR to 01/01/12). After removing duplicates, we identified 6710 records that were relevant for the programme of reviews on all psychological therapies for depression. We excluded 6524 records on the basis of information provided in the titles and abstracts. We read the full text of 186 studies to assess their eligibility. A total of 122 studies were judged as eligible for inclusion in the programme of reviews ([Figure 1](#)).

**Figure 1. Study flow diagram.**



Of those 122 studies, seven studies had third wave CBT arms. Four were not eligible for inclusion in the current review because they compared third wave CBT approaches with non-active control conditions and were assigned to a separate review on third wave CBT versus treatment as usual (TAU) for depression (Churchill 2012). The remaining three studies were included in the current review (Zettle 1984; Zettle 1989; Dimidjian 2004).

In March 2013 we updated the searches while restricting them to terms relevant to third wave CBT (CCDANCTR to 01/02/13). A total of 151 new references were identified. On the basis of the information provided in abstracts, 142 references were found not to be eligible. Three references reported on protocols for ongoing studies that appeared to meet the criteria for the third wave CBT reviews (see Ongoing studies section). We read the full text of six studies to assess their eligibility for either of the two third wave CBT reviews in this series. Four of these studies did not fully meet the eligibility criteria for either of the third wave CBT reviews. The remaining two studies compared a third wave CBT approach with a non-active control condition and were assigned to the third wave CBT versus TAU review.

See Figure 1 for a PRISMA flowchart diagram.

We contacted Dr Robert Zettle, who responded with further information pertaining to his studies (Zettle 1984; Zettle 1989).

## Included studies

### Study design

The three studies all used a parallel design and were single centre.

### Sample size

The overall sample size in each of the three studies ranged from 19 participants (Zettle 1984) to 241 participants (Dimidjian 2004).

### Setting

The studies were conducted in a non-medical university setting (Zettle 1984), a secondary/tertiary care medical setting (Dimidjian 2004) or an unspecified setting (Zettle 1989). All three studies were conducted in the USA.

### Participants

### Gender

Two studies recruited female participants only (Zettle 1984; Zettle 1989). The proportion of female participants in the study by Dimidjian 2004 was 66%.

### Age

The mean age of participants in each of the three studies ranged from 39.9 to 41.3 years.

### Diagnosis

One study used a structured clinical interview to make an assessment of major depressive disorder according to *DSM-IV* criteria (Dimidjian 2004). The other two studies used a battery of depression symptom questionnaires including HAM-D, BDI and the Minnesota Multiphasic Personality Inventory (MMPI) (Hathaway 1942), to identify people with 'a clinical level of pre-treatment depression' (Zettle 1984; Zettle 1989).

The baseline severity of depression was reported in each of the three studies. Two studies used the HAM-D and BDI, and one study additionally used the depression scale of the MMPI (MMPI-D) (Zettle 1984). Dimidjian 2004 categorised the severity of depression as 'moderate to severe'. The other two studies did not categorise the severity of depression.

### Intervention

As described previously in the Methods section, it was planned to group third wave CBT approaches into seven categories. Two third wave CBT approaches were examined in the three studies included in the current review. The two approaches comprised comprehensive distancing, categorised as an early version of ACT (Zettle 1984; Zettle 1989), and extended behavioural activation (Dimidjian 2004). Each of the three studies used manuals.

In two studies, participants received individual therapy (Zettle 1984; Dimidjian 2004), and in one study, therapy was provided in a group format to a group of four to seven members (Zettle 1989).

The number of sessions ranged from 12 sessions over a 12-week period (Zettle 1984; Zettle 1989) to a maximum of 24 sessions over a 16-week period, with twice-weekly sessions for the first eight weeks (Dimidjian 2004). Two studies conducted follow-up assessments two months after the end of therapy (Zettle 1984; Zettle 1989). Dimidjian 2004 conducted follow-up assessments up to 2 years after the end of therapy.

In one study the therapist was doing an internship in cognitive therapy (CT) whilst providing therapy for each of the six conditions (Zettle 1984). In Zettle 1989, the same therapist had completed training and provided all the psychological therapy interventions, assisted by a graduate student, whose qualifications and experience were not described. In Dimidjian 2004, the six therapists were qualified and experienced and had received training in the specific approach that they were delivering.

## Comparisons

Two studies compared an early version of ACT, called comprehensive distancing, with two forms of CT (Beck 1979), which comprised the full version to include distancing or a partial version that excluded distancing. Zettle 1984 additionally assigned participants to homework and non-homework conditions for each of the three arms (total of six arms). One study compared an extended version of behavioural activation against standard cognitive behaviour (Dimidjian 2004). This study also included pharmacotherapy and placebo arms.

## Outcomes

### Primary outcomes

All three studies provided clinical response figures at post treatment. Dimidjian 2004 calculated response and remission rates on the basis of both HAM-D and BDI, with response defined as 50% reduction on HAM-D and BDI from baseline, and remission defined as scores < 7 on the HAM-D and < 10 on the BDI. Zettle 1984 defined clinical response as marked improvement, based on a BDI score  $\leq 9$  or a HAM-D score  $\leq 10$ . Zettle 1989 defined clinical response as partial improvement based on a BDI score  $\leq 15$ .

Two studies provided follow-up data two months after the end of treatment (Zettle 1984; Zettle 1989). Both studies presented continuous and dichotomous data for the primary depression outcome.

Dropout rates were reported fully by Dimidjian 2004. Attrition rates in the studies by Zettle 1984 and Zettle 1989 were provided by the first author after contact was made.

### Secondary outcomes

BDI and HAM-D were used in all three studies to measure changes in depressive symptoms. Zettle 1984 also used the MMPI-D. Zettle 1984 presented means without SDs, but raw data were provided in the dissertation, from which SDs could be calculated. No other outcomes were reported by Dimidjian 2004. No other secondary outcomes as set out in the review protocol were reported in the studies by Zettle 1984 and Zettle 1989. Both of these studies measured cognitive and behavioural change based on the Automatic Thoughts Questionnaire (ATQ) (Hollon 1980), the Depression Attitudes Questionnaire (DAQ) (Botega 1992) and the Pleasurable Events Schedule (PES) (Lewinsohn 1973).

### Excluded studies

A total of 64 studies were excluded from the whole Meta-Analysis of Psychotherapies (MAP) programme of reviews. Five of those studies included a third wave CBT arm, one of which compared

third wave CBT against another psychological therapy approach (Manicavasgar 2011). The reason for excluding Manicavasgar 2011 was that the allocation of participants to groups was not fully randomised.

In addition, four studies (Pellowe 2007; Gawrysiak 2009; Ekkers 2011) were not included in the current review because they compared third wave CBT with a TAU or non-active control condition and were included in the third wave CBT versus TAU review. In the updated search conducted in March 2013 (CCDANCTR 01/02/13), four third wave CBT studies were excluded from both third wave CBT reviews, as the samples in each study consisted of subclinical depression (Kaviani 2012), partial remission (Korrelboom 2012), mixed population (Pinniger 2012) and chronic depression (Folke 2012). A further two studies were excluded because they compared third wave CBT with a non-active control condition (Azargoon 2010; Armento 2011) and were assigned to the third wave CBT versus TAU review as 'Studies awaiting classification'.

### Studies awaiting classification

No studies are awaiting classification.

### Ongoing studies

Of three ongoing studies that meet the inclusion criteria for third wave CBT reviews, two compare a third wave CBT approach with another psychological therapy. One of these ongoing studies is comparing ACT with CT (NCT01517503), and the other is comparing mindfulness-based behavioural therapy (MIBT) with psychodynamic therapy (NCT01070134).

### Risk of bias in included studies

#### Allocation

One study used a computer-generated randomisation list to allocate participants to groups (Dimidjian 2004) and was assessed as at low risk of bias. The other two studies did not report on the methods used for allocating participants to groups and were assessed as having unclear risk of bias (Zettle 1984; Zettle 1989).

#### Blinding

As it is not possible to blind participants and therapists in psychological therapy trials, all studies were at high risk of performance bias. However, all three studies ensured that outcome assessors were blind to treatment group; therefore the risk of detection bias across all three studies was assessed as low.

### **Incomplete outcome data**

Two studies were assessed as being at low risk of attrition bias because the dropout rate was so low (Zettle 1984), or because attrition was reasonably low and evenly balanced across groups, and reasons for dropping out were provided (Dimidjian 2004). One study had a dropout rate of 16%; no reasons were provided for dropout, and analyses were limited to available cases (Zettle 1989). Therefore the risk of attrition was assessed as unclear.

### **Selective reporting**

None of the studies had published a trial protocol; therefore reporting bias was assessed as unclear across all three studies.

### **Other potential sources of bias**

#### **Therapist qualifications**

Studies were classified as low risk of bias only when the therapists were qualified and had received specific training in the relevant psychological therapy approach. On the basis of these criteria, one study was assessed as being at low risk of bias (Dimidjian 2004), and two studies were assessed as at high or unclear risk of bias (Zettle 1984; Zettle 1989).

#### **Treatment fidelity**

Studies were classified as being at low risk of bias when the therapy session was monitored through audiotapes or videotapes, and the monitoring was performed against a manual or by using a scale. All three studies monitored therapy sessions using audiotapes. One study used blinded raters and a rating scale that had to be modified for one approach (Dimidjian 2004). The other two studies used independent assessors, who were familiar with treatment manuals but did not use rating scales (Zettle 1984; Zettle 1989). On the

basis of these criteria, one study (Dimidjian 2004) was assessed as at low risk of bias, and two studies were assessed as at unclear risk of bias (Zettle 1984; Zettle 1989).

#### **Researcher allegiance/conflict of interest**

In the study by Dimidjian 2004, the extended behavioural activation manual was developed at the site where the trial took place. In the studies by Zettle 1984 and Zettle 1989, the first author's named academic supervisor was Dr Steve Hayes, who developed ACT; these studies were assessed as at high risk of bias. In the study by Dimidjian 2004, the intervention of interest was developed at the setting where the study took place; however, an attempt was made to mitigate the risk of potential researcher allegiance through the use of investigators/experts with allegiance to their own approach. Therefore the study was assessed as at unclear risk of bias.

#### **Therapist allegiance/conflict of interest**

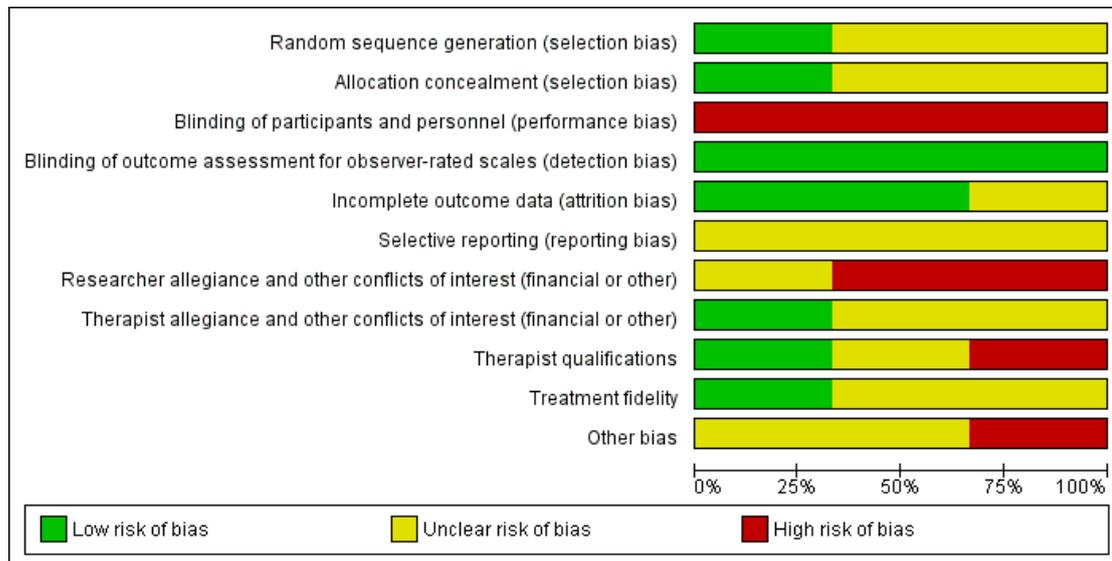
In the study by Dimidjian 2004, the therapists had declared allegiance to their own approach. The primary therapist in the studies by Zettle 1984 and Zettle 1989 was the first author, who was supervised/mentored by Dr Steve Hayes (the psychologist who developed ACT). Postsession questionnaires in both studies suggested lack of therapist bias to account for differential treatment effects. The study by Dimidjian 2004 was assessed as at low risk of bias, and the studies by Zettle 1984 and Zettle 1989 were assessed as at unclear risk of bias.

#### **Other potential sources of bias**

No other consistent sources of bias were noted across the three studies.

See Figure 2 for graphical representation of risk of bias items. Further information on the individual studies is provided in [Characteristics of included studies](#).

**Figure 2. Risk of bias graph: review authors' judgements about all risk of bias item presented as percentages across all included studies.**



The quality of evidence for both outcome measures was very low (see [Summary of findings for the main comparison](#)).

## Effects of interventions

See: [Summary of findings for the main comparison Mindfulness-based 'third wave' cognitive and behavioural therapies compared with other psychological therapies for depression](#)

### Comparison 1. Third wave CBT versus all other psychological therapies

#### Primary outcomes

##### 1.1 Treatment efficacy: response

All three studies provided clinical response rates that were based on HAM-D and BDI ([Zettle 1984](#); [Dimidjian 2004](#)) or on BDI alone ([Zettle 1989](#)). When possible, HAM-D response rates were used in analyses.

At post-treatment, no significant difference in clinical response was found between third wave CBT and other psychological therapies (3 studies, 144 participants, RR 1.14, 95% CI 0.79 to 1.64). See [Analysis 1.1](#).

At 2-month follow-up, no significant difference in clinical response was found between third wave CBT (both ACT approaches) and other psychological therapies (both CT approaches) (2 studies, 56 participants, RR 0.31, 95% CI 0.08 to 1.26). See [Analysis 1.2](#).

##### 1.2 Treatment acceptability: dropouts for any reason

Dropout rates were obtained for all three studies (144 participants) at post-treatment. No significant difference in treatment acceptability based on dropout rates was found between third wave CBT and other psychological therapies (RR 1.12, 95% CI 0.47 to 2.67). See [Analysis 1.3](#).

At 2-month follow-up, no significant difference in treatment acceptability was found between third wave CBT and other psychological therapies (2 studies, 56 participants, RR 1.07, 95% CI 0.10 to 11.23). Moderate heterogeneity was indicated ( $I^2 = 41\%$ ). See [Analysis 1.4](#).

The quality of evidence for both outcome measures was very low (see [Summary of findings for the main comparison](#)).

#### Secondary outcomes

##### 1.3 Remission

One study provided remission rates at post-treatment ([Dimidjian 2004](#)). No significant difference in remission was found between third wave CBT and other psychological therapies (88 participants, RR 0.89, 95% CI 0.60 to 1.30).

The quality of evidence for this outcome measure was very low (see [Summary of findings for the main comparison](#)).

#### 1.4 Severity of depression symptoms

All three studies reported HAM-D and BDI means at post-treatment. HAM-D scores were selected for the analyses. No significant difference in depression levels was found between third wave CBT and other psychological therapies (113 participants, MD -1.65, 95% CI -4.17 to 0.88). See [Analysis 1.6](#).

Two studies reported HAM-D and BDI means at 2-month follow-up ([Zettle 1984](#); [Zettle 1989](#)). HAM-D scores were selected for the analyses. A significant difference in depression levels favoured third wave CBT (49 participants, MD -4.51, 95% -7.47 to -1.55). See [Analysis 1.7](#).

The quality of evidence for both outcome measures was very low (see [Summary of findings for the main comparison](#)).

#### 1.5 Improvement in overall symptoms

None of the studies reported on this outcome.

#### 1.6 Anxiety symptoms

None of the studies reported on this outcome.

#### 1.7 Adverse effects

None of the studies reported on this outcome.

#### 1.8 Social adjustment

None of the studies reported on this outcome.

#### 1.9 Quality of life

None of the studies reported on this outcome.

#### 1.10 Economic outcomes

None of the studies reported on this outcome.

### Comparison 2. Individual third wave CBT approaches versus all other psychological therapies

#### 2.1 ACT versus other psychological therapies

Two studies compared ACT with other psychological therapies ([Zettle 1984](#); [Zettle 1989](#)).

#### Primary outcomes

##### 2.1.1 Treatment efficacy: response

No significant difference in clinical response was found between ACT and other psychological therapies at post-treatment (2 studies, 56 participants, RR 1.11, 95% CI 0.60 to 2.04). See [Analysis 1.1](#). Similarly, at 2-month follow-up, no significant difference in clinical response was found between ACT and other psychological therapies (2 studies, 56 participants, RR 0.31, 95% CI 0.08 to 1.26). See [Analysis 1.2](#).

##### 2.1.2 Treatment acceptability: dropouts for any reason

No significant difference in treatment acceptability based on dropout rates was found between ACT and other psychological therapies at post-treatment or at 2-month follow-up (2 studies, 56 participants, RR 1.07, 95% CI 0.10 to 11.23). The  $I^2$  was 41%, indicating moderate heterogeneity. See [Analysis 1.3](#) and [Analysis 1.4](#).

#### 2.2 Extended BA versus other psychological therapies

One study compared extended BA versus other psychological therapies ([Dimidjian 2004](#)).

#### Primary outcomes

##### 2.2.1 Treatment efficacy: response

No significant difference in clinical response at post-treatment was found between extended BA and other psychological therapies (88 participants, RR 1.16, 95% CI 0.73 to 1.83).

##### 2.2.2 Treatment acceptability: dropouts for any reason

No significant difference in treatment acceptability based on dropout rates was found at post-treatment between extended BA and other psychological therapies (88 participants, RR 1.22, 95% CI 0.45 to 3.34).

#### 2.3 ACT versus extended BA

##### 2.3.1 Treatment efficacy: response

The test for subgroup differences between ACT and extended BA showed no significant difference between the two approaches at post-treatment when compared with other psychological therapies ( $\text{Chi}^2 = 0.01$ ,  $\text{df} = 1$ ,  $P = 0.91$ ).

### 2.3.2 Treatment acceptability: dropouts for any reason

The test for subgroup differences between ACT and extended BA showed no significant difference between the two approaches at post-treatment when compared with other psychological therapies ( $\text{Chi}^2 = 0.03$ ,  $\text{df} = 1$ ,  $P = 0.85$ ).

### Comparison 3. All third wave CBT approaches versus individual psychological therapy approaches

All psychological therapies used as comparator conditions in the three studies were categorised as CBT in the theoretical approach. Therefore, for the purposes of the current version of the review, Comparison 3 analyses replicate those presented in Comparison 1. See [Analysis 1.1](#) to [Analysis 1.7](#). In future updates of the review, comparisons with other psychological therapy approaches will be reported separately, as relevant studies become available.

### Subgroup and sensitivity analyses

It was not possible to conduct subgroup or sensitivity analyses because of the small number of studies included in this review.

### Summary of findings tables

The results of our analyses expressed in relative and absolute terms, together with ratings of the quality of evidence, are given in [Summary of findings for the main comparison](#).

### Reporting bias

It was not possible to analyse reporting bias because of the small number of studies included in the review.

## DISCUSSION

### Summary of main results

This review aimed to assess the efficacy and acceptability of third wave CBT on the basis of three planned comparisons: all third wave CBT approaches compared with all other psychological therapies, different third wave CBT approaches compared with all other psychological therapies and all third wave CBT approaches compared with different psychological therapy approaches (CBT, BT, psychodynamic, humanistic and integrative therapies).

A total of three studies (144 participants) were included in the review. Results showed no evidence based on dropout rates of any difference between third wave CBT and other psychological therapies in terms of efficacy (RR of clinical response 1.14, 95% CI 0.79 to 1.64) or acceptability (RR 1.12, 95% CI 0.47 to 2.67) at

post-treatment. Results at 2-month follow-up showed no evidence of any difference between third wave CBT and other psychological therapies in terms of clinical response (2 studies, 56 participants, RR 0.22, 95% CI 0.04 to 1.15).

Results showed no evidence of any difference in terms of efficacy and acceptability between the two individual third wave CBT approaches of ACT and extended BA when compared with all other psychological therapies. Similarly, results showed no evidence of any difference in terms of efficacy and acceptability between third wave CBT and the individual psychological therapy approach of CBT.

### Overall completeness and applicability of evidence

Although every possible effort was made to identify relevant trials, the number of studies currently included in this review is very small. Given increasing interest and more frequent application of third wave CBT approaches over the past ten years, the possibility that some studies may have been missed, either unpublished or in grey literature, cannot be discounted.

All three studies were conducted in North America, and two were conducted before 1990. Therefore, applicability of the findings to contemporary healthcare settings and non-US settings is uncertain.

When recruiting participants, only one of the studies used diagnostic inclusion criteria in a standardised clinical interview to identify potential participants with depression. Nevertheless, whilst it is unclear to what extent many of the participants included in the review met full DSM criteria for major depressive disorder, it could be argued that recruitment of participants based on depression rating scales would be representative of those presenting with depression symptoms in primary care.

Most mindfulness-based third wave CBT, including FAP, CMT, MBCT, DBT and meta-cognitive therapy, were not represented at all in the current version of the review. The lack of MBCT studies to date is likely to be explained by the use of this approach as a relapse prevention intervention for people in remission, hence it is beyond the scope of this review. Similarly, lack of DBT and metacognitive therapy studies may be due to their predominant use in populations with mental health disorders other than depression. A recent search of [clinicaltrials.gov](http://clinicaltrials.gov) conducted by our review team, using the search term 'mindfulness', retrieved more than 300 registered ongoing trials; however, very few of these trials appear to target populations with acute depression. Comparator psychological therapy approaches were equally under-represented in the review, with CBT used as the comparator intervention in all three studies.

None of the studies included all of the primary and secondary outcomes of interest in this review, and in particular, and none reported on quality of life, adverse events or economic outcomes. [Beck 2012](#) comments that a certain equivalence between psycho-

logical therapy models may occur in a well-designed study, but that an essential feature of the efficacy of a psychological therapy approach is its durability over an extended time. However, follow-up data in the current review were limited to two-month follow-up and were collected in only two of the three studies; therefore evidence for the sustained effect of third wave CBT compared with other psychological therapy approaches remains very limited.

## Quality of the evidence

The quality of evidence for each of our main outcomes was very low ([Summary of findings for the main comparison](#)). The most common reasons for downgrading were imprecision, indirectness of evidence and risk of bias in all outcomes. All analyses included no more than three studies, two of which had very small sample sizes, resulting in wide confidence intervals and lack of statistical power to assess the relative effects between third wave CBT approaches and other psychological therapies. The psychological therapies examined in the three studies were limited to two third wave CBT approaches and just one comparator psychological therapy approach, thus offering a restricted version of the main review question in terms of intervention and comparator. The acceptability outcome was also downgraded on the grounds of inconsistency, which remained unexplained because of the small number of studies included in the review.

Each of the three studies included in this review described its assignment procedure as 'randomised'; however, only one study provided information on sequence generation and allocation concealment methods used. Lack of information in two studies introduces considerable uncertainty as to whether bias may have been introduced during the allocation process, leading to the decision to assess these risk of bias domains as unclear across studies.

Testing of therapists' fidelity to treatment manuals through systematic or random checking of videotapes/audiotapes against standardised checklists by independent clinicians is a key methodological requirement of psychological therapy studies to provide certainty that any observed treatment effect can be attributed to specific components and characteristics of the model. All three studies used audiotapes, a random selection of which were assessed for fidelity by independent assessors. However, only one study used standardised checklists ([Dimidjian 2004](#)), and competence was not measured consistently for each psychological therapy approach under evaluation in any of the studies. Therefore the extent to which bias was minimised in the delivery of therapy approaches across studies is unclear.

Another common source of bias in psychological therapy trials is that of researcher allegiance, whereby trialists responsible for developing the manuals/protocols under evaluation might be considered to have a vested interest in their superior efficacy over other approaches. Each of the studies included in this review were exposed to this form of bias, as authors were involved in development of the therapy or were associated with those who had developed

the psychological therapy under investigation. It is notable that [Dimidjian 2004](#) did attempt to mitigate the effect of researcher allegiance to extended BA by including on the research team clinicians with an allegiance to CBT, although researcher allegiance is acknowledged by the authors as a possible limitation of the study. The studies by [Zettle 1984](#) and [Zettle 1989](#) were assessed as vulnerable to researcher allegiance, as the first author (who was also a therapist in both studies) was supervised by Dr Steve Hayes, the psychologist who developed ACT. Overall, therefore, the presence of researcher allegiance towards the third wave CBT approaches under evaluation might have resulted in less favourable findings for other psychological therapies.

Therapist qualifications and experience are regarded as one further potential source of bias in psychological therapy studies, as the risk of unqualified or inadequately trained therapists delivering the intervention without skill and accuracy is considered high. Whilst [Dimidjian 2004](#) employed highly trained clinicians, the BA therapists had an average of seven years' experience, in contrast with the CT therapists, who had been in clinical practice for a much longer average time of 14 years. The other two studies employed less-experienced clinicians, including a CT intern ([Zettle 1984](#)) and a qualified psychologist assisted by a psychology graduate ([Zettle 1989](#)), who provided both therapies. Therefore, the risk of less skilled and accurate delivery of third wave therapy approaches and/or other psychological therapies was high across all three studies.

## Potential biases in the review process

Whilst two of the review authors specialise in CBT (TAF is a diplomate of the Academy of Cognitive Therapy, and VH provides CBT in independent practice), no therapists specialising in other psychological therapy approaches have been included on the review team; therefore the possibility of a bias towards CBT cannot be excluded.

While developing the third wave cognitive and behavioural therapies review, we have aimed to be transparent about our management of the third wave therapy classification. We have held regular team meetings to ensure 100% consensus on the categorisation of approaches, and where any uncertainties remained because of lack of information provided in the articles, we have made contact with the study authors to obtain a fuller description. We acknowledge that there is likely to be considerable debate over which CBT approaches should be regarded as 'third wave' in theoretical principle. We acknowledge, too, that the decision to combine a diverse group of third wave approaches for the purposes of conducting comparisons with other psychological therapy approaches is open to debate. In future versions of the review, it may be necessary to reconsider our management of the categories based on further development of psychological therapy models and approaches. It is possible too that as the evidence base grows, scope will be adjusted to allow management of the approaches in separate reviews.

Perhaps the most contentious decision in this review was to categorise the extended version of BA as a third wave CBT approach. We note that this decision contrasts with the approach of previous reviews, in which extended BA has been regarded as a form of BT. Whilst acknowledging the common components, we decided that the addition of behavioural strategies for targeting rumination, including 'an emphasis on the function of ruminative thinking and on moving attention away from the content of ruminative thoughts towards direct, immediate experience' (Dimidjian 2004), in extended BA set it apart from earlier BA approaches and placed it more in line with third wave approaches.

To address the over-arching question of whether third wave CBT is more effective and acceptable than other psychological therapies, the comparison between third wave CBT and all other psychological therapy approaches was selected as the main comparison in the protocol. This meant that the overall comparator of all other psychological therapies included a wide range of approaches (BT, CBT, psychodynamic, humanistic, integrative therapies) with the potential for differing levels of efficacy. It could be argued that results of the comparison between third wave CBT and different psychological therapy approaches would be more meaningful than results of the comparison between third wave CBT and all other psychological approaches combined. However, the findings would be limited by the small number of studies for inclusion in each analysis, thereby reducing the ability of review authors to draw any meaningful conclusions.

### Agreements and disagreements with other studies or reviews

Two previous systematic reviews of third wave CBT approaches have limited their remit to participants in remission from depression who have attended an MBCT course (Coelho 2007) or have not conducted meta-analyses (Hayes 2004).

The systematic review and meta-analysis by Ost 2008 included 29 studies that examined five different third wave behavioural therapies (ACT, DBT and FAP, as covered in the current review, together with the cognitive-behavioural analysis system of psychotherapy and integrative behavioural couple therapy) against other psychological therapies, medication and other interventions for a wide range of different disorders, including borderline personality disorder, eating disorders, epilepsy and smoking, as well as depression. Effect sizes were calculated for each third wave approach across all disorders (Ost 2008), precluding the ability to make comparisons with the current review.

Two systematic reviews have examined the efficacy of behavioural activation treatments (Cuijpers 2008; Ekers 2008), but neither attempted to differentiate between the extended BA model developed by Martell 2001 and the 'pure' BT approach originally evaluated in the seminal trial by Jacobson 1996; therefore the findings are not comparable with those of the current review.

A recently published systematic review and network analysis examined the efficacy of seven psychological therapies for individuals with depression (Barth 2013); however, third wave CBT interventions were not managed in a separate category. Therefore, no comparable findings are available. It is notable, too, that the authors included Internet-delivered therapies, as well as those delivered face to face, together with studies of participants whose primary disorder was a medical condition, resulting in a more heterogeneous set of populations and interventions than those included in the current review.

## AUTHORS' CONCLUSIONS

### Implications for practice

Third wave cognitive and behavioural approaches are becoming an increasingly common feature of clinical practice, both as treatments and as relapse prevention interventions, for a wide range of common mental disorders. To date, however, the evidence base for third wave CBT approaches compared with other psychological therapies is of very low quality, leaving the review authors unable to draw any conclusions as to their relative effects, either as individual approaches or as a collective approach, in the treatment of acute depression.

### Implications for research

This review draws attention to the need for further studies of third wave CBT approaches to fully assess their comparative efficacy, effectiveness and acceptability against other psychological therapy approaches currently used in clinical practice for the treatment of acute depression. Whilst clinical guidelines recommend the use of MBCT as a relapse prevention intervention only for people with a history of three or more episodes of depression, a recently published study has indicated that those with residual symptoms may also benefit, irrespective of the number of previous depression episodes (Geschwind 2012), and highlights the importance of completing trials involving participants who have some acute depression symptoms. In a future update of the review, we hope to be able to include the findings from two ongoing trials comparing mindfulness-based cognitive therapy (MICT) with psychodynamic therapy (NCT01070134) and ACT with CT (NCT01517503) for people with major depressive disorder.

In addition to ensuring the use of standard methodological features such as allocation concealment and blinding of outcome assessors, future studies of third wave CBT approaches should pay close attention to key quality indicators for psychological therapy trials, including treatment fidelity, therapist qualifications/experience and researcher/therapist allegiance.

Measurement of under-investigated outcomes, such as acceptability (using validated scales), adverse effects, quality of life and cost-

effectiveness, should be prioritised. It is also important for future studies to include longer-term follow-up to establish whether or not third wave CBT approaches have greater durability than other psychological therapies in the treatment of depression.

## ACKNOWLEDGEMENTS

We would like to extend our grateful thanks to Dr Robert Zettle for providing us with additional data from his studies.

Our grateful thanks are also extended to Professor Willem Kuyken,

University of Exeter, for his guidance on the assessment/categorisation of psychological therapy manuals and protocols.

### CRG Funding Acknowledgement

The National Institute for Health Research (NIHR) is the largest single funder of the Cochrane Depression, Anxiety and Neurosis Group.

### Disclaimer

The views and opinions expressed therein are those of the authors and do not necessarily reflect those of the NIHR, the NHS or the Department of Health.

## REFERENCES

### References to studies included in this review

#### **Dimidjian 2004** {published data only}

Dimidjian S, Hollon SD, Dobson KS, Schmaling KB, Kohlenberg RJ, Addis ME, et al. Randomized trial of behavioural activation, cognitive therapy and antidepressant medication in the acute treatment of adults with major depression. *Journal of Consulting and Clinical Psychology* 2006;**74**:658–70.

\* Dimidjian SA, Hollon SD, Dobson KS, Schmaling KB, Kohlenberg RJ, Addis M, et al. Methods and acute-phase outcomes. 157th Annual Meeting of the American Psychiatric Association, New York, NY, 1–6 May 2004. No. 27A.

Dobson KS, Hollon SD, Dimidjian S, Schmaling KB, Kohlenberg RJ, Gallop RJ, et al. Randomized trial of behavioral activation, cognitive therapy, and antidepressant medication in the prevention of relapse and recurrence in major depression. *Journal of Consulting and Clinical Psychology* 2008;**76**:468–77.

#### **Zettle 1984** {published and unpublished data}

Zettle RD. Cognitive therapy of depression: a conceptual and empirical analysis of component and process issues. Dissertation Abstracts International, 46, 669B, 1885.

\* Zettle RD. Cognitive therapy of depression: a conceptual and empirical analysis of component and process issues. Symposium conducted at the 92nd Annual Convention of the American Psychological Association, Toronto. 1984. Zettle RD, Hayes SC. Dysfunctional control by client verbal behavior: the context of reason-giving. *The Analysis of Verbal Behavior* 1986;**4**:30–8.

#### **Zettle 1989** {published data only}

Zettle RD, Rains JC. Group cognitive and contextual therapies in treatment of depression. *Journal of Clinical Psychology* 1989;**45**:436–45.

### References to studies excluded from this review

#### **Armento 2011** {unpublished data only}

Armento ME. Behavioral activation of religious behaviors: treating depressed college students with a randomized controlled trial. PhD dissertation, University of Tennessee, 2012.

#### **Azargoon 2010** {published data only}

Azargoon H, Kajbaf MB. The effect of mindfulness training on the dysfunctional attitude and automatic thinking of depressed students of Isfahan University. *Journal of Psychology* 2010;**14**:79–94.

#### **Ekers 2011** {published data only}

Ekers D, Richards D, McMillan D, Bland JM, Gilbody S. Behavioural activation delivered by the non-specialist: phase II randomised controlled trial. *British Journal of Psychiatry* 2011;**198**:66–72.

#### **Ekkers 2011** {published data only}

Ekkers W, Korrelboom K, Huijbrechts I, Smits N, Cuijpers P, van der Gaag M. Competitive memory training for treating depression and rumination in depressed older adults: a randomized controlled trial. *Behaviour Research and Therapy* 2011;**49**:588–96.

#### **Folke 2012** {published data only}

Folke F, Parling T, Melin L. Acceptance and commitment therapy for depression: a preliminary randomized controlled trial for unemployed on long-term sick leave. *Cognitive and Behavioral Practice* 2012;**19**:583–94.

#### **Gawrysiak 2009** {published data only}

Gawrysiak M, Nicholas C, Hopko DR. Behavioral activation for moderately depressed university students: randomized controlled trial. *Journal of Counseling Psychology* 2009;**3**:468–75.

#### **Kaviani 2012** {published data only}

Kaviani H, Hatami N, Javaheri F. The impact of mindfulness-based cognitive therapy (MBCT) on mental health and quality of life in a sub-clinically depressed population. *Archives of Psychiatry and Psychotherapy* 2012; **14**:21–8.

**Korrelboom 2012** *{published data only}*

Korrelboom K, Maarsingh M, Huijbrechts I. Competitive memory training (COMET) for treating low self-esteem in patients with depressive disorders: a randomized clinical trial. *Depression and Anxiety* 2012;**29**(2):102–10. [PUBMED: 22495940]

**Manicavasgar 2011** *{published data only}*

Manicavasgar V, Parker G, Perich T. Mindfulness-based cognitive therapy vs cognitive behaviour therapy as a treatment for non-melancholic depression. *Journal of Affective Disorders* 2011;**130**:138–44.

**Pellowe 2007** *{unpublished data only}*

Pellowe ME. Acceptance and commitment therapy as a treatment for dysphoria. *Dissertation Abstracts International* 67, 9-B, 2007.

**Pinniger 2012** *{published data only}*

Pinniger R, Brown RE, Thorsteinsson EB, McKinley P. Argentine tango dance compared to mindfulness meditation and a waiting-list control: a randomised trial for treating depression. *Complementary Therapies in Medicine* 2012;**20**(6):377–84. [PUBMED: 23131367]

**References to ongoing studies****NCT01070134** *{unpublished data only}*

'Third wave' cognitive therapy versus psychodynamic therapy (PD) for patients with major depressive disorder in psychotherapeutic day treatment: a randomised clinical pilot trial. Ongoing study February 2010.

**NCT01517503** *{published data only}*

Acceptance and commitment therapy versus cognitive therapy for the treatment of major depressive disorder. Ongoing study December 2011.

**Additional references****Addis 2004**

Addis ME, Martell CR. *Overcoming Depression One Step at a Time: The New Behavioral Activation Approach for Getting Your Life Back*. New York: New Harbinger Press, 2004.

**Allen 2005**

Allen BA, Knight WEJ. Mindfulness, compassion for self and compassion for others: implications for understanding the psychopathology and treatment of depression. In: Gilbert P editor(s). *Compassion: Conceptualisations, Research and Use in Psychotherapy*. Hove: Routledge, 2005.

**APA 1980**

American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders (DSM-III)*. 3rd edition. Washington, DC: American Psychiatric Association, 1980.

**APA 1987**

American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R)*. 3rd edition. Washington, DC: American Psychiatric Association, 1987.

**APA 1994**

American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*. 4th edition. Washington, DC: American Psychiatric Association, 1994.

**APA 2000**

American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR)*. 4th edition. Text revision. Washington DC: American Psychiatric Association, 2000.

**Arroll 2009**

Arroll B, Elley CR, Fishman T, Goodyear-Smith FA, Kenealy T, Blashki G, et al. Antidepressants versus placebo for depression in primary care. *Cochrane Database of Systematic Reviews* 2009, Issue 3. [DOI: 10.1002/14651858.CD007954]

**Barbato 2006**

Barbato A, D'Avanzo BBD. Marital therapy for depression. *Cochrane Database of Systematic Reviews* 2006, Issue 1. [DOI: 10.1002/14651858.CD004188.pub2]

**Barrett-Lennard 1986**

Barrett-Lennard GT. The Relationship Inventory now: issues and advances in theory, method and use. In: Greenberg LS, Pinsof W editor(s). *The Psychotherapeutic Process: A Research Handbook*. New York, NY: Guilford Press, 1986.

**Barth 2013**

Barth J, Munder T, Gerger H, Nuesch E, Trelle S, Znoj H, et al. Comparative efficacy of seven psychotherapeutic interventions for patients with depression: a network meta-analysis. *PLoS Medicine* 2013;**10**(5):e1001454. [PUBMED: 23723742]

**Bayer 2000**

Bayer A, Tadd W. Unjustified exclusion of elderly people from studies submitted to research ethics committee for approval: descriptive study. *BMJ* 2000;**321**:992–3.

**Beck 1961**

Beck AT, Ward CH. An inventory for measuring depression. *Archives of General Psychiatry* 1961;**4**:561–71.

**Beck 1979**

Beck AT, Rush AJ, Shaw BF, Emery G. *Cognitive Therapy of Depression*. New York, NY: Guilford Press, 1979.

**Beck 1988**

Beck AT, Epstein N, Brown G, Steer RA. An inventory for measuring clinical anxiety: psychometric properties. *Journal of Consulting and Clinical Psychology* 1988;**56**:893–7.

**Beck 2012**

Beck AT. Comparing CBT with third wave therapies. *Cognitive Therapy Today* 2012;**17**:1–2.

**Becker 2008**

Becker LA, Oxman AD. Overviews of reviews. In: Higgins JPT, Green S (editors), *Cochrane Handbook for Systematic Reviews of Interventions* Version 5.0.2 [updated September 2009]. The Cochrane Collaboration, 2008. www.cochrane-handbook.org.

**Bennett-Levy 2004**

Bennett-Levy J, Butler G, Fennell M, Hackmann A, Mueller M, Westbrook D. *Oxford Guide to Behavioural Experiments in Cognitive Therapy*. New York, NY: Oxford University Press, 2004.

**Boteaga 1992**

Boteaga N, Mann A, Blizard R, Wilkinson G. General practitioners and depression—first use of the depression attitude questionnaire. *International Journal of Psychiatric Research* 1992;**2**:169–80.

**Bowlby 1980**

Bowlby J. Loss, sadness and depression. *Attachment and Loss Volume III*. London: Penguin, 1980.

**Cain 2002**

Cain DJ, Seeman J (editors). *Humanistic Psychotherapies: Handbook of Research and Practice*. Washington, DC: American Psychological Association, 2002.

**Caldwell 2005**

Caldwell DM, Ades AE, Higgins JPT. Simultaneous comparison of multiple treatments: combining direct and indirect evidence. *BMJ* 2005;**331**(7521):897–900.

**Chen 2001**

Chen YF, Dewey ME, Avery AJ. Self-reported medication use for older people in England and Wales. *Journal of Clinical Pharmacology and Therapeutics* 2001;**26**:129–40.

**Churchill 2000**

Churchill R, Khaira M, Gretton V, Chilvers C, Dewey M, Duggan C, et al. Treating depression in general practice: factors affecting patients' treatment preferences. *Journal of General Practice* 2000;**50**:905–6.

**Churchill 2001**

Churchill R, Hunot V, Corney R, Knapp M, McGuire H, Tylee A, et al. A systematic review of controlled trials of the effectiveness and cost-effectiveness of brief psychological treatments for depression. Health Technology Assessment. Core Research, Alton on behalf of NCCHTA, 2001; Vol. 5, issue 35.

**Churchill 2012**

Churchill R, Moore THM, Davies P, Caldwell D, Jones H, Lewis G, et al. Mindfulness-based 'third wave' cognitive and behavioural therapies versus treatment as usual for depression. *Cochrane Database of Systematic Reviews* 2012, Issue 7. [DOI: 10.1002/14651858.CD008705]

**Cipriani 2005**

Cipriani A, Brambilla P, Furukawa TA, Geddes J, Gregis M, Hotopf M, et al. Fluoxetine versus other types of pharmacotherapy for depression. *Cochrane Database of Systematic Reviews* 2005, Issue 4. [DOI: 10.1002/14651858.CD004185.pub2]

**Cipriani 2009**

Cipriani A, La Ferla T, Furukawa TA, Signoretti A, Nakagawa A, Churchill C, et al. Sertraline versus other antidepressive agents for depression. *Cochrane Database of Systematic Reviews* 2009, Issue 2. [DOI: 10.1002/14651858.CD006117.pub2]

**Cipriani 2009a**

Cipriani A, Santilli C, Furukawa TA, Signoretti A, Nakagawa A, McGuire H, et al. Escitalopram versus other antidepressive agents for depression. *Cochrane Database of Systematic Reviews* 2009, Issue 2. [DOI: 10.1002/14651858.CD006532.pub2]

**Cipriani 2009b**

Cipriani A, Furukawa TA, Salanti G, Geddes JR, Higgins JPT, Churchill R, et al. Comparative efficacy and acceptability of 12 new-generation antidepressants: a multiple-treatments meta-analysis. *Lancet* 2009;**373**:746–58.

**Clark 1995**

Clark D. Perceived limitations of standard cognitive therapy: a reconsideration of efforts to revise Beck's theory and therapy. *Journal of Cognitive Psychotherapy* 1995;**9**:153–72.

**Coelho 2007**

Coelho HF, Canter PH, Ernst E. Mindfulness-based cognitive therapy: evaluating current evidence and informing future research. *Journal of Consulting and Clinical Psychology* 2007;**75**(6):1000–5.

**Corrigan 2001**

Corrigan PW. Getting ahead of the data: a threat to some behaviour therapies. *The Behaviour Therapist* 2001;**24**(9):189–93.

**Cuijpers 2002**

Cuijpers P, Smit F. Excess mortality in depression: a meta-analysis of community studies. *Journal of Affective Disorders* 2002;**72**:227–36.

**Cuijpers 2008**

Cuijpers P, van Straten A, Andersson G, van Oppen P. Psychotherapy for depression in adults: a meta-analysis of comparative outcome studies. *Journal of Consulting and Clinical Psychology* 2008;**76**:909–22.

**da Costa 2012**

da Costa BR, Rutjes AW, Johnston BC, Reichenbach S, Nuesch E, Tonia T, et al. Methods to convert continuous outcomes into odds ratios of treatment response and numbers needed to treat: meta-epidemiological study. *International Journal of Epidemiology* 2012;**41**:1445–59.

**de Shazer 1988**

de Shazer S. *Clues: Investigating Solutions in Brief Therapy*. New York, NY: WW Norton & Co., 1988.

**Deeks 1997**

Deeks J. Are you sure that's a standard deviation? (part 1). *Cochrane News* 1997;**10**:11–2.

**Deeks 2008**

Deeks JJ, Higgins JPT, Altman DG, on behalf of the Cochrane Statistical Methods Group. Analysing data and undertaking meta-analyses. In: Higgins JPT, Green S (editors), *Cochrane Handbook for Systematic Reviews of Interventions* Version 5.0.2 [updated September 2009]. The Cochrane Collaboration, 2008. www.cochrane-handbook.org.

**Dimidjian 2006**

Dimidjian S, Dobson KS, Kohlenberg RJ, Gallop R, Markley DK, Atkins DC, et al. Randomized trial of behavioural activation, cognitive therapy and antidepressant medication in the acute treatment of adults with major depression. *Journal of Consulting and Clinical Psychology* 2006;**74**:658–70.

**Dobson 2009**

Dobson D, Dobson KS. *Evidence-Based Practice of Cognitive Behavioural Therapy*. New York, NY: Guilford Press, 2009.

**Ekers 2008**

Ekers D, Richards D, Gilbody S. A meta-analysis of randomized trials of behavioural treatment of depression. *Psychological Medicine* 2008;**38**:611–23.

**Ellis 1962**

Ellis A. *Reason and Emotion in Psychotherapy*. New York, NY: Lyle Stuart, 1962.

**Ellis 2004**

Ellis P. Australian and New Zealand clinical practice guidelines for the treatment of depression. *Australian and New Zealand Journal of Psychiatry* 2004;**38**(6):389–407.

**ESEMeD/MHEDEA 2004**

ESEMeD/MHEDEA 2000 investigators. Prevalence of mental disorders in Europe: results from the European Study of Epidemiology of Mental Disorders (ESEMeD) project. *Acta Psychiatrica Scandinavica* 2004;**109**(s420): 21–7.

**Freud 1949**

Freud S. *An Outline of Psychoanalysis*. London: Hogarth Press, 1949.

**Furukawa 2005**

Furukawa TA, Cipriani A, Barbui C, Brambilla P, Watanabe N. Imputing response rates from means and standard deviations in meta-analysis. *Internal Clinical Psychopharmacology* 2005;**20**:49–52.

**Furukawa 2006**

Furukawa TA, Barbui C, Cipriani A, Brambilla P, Watanabe N. Imputing missing standard deviations in meta-analyses can provide accurate results. *Journal of Clinical Epidemiology* 2006;**59**:7–10.

**Geschwind 2012**

Geschwind N, Peeters F, Huibers M, van Os J, Wichers M. Efficacy of mindfulness-based cognitive therapy in relation to prior history of depression: randomised controlled trial. *British Journal of Psychiatry* [Epub ahead of print] August 9, 2012.

**Gilbert 2005**

Gilbert P. *Compassion: Conceptualisations, Research and Use in Psychotherapy*. Hove: Routledge, 2005.

**Gilbert 2009**

Gilbert P. *The Compassionate Mind*. London: Constable, 2009.

**Guaiana 2007**

Guaiana G, Barbui C, Hotopf M. Amitriptyline for depression. *Cochrane Database of Systematic Reviews* 2007, Issue 3. [DOI: 10.1002/14651858.CD004186.pub2]

**Guy 1976**

Guy W. *ECDEU Assessment Manual for Psychopharmacology-Revised*. Rockville, MD: NIMH Psychopharmacology Research Branch, Division of Extramural Research Programs, 1976:218–22.

**Hamilton 1959**

Hamilton M. The assessment of anxiety states by rating. *British Journal of Medical Psychology* 1959;**32**(1):50–5.

**Hamilton 1960**

Hamilton M. A rating scale for depression. *Journal of Neurology, Neurosurgery and Psychiatry* 1960;**23**:56–62.

**Harris 2006**

Harris R. Embracing your demons: an overview of acceptance and commitment therapy. *Psychotherapy in Australia* 2006;**12**:2–8.

**Hathaway 1942**

Hathaway SR, McKinley JC. A multiphasic personality schedule (Minnesota): III. The measurement of symptomatic depression. *Journal of Psychology* 1942;**14**: 73–84.

**Hayes 1999**

Hayes SC, Strosahl KD, Wilson KG. *Acceptance and Commitment Therapy: An Experiential Approach to Behavior Change*. New York: Guilford Press, 1999.

**Hayes 2004**

Hayes SC, Masuda A, Bassett R, Luoma J, Guerrero LF. DBT, FAP and ACT: how empirically oriented are the new behaviour therapy technologies?. *Behavior Therapy* 2004;**35** (1):35–54.

**Hayes 2006**

Hayes SC, Luoma JB, Bond FW, Masuda A, Lillis J. Acceptance and commitment therapy: model, processes and outcomes. *Behavioural Research and Therapy* 2006;**44**:1–25.

**Henken 2007**

Henken T, Huibers MJH, Churchill R, Restifo KK, Roelofs JJ. Family therapy for depression. *Cochrane Database of Systematic Reviews* 2007, Issue 3. [DOI: 10.1002/14651858.CD006728]

**Higgins 2003**

Higgins JPT, Thompson SG, Deeks JJ, Altman DG. Measuring inconsistency in meta-analyses. *BMJ* 2003;**327** (7414):557–60.

**Higgins 2008**

Higgins JPT, Green S (editors). *Cochrane Handbook for Systematic Reviews of Interventions* Version 5.0.2 [updated September 2009]. The Cochrane Collaboration, 2008. www.cochrane-handbook.org.

**Higgins 2008a**

Higgins JPT, Altman DG. Assessing risk of bias in included studies. In: Higgins JPT, Green S (editors). *Cochrane Handbook for Systematic Reviews of Interventions*

Version 5.0.2 [updated September 2009]. The Cochrane Collaboration, 2008. [www.cochrane-handbook.org](http://www.cochrane-handbook.org).

#### **Higgins 2008b**

Higgins JPT, Deeks JJ, Altman DG. Special topics in statistics. In: Higgins JPT, Green S (editors). *Cochrane Handbook for Systematic Reviews of Interventions* Version 5.0.2 [updated September 2009]. The Cochrane Collaboration, 2008. [www.cochrane-handbook.org](http://www.cochrane-handbook.org).

#### **Higgins 2011**

Schünemann HJ, Oxman A, Higgins JPT, Vist GE, Glasziou P, Guyatt GH. Presenting results and 'Summary of findings' tables. *Higgins JPT, Green S (editors). Cochrane Handbook for Systematic Reviews of Interventions. Version 5.1.0 [updated March 2011]*. The Cochrane Collaboration. [www.cochrane-handbook.org](http://www.cochrane-handbook.org), 2011.

#### **Hobson 1985**

Hobson RF. *Forms of Feeling*. London: Tavistock Publications, 1985.

#### **Hofmann 2008**

Hofmann SG, Asmundson GJG. Acceptance and mindfulness-based therapy: new wave or old hat?. *Clinical Psychology Review* 2008;**28**:1–16.

#### **Hofmann 2010**

Hofmann SG, Sawyer AT, Fang A. The empirical status of the "new wave" of cognitive behavioral therapy. *The Psychiatric Clinics of North America* 2010;**33**(3):701–10. [PUBMED: 20599141]

#### **Hollon 1980**

Hollon SD, Kendall PC. Cognitive self-statements in depression: development of an automatic thoughts questionnaire. *Cognitive Therapy and Research* 1980;**4**: 383–95.

#### **Hopko 2003**

Hopko DR, Lejuez CW, Ruggiero KJ, Eifert GH. Contemporary behavioural activation treatments for depression: procedures, principles and progress. *Clinical Psychology Review* 2003;**23**:699–717.

#### **Horvath 1986**

Horvath AO, Greenberg L. The development of the Working Alliance Inventory. In: Greenberg L, Pinsoff W editor(s). *Psychotherapeutic Processes: A Research Handbook*. New York, NY: Guilford Press, 1986.

#### **Hunot 2007**

Hunot VM, Horne R, Leese MN, Churchill RC. A cohort study of adherence to antidepressants in primary care: the influence of antidepressant concerns and treatment preferences. *Primary Care Companion, Journal of Clinical Psychiatry* 2007;**9**:91–9.

#### **isIPT [ND]**

isIPT. International Society for Interpersonal Psychotherapy. <http://www.interpersonalpsychotherapy.org/> (accessed 29 April 2010).

#### **Ivnik 1992**

Ivnik RJ, Malec JF, Smith GE, Tangalos EG, Petersen RC, Kokmen E. Mayo's older American normative

studies: updated AVLT norms for age 56-97. *Clinical Neuropsychologist* 1992;**6**(s1):82–103.

#### **Jacobson 1996**

Jacobson NS, Dobson KS, Truax PA, Addis ME, Koemer K, Gollan JK, et al. A component analysis of cognitive-behavioral treatment for depression. *Journal of Consulting and Clinical Psychology* 1996;**64**:293–304.

#### **Jung 1963**

Jung CG. *Memories, Dreams, Reflections*. London: Collins and Routledge, 1963.

#### **Klein 1960**

Klein M. *Our Adult World and Its Roots in Infancy*. London: Tavistock, 1960.

#### **Klerman 1984**

Klerman GL, Weissman MM, Rousaville BJ, Chevron ES. *Interpersonal Psychotherapy for Depression*. New York, NY: Basic Books, 1984.

#### **Kohlenberg 1991**

Kohlenberg RJ, Tsai M. *Functional Analytic Psychotherapy: A Guide for Creating Intense and Curative Therapeutic Relationships*. New York: Plenum, 1991.

#### **Kohlenberg 2002**

Kohlenberg RJ, Kanter JW, Bolling MY, Parker CR. Enhancing cognitive therapy for depression with functional analytic psychotherapy: treatment guidelines and empirical findings. *Cognitive and Behavioral Practice* 2002;**9**:213–29.

#### **Koons 2001**

Koons CR, Robins CJ, Tweed JL, Lynch TR, Gonzalez AM, et al. Efficacy of dialectical behaviour therapy in women veterans with borderline personality disorder. *Behavior Therapy* 2001;**32**:371–90.

#### **Law 2003**

Law J, Garrett Z, Nye C. Speech and language therapy interventions for children with primary speech and language delay or disorder. *Cochrane Database of Systematic Reviews* 2003, Issue 3. [DOI: 10.1002/14651858.CD004110]

#### **Lazarus 1971**

Lazarus AA. *Behavior Therapy and Beyond*. New York: McGraw-Hill, 1971.

#### **Lejuez 2001**

Lejuez CW, Hopko DR, Hopko SD. A brief behavioral activation treatment for depression: treatment manual. *Behavior Modification* 2001;**25**:255–86.

#### **Lewinsohn 1973**

Lewinsohn PM, Graf M. Pleasant events, activity schedules, and depression. *Journal of Abnormal Psychology* 1973;**79**: 291–5.

#### **Lewinsohn 1974**

Lewinsohn PM. A behavioral approach to depression. In: Friedman RJ, Katz MM editor(s). *The Psychology of Depression: Contemporary Theory and Research*. Oxford: Wiley, 1974.

#### **Linehan 1993**

Linehan MM. *Cognitive-Behavioral Treatment of Borderline Personality Disorder*. New York: Guilford Press, 1993.

**Longmore 2007**

Longmore RJ, Worrell M. Do we need to challenge thoughts in cognitive behaviour therapy?. *Clinical Psychology Review* 2007;**27**:173–87.

**Lu 2004**

Lu G, Ades AE, Lu G, Ades AE. Combination of direct and indirect evidence in mixed treatment comparisons. *Statistics in Medicine* 2004;**23**(20):3105–24.

**Luborsky 1962**

Luborsky L. Clinician's judgements of mental health. *Archives of General Psychiatry* 1962;**7**:407–17.

**Lynch 2000**

Lynch TR. Treatment of elderly depression with personality disorder comorbidity using dialectical behavior therapy. *Cognitive Behavioral Practice* 2000;**7**:468–77.

**Lynch 2003**

Lynch TR, Morse JQ, Mendelson T, Robins CJ. Dialectical behavior therapy for depressed older adults. *American Journal of Geriatric Psychiatry* 2003;**11**:33–45.

**Mahoney 1978**

Mahoney MJ, Arnkoff DB. Cognitive and self-control therapies. In: Garfield SL, Bergin AE editor(s). *Handbook of Psychotherapy and Behavior Change*. New York: Wiley, 1978.

**Malan 1963**

Malan DH. *A Study of Brief Psychotherapy*. London: Plenum, 1963.

**Mann 1973**

Mann J. *Time-Limited Psychotherapy*. Cambridge, MA: Harvard University Press, 1973.

**Mansell 2008**

Mansell W. The seven Cs of CBT: a consideration of the future challenges for cognitive behaviour therapy. *Behavioural and Cognitive Psychotherapy* 2008;**36**:641–9.

**Martell 2001**

Martell CR, Addis ME, Jacobson NS. *Depression in Context: Strategies for Guided Action*. New York: Norton, 2001.

**Maslow 1943**

Maslow AH. A theory of human motivation. *Psychological Review* 1943;**50**:270–96.

**May 1961**

May R. *Existential Psychology*. New York: Random House, 1961.

**McMurdo 2005**

McMurdo MET, Witham MD, Gilesie ND. Including older people in clinical research. *BMJ* 2005;**351**:1036–7.

**Meichenbaum 1977**

Meichenbaum D. *Cognitive-Behavior Modification: An Integrative Approach*. New York: Plenum Press, 1977.

**Mitchell 2009**

Mitchell AJ, Vaze A, Rao S. Clinical diagnosis of depression in primary care: a meta-analysis. *The Lancet* 2009;**374** (9690):609–19.

**Montgomery 1979**

Montgomery SA, Asberg M. A new depression scale designed to be sensitive to change. *British Journal of Psychiatry* 1979;**134**:382–9.

**Mykletun 2009**

Mykletun A, Bjerkeset O, Øverland S, Prince M, Dewey M, Stewart R. Levels of anxiety and depression as predictors of mortality: the HUNT study. *British Journal of Psychiatry* 2009;**195**:118–25.

**NICE 2009**

National Institute for Health and Clinical Excellence (NICE). *Depression: Treatment and Management of Depression in Adults, Including Adults With a Chronic Physical Health Problem. Clinical Guidelines 90 and 91*. [www.nice.org.uk/CG91](http://www.nice.org.uk/CG91) (accessed April 2010). London: NICE, 2009.

**O'Connell 2007**

O'Connell B. Solution-focused therapy. In: Dryden W editor(s). *Dryden's Handbook of Individual Therapy*. London: Sage, 2007.

**Ost 2008**

Ost LG. Efficacy of the third wave of behavioural therapies: a systematic review and meta-analysis. *Behaviour Research and Therapy* 2008;**46**:296–321.

**Pilgrim 2002**

Pilgrim D. The cultural context of British psychotherapy. In: Dryden W editor(s). *The Handbook of Individual Psychotherapy*. 4th Edition. London: Sage, 2002.

**Rachman 1997**

Rachman SJ. The evolution of cognitive behaviour therapy. In: Clark DM, Fairburn CG editor(s). *Science and Practice of Cognitive Behaviour Therapy*. New York: Oxford University Press, 1997.

**Rait 2005**

Rait G, Fletcher A, Smeeth L, Crayne C, Stirling S, Nunes M, et al. Prevalence of cognitive impairment: results from the MRC trial of assessment and management of older people in the community. *Age and Ageing* 2005;**34**:242–8.

**Rait 2009**

Rait G, Walters K, Griffin M, Buszewicz M, Petersen I, Nazareth I. Recent trends in the incidence of recorded depression in primary care. *The British Journal of Psychiatry* 2009;**195**(6):520–4.

**Riedel-Heller 2005**

Riedel-Heller SG, Matschinger H, Angermeyer MC. Mental disorders—who and what might help? Help-seeking and treatment preferences of the lay public. *Social Psychiatry and Psychiatric Epidemiology* 2005;**40**:167–74.

**Roca 2009**

Roca M, Gili M, Garcia-Garcia M, Salva J, Vives M, Garcia Campayo J, et al. Prevalence and comorbidity of common mental disorders in primary care. *Journal of Affective Disorders* 2009;**119**(1-3):52–8.

**Rogers 1951**

Rogers C. *Client-Centered Therapy*. Boston, MA: Houghton Mifflin, 1951.

**Roth 2008**

Roth A, Pilling S. Using an evidence-based methodology to identify the competences required to deliver effective cognitive and behavioural therapy for depression and anxiety disorders. *Behavioural and Cognitive Psychotherapy* 2008;**36**:129–47.

**Ryle 1990**

Ryle A. *Cognitive Analytic Therapy: Active Participation in Change, a New Integration in Brief Psychotherapy*. Chichester: Wiley, 1990.

**Segal 2002**

Segal ZV, Williams JMG, Teasdale JD. *Mindfulness-Based Cognitive Therapy for Depression*. New York: Guilford Press, 2002.

**Shapiro 1990**

Shapiro DA, Startup MJ. *Raters' Manual for the Sheffield Psychotherapy Rating Scale*. Sheffield: MRC/ESCR Social and Applied Psychology Unit, University of Sheffield, 1990.

**Skinner 1953**

Skinner BF. *Science and Human Behaviour*. New York: Free Press, 1953.

**Spielberger 1983**

Spielberger CD, Gorsuch RL, Lushene R, Vagg PR, Jacobs GA. *Manual for the State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists Press, 1983.

**Stiles 2008**

Stiles WB, Barkham M, Mellor-Clark J, Connell J. Effectiveness of cognitive-behavioural, person-centred and psychodynamic therapies in UK primary care routine practice: replication in a larger sample. *Psychological Medicine* 2008;**38**:677–88.

**Strupp 1984**

Strupp H, Binder J. *Psychotherapy in a New Key: A Guide to Time-Limited Dynamic Psychotherapy*. New York: Basic Books, 1984.

**Teasdale 1995**

Teasdale JD, Segal Z, Williams JMG. How does cognitive therapy prevent depressive relapse and why should attentional control (mindfulness) training help. *Behaviour Research and Therapy* 1995;**33**:25–39.

**Ustun 2004**

Ustun TB, Ayuso-Mateos JL, Chatterji S, Mathers C, Murray CJ. Global burden of depressive disorders in the year 2000. *British Journal of Psychiatry* 2004;**184**:386–92.

**van Geffen 2009**

van Geffen EC, Gardarsdottir H, van Hulst R, van Dijk L, Egberts AC, Heerdink ER. Initiation of antidepressant therapy: do patients follow the GP's prescription?. *British Journal of General Practice* 2009;**59**:81–7.

**Ware 1993**

Ware JE, Snow KK, Kosinski M, Gandek B. *SF-36 Health Survey: Manual and Interpretation Guide*. Boston, MA: Health Institute, New England Medical Center, 1993.

**Watanabe 2004**

Watanabe N, Hunot V, Churchill R, Furukawa TA. Psychotherapy for depression in children and adolescents. *Cochrane Database of Systematic Reviews* 2004, Issue 4. [DOI: 10.1002/14651858.CD005334]

**Watson 1924**

Watson JB. *Behaviorism*. New York: Norton, 1924.

**Watzlavick 1974**

Watzlavick P, Weakland J, Fisch R. Brief Problem Solving Change: principles of problem formation and problem resolution. New York: W W Norton. *Change: Principles of Problem Formation and Problem Resolution*. New York: WW Norton, 1974.

**Weissman 2007**

Weissman M, Markowitz JC, Klerman GL. *Clinician's Quick Guide to Interpersonal Psychotherapy*. New York, NY: Oxford University Press, 2007.

**Wells 2008**

Wells A. *Metacognitive Therapy for Depression and Anxiety*. New York, NY: Guilford Press, 2008.

**Wells 2009**

Wells A, Fisher P, Myers S, Wheatley J, Patel R, Brewin CR. Metacognitive therapy in recurrent and persistent depression: a multiple-baseline study of a new treatment. *Cognitive Therapy and Research* 2009;**33**:291–300.

**Welton 2009**

Welton NJ, Caldwell DM, Adamopoulos E, Vedhara K. Mixed treatment comparison meta-analysis of complex interventions: psychological interventions in coronary heart disease. *American Journal of Epidemiology* 2009;**169**(9): 1158–65.

**WHO 1978**

World Health Organisation (WHO). *The Ninth Revision of the International Classification of Diseases and Related Health Problems (ICD-9)*. Geneva: WHO, 1978.

**WHO 1992**

World Health Organisation (WHO). *The ICD-10 Classification of Mental and Behavioural Disorders*. Geneva: WHO, 1992.

**WHO 2004**

WHO. *The Global Burden of Disease: 2004 Update*. Geneva: WHO, 2004.

**WHO 2008**

WHO. The World Health Report-Primary Health Care (Now More Than Ever). [http://www.who.int/healthinfo/global\\_burden\\_disease/projections/en/index.html](http://www.who.int/healthinfo/global_burden_disease/projections/en/index.html) Accessed 5/8/09.

**WHOQL 1998**

WHO. The World Health Organisation Quality of Life Assessment (WHOQOL): development and general

psychometric properties. *Social Science and Medicine* 1998; 46:1569–85.

**Williams 1997**

Williams JMG. Specific problems and disorders: depression. In: Clark DM, Fairburn CG editor(s). *Science and Practice of Cognitive Behaviour Therapy*. New York, NY: Oxford University Press, 1997.

**Williams 2008**

Williams JMG, Russell I, Russell D. Mindfulness-based cognitive therapy: further issues in current evidence and future research. *Journal of Consulting and Clinical Psychology* 2008;76(3):524–9.

**Wilson 2008**

Wilson K, Mottram PG, Vassilas C. Psychotherapeutic treatments for older depressed people. *Cochrane Database of Systematic Reviews* 2008, Issue 1. [DOI: 10.1002/14651858.CD004853.pub2]

**Wing 1994**

Wing J. *Measuring Mental Health Outcomes: A Perspective From the Royal College of Psychiatrists: Outcomes Into Clinical Practice*. London: BMJ Publishing, 1994.

**Wolpe 1958**

Wolpe J. *Psychotherapy by Reciprocal Inhibition*. Redwood City, CA: Stanford University Press, 1958.

\* Indicates the major publication for the study

## CHARACTERISTICS OF STUDIES

### Characteristics of included studies [ordered by study ID]

Dimidjian 2004

Methods	<p><b>Design:</b> RCT, parallel design  <b>Study duration:</b> 16 weeks  <b>Follow-up:</b> none</p>
Participants	<p><b>Sample size:</b> 138 individuals eligible and agreed to participate  <b>Recruitment:</b> media advertisements and referrals from local agencies/word of mouth  <b>Inclusion criteria-diagnostic classification criteria:</b> <i>DSM-IV</i> diagnosis made using SCID-I  <b>Inclusion criteria-rating scales:</b> HRSD score <math>\geq 14</math> and BDI score <math>\geq 20</math>  <b>Included disorders:</b> major depressive disorder  <b>Gender:</b> 66% of sample women  <b>Mean age:</b> 39.9 years (SD 10.97)  <b>Country/Ethnicity:</b> conducted in USA: 85.5% white  <b>Pharmacotherapy during the study:</b> one group randomly assigned to receive antidepressant treatment</p>
Interventions	<p><b>Behavioural activation</b>  <b>Intervention:</b> BA condition an expanded version of the approach used in the component analysis study by Jacobson et al (1996). Centrality of patterns of avoidance and withdrawal highlighted, and increased activity presented as a strategy to break the cycle. Specific behaviourally focused activation strategies included self-monitoring, structuring and scheduling daily activities, rating pleasure/accomplishment and exploring different behaviours. Expanded model also included behavioural strategies for targeting rumination, understanding the function of ruminative thinking and moving attention away from the content of ruminative thoughts towards direct, immediate experience. Participants received a maximum of 24 individual 50-minute sessions over 16 weeks, with sessions generally held twice weekly for the first 8 weeks and once weekly for the next 8 weeks  <b>Therapists:</b> BA provided by two licensed psychologists and a licensed clinical social worker, who had been in clinical practice for an average of 7 years. Therapists received individual off-site supervision via telephone from two of the trial authors</p> <p><b>Cognitive therapy</b>  <b>Intervention:</b> CT condition provided in a manner consistent with standard CT for depression. Three broad classes of intervention included targeting behavioural dysfunction, situation-specific cognitive distortions and underlying dysfunctional beliefs. CT also included the full range of BA strategies outlined in CT texts for depression, but not those outlined as part of the expanded BA model. Participants received a maximum of 24 individual 50-minute sessions over 16 weeks, with sessions generally held twice weekly for the first 8 weeks and once weekly for the next 8 weeks  <b>Therapists:</b> CT provided by three licensed psychologists, who had been in clinical practice for an average of 14 years. Two had extensive training in CT before the outset of the trial, and the third had received specialised training in CT. Two study authors provided individual supervision off-site via telephone</p>

	<p><b>Antidepressant medication</b> ADM condition administered triple-blind for first 8 weeks of the trial, after which the blind was broken and only evaluators were kept blind to the treatment condition. Participants prescribed paroxetine on a flexible schedule. Participants seen weekly for first 4 weeks, and then bi-weekly</p> <p><b>Placebo</b> PLA condition administered triple-blind for first 8 weeks of the trial, after which participants offered their choice of treatment at study expense</p>	
Outcomes	HRSD BDI-II	
Notes	<p>Authors separated the sample into two groups of high and low depression severity on the basis of scores on the pretreatment HRSD (high severity <math>\geq 20</math>, low severity <math>\leq 19</math>) because of potential problems with multicollinearity associated with including both the dichotomous severity variable (based on the HRSD) and pretreatment severity (continuous form of BDI-II or HRSD) as the first outcome measure in the same analysis. For purposes of including continuous data in the meta-analyses, high and low severity means and SDs entered separately, in accordance with figures reported in the paper</p> <p>Only data from BA and CT arms used</p>	
<b>Risk of bias</b>		
<b>Bias</b>	<b>Authors' judgement</b>	<b>Support for judgement</b>
Random sequence generation (selection bias)	Low risk	Participants assigned to one of four acute treatment conditions using a computer-generated randomisation list
Allocation concealment (selection bias)	Low risk	Participants assigned to treatment conditions by the participant coordinator
Blinding of participants and personnel (performance bias) All outcomes	High risk	Not possible to blind participants and clinicians in CT and BA conditions. ADM and placebo conditions administered blind to participants for first part of study only
Blinding of outcome assessment for observer-rated scales (detection bias)	Low risk	Evaluators blind to participants' treatment condition and supervised weekly to prevent rater drift (page 661, col 1, para 4)
Incomplete outcome data (attrition bias) All outcomes	Low risk	Treatment differences for categorical response and remission conducted with the full ITT sample, using LOCF. Attrition similar in BA and CT groups, and reasons for attrition varied/mostly provided (page 659, col 2, para 2)

Dimidjian 2004 (Continued)

Selective reporting (reporting bias)	Unclear risk	No study protocol available-insufficient information to allow an assessment
Researcher allegiance and other conflicts of interest (financial or other)	Unclear risk	Expanded BA model developed at the University of Washington, and CT supervisors off-site (page 668, col 2, para 1)
Therapist allegiance and other conflicts of interest (financial or other)	Low risk	BA and CT therapists had declared allegiance to their respective therapies
Therapist qualifications	Low risk	BA and CT therapists similarly qualified and experienced in their respective approaches
Treatment fidelity	Low risk	Therapy sessions audiotaped, and adherence assessed by 5 undergraduate raters blind to the treatment condition and trained to use the CSPRS, modified to accommodate BA (page 661, col 2, para 2) . No competency ratings for BA therapists provided (page 668, col 2, para 2)
Other bias	Unclear risk	Insufficient information provided

Zettle 1984

Methods	<p><b>Design:</b> RCT of parallel design  <b>Study duration:</b> 12 weeks  <b>Follow-up:</b> 2 months after end of treatment</p>
Participants	<p><b>Sample size:</b> 25 individuals eligible for the study, of whom 19 agreed to participate  <b>Recruitment:</b> GP and O/P referrals, media advertisements  <b>Inclusion criteria-diagnostic classification criteria :</b> not stated  <b>Inclusion criteria-rating scales:</b> BDI score <math>\geq</math> 20, MMPI Depression Scale T score <math>\geq</math> 70/score greater than T scores on psychasthenia and hysteria scales, HRSD score <math>\geq</math> 14  <b>Included disorders:</b> assessed as 'clinically depressed'  <b>Gender:</b> female participants only  <b>Mean age:</b> 40.39 years  <b>Country/Ethnicity:</b> conducted in the USA; no information provided on ethnicity of participants  <b>Pharmacotherapy during the study:</b> before initiation of treatment, participants required to verify that they were not taking antidepressants or tranquilising medications</p>
Interventions	<p><b>CT: cognitive restructuring plus distancing (assigned to 2 groups-with and without homework)</b>  <b>Intervention:</b> CCT used full complement of therapeutic procedures and strategies common to CT, including distancing, cognitive restructuring and behavioural hypothesis testing. Distancing procedures included the use of similes, reattribution techniques and</p>

	<p>alternative conceptualisations. Participants received 12 individual weekly sessions lasting approximately 1 hour</p> <p><b>Therapists:</b> therapy provided by first author, who was completing an internship at the Center for Cognitive Therapy in Philadelphia. Supervision arrangements not reported</p> <p><b>CT: cognitive restructuring alone (assigned to 2 groups-with and without homework)</b></p> <p><b>Intervention:</b> condition different from CCT in the absence of any distancing procedures. Participants received 12 individual weekly sessions lasting approximately 1 hour</p> <p><b>Therapists:</b> therapy provided by first author, who was completing an internship at the Center for Cognitive Therapy in Philadelphia. Supervision arrangements not reported</p> <p><b>Comprehensive distancing (assigned to 2 groups-with and without homework)</b></p> <p><b>Intervention:</b> condition derived from a behavioural view of cognitive activity (Hayes 1987), based on three key themes that efforts to change depressive thoughts evoke the very thoughts to be eliminated, that depressive thoughts put forward as reasons for dysfunctional actions are merely more behaviour, and that treating depressive thoughts as behaviour in context makes it possible to behave more effectively despite the continued presence of negative thinking. Participants received 12 individual weekly sessions lasting approximately 1 hour</p> <p><b>Therapists:</b> therapy provided by first author, who was a doctoral level graduate student in psychology, completing an internship at the Center for Cognitive Therapy in Philadelphia. Supervised by Steven Hayes</p>	
Outcomes	<p>BDI</p> <p>MMPI-D</p> <p>HRSD</p> <p>Automatic Thoughts Questionnaire</p> <p>Dysfunctional Attitude Questionnaire</p> <p>Pleasant Events Schedule (Activity Level, Reinforcement Potential and Obtained Reinforcement)</p>	
Notes	<p>For the purposes of conducting analyses, CT plus distancing and CT without distancing combined into a single CT approach</p>	
<b>Risk of bias</b>		
<b>Bias</b>	<b>Authors' judgement</b>	<b>Support for judgement</b>
Random sequence generation (selection bias)	Unclear risk	No information provided
Allocation concealment (selection bias)	Unclear risk	No information provided
Blinding of participants and personnel (performance bias) All outcomes	High risk	Not possible to blind participants and clinicians in a psychological therapy trial
Blinding of outcome assessment for observer-rated scales (detection bias)	Low risk	Participants interviewed by an independent advanced graduate student who was blind to treatment assignment (page 37, para 4)

		. Interviews audiotaped and rated on the HRSD by another advanced graduate student, who was also blind to treatment assignment, to obtain a measure of interrater agreement (page 38, para 1)
Incomplete outcome data (attrition bias) All outcomes	Low risk	Only one participant did not complete treatment
Selective reporting (reporting bias)	Unclear risk	No study protocol available-insufficient information to make an assessment
Researcher allegiance and other conflicts of interest (financial or other)	High risk	Steve Hayes, who developed the comprehensive distancing (early version of ACT) manual, served as chairperson for author's dissertation and was supervisor and major advisor throughout first author's doctoral training (pages iii and 213)
Therapist allegiance and other conflicts of interest (financial or other)	Unclear risk	First author served as therapist for all six treatment conditions. Postsession questionnaire administered at end of each treatment session to check for differential bias between conditions. Findings not reported apart from statement in discussion that results of postsession questionnaire suggested that therapist bias did not account for differential treatment effects (page 105, para 2)
Therapist qualifications	High risk	Therapist was doctoral level graduate student in psychology completing internship at the Center for Cognitive Therapy during course of study. Several years of clinical training and experience, with licensed psychological associate (page 213, para 2)
Treatment fidelity	Unclear risk	Random third of all treatment sessions audiotaped and reviewed later by panel of four independent judges, who were familiar with treatment manuals but were blind to each treatment condition. 83% of tapes correctly classified (page 56, para 1). No fidelity scales used
Other bias	High risk	An attendance fee given

Zettle 1989

Methods	<p><b>Design:</b> RCT of parallel design  <b>Study duration:</b> 12 weeks  <b>Follow-up:</b> 2 months after end of therapy</p>
Participants	<p><b>Sample size:</b> 45 individuals eligible for the study, of whom 37 agreed to participate  <b>Recruitment:</b> media advertisements  <b>Inclusion criteria-diagnostic classification criteria:</b> not reported  <b>Inclusion criteria-rating scales:</b> BDI score <math>\geq</math> 20, MMPI Depression Scale T score <math>\geq</math> 70/score greater than T scores on psychasthenia and hysteria scales, HRSD score <math>\geq</math> 14  <b>Included disorders:</b> moderate to severe depression  <b>Gender:</b> female participants only  <b>Mean age:</b> 41.3 years  <b>Country/Ethnicity:</b> conducted in USA; no information on ethnicity of participants provided  <b>Pharmacotherapy during the study:</b> before treatment began, participants required to verify that they were not taking antidepressants or tranquilising medications</p>
Interventions	<p><b>Complete cognitive therapy package (CCT)</b>  <b>Intervention:</b> CCT used full complement of therapeutic procedures and strategies common to CT, including distancing, cognitive restructuring and behavioural hypothesis testing. Distancing procedures included use of similes, reattribution techniques and alternative conceptualisations. Therapy conducted in groups of 4 to 7 participants, who met for 12 weekly sessions of 90 min each  <b>Therapists:</b> CCT provided by first author, who had received previous training in CT and CD, assisted by second author, a graduate student. Supervision arrangements not reported</p> <p><b>Partial cognitive therapy package (PCT)</b>  <b>Intervention:</b> condition differed from CCT in the absence of any distancing procedures. Therapy conducted in groups of 4 to 7 participants, who met for 12 weekly sessions of 90 min each  <b>Therapists:</b> CCT provided by first author, who had received previous training in CT and CD, assisted by second author, a graduate student. Supervision arrangements not reported</p> <p><b>Comprehensive distancing (CD)</b>  <b>Intervention:</b> condition derived from a behavioural view of cognitive activity (Hayes 1987), based on three key themes that efforts to change depressive thoughts evoke the very thoughts to be eliminated, that depressive thoughts put forward as reasons for dysfunctional actions are merely more behaviour and that treating depressive thoughts as behaviour in context makes it possible to behave more effectively despite the continued presence of negative thinking. Therapy conducted in groups of 4 to 7 participants, who met for 12 weekly 90-min sessions  <b>Therapists:</b> CCT provided by first author, who had received previous training in CT and CD, assisted by second author, a graduate student. Supervision arrangements not reported</p>
Outcomes	<p>BDI  HRSD  Automatic Thoughts Questionnaire  Dysfunctional Attitude Scale  Pleasant Events Schedule (Activity Level, Reinforcement Potential and Obtained Rein-</p>

	forcement)	
Notes		
<b>Risk of bias</b>		
<b>Bias</b>	<b>Authors' judgement</b>	<b>Support for judgement</b>
Random sequence generation (selection bias)	Unclear risk	No information provided
Allocation concealment (selection bias)	Unclear risk	No information provided
Blinding of participants and personnel (performance bias) All outcomes	High risk	Not possible to blind participants and clinicians in a psychological therapy trial
Blinding of outcome assessment for observer-rated scales (detection bias)	Low risk	Evaluator blind to each participant treatment condition and completed the HRSD after both interviews (page 438, para 4)
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	Dropout rate of 16% and no reasons provided for attrition. No statistical methods used for taking account of missing data-dropouts excluded from further analysis (page 438, para 2)
Selective reporting (reporting bias)	Unclear risk	No study protocol available-insufficient information to allow an assessment Primary efficacy outcome not specified a priori, in terms of what aspect of efficacy would be measured or which measure
Researcher allegiance and other conflicts of interest (financial or other)	High risk	Citation in Background section indicates that first author had conducted previous comprehensive distancing trial with Dr Steve Hayes, who developed and manualised ACT
Therapist allegiance and other conflicts of interest (financial or other)	Unclear risk	First author was primary therapist, assisted by coauthor. Therapist allegiance to comprehensive distancing indicated in Background. However, questionnaire adapted from Rose 1984 was administered at end of each treatment session to assess the presence of any potential bias or other non-specific effects that might favour one condition over another. Significant difference between groups noted for session 5 only

**Zettle 1989** (Continued)

		when PCT participants reported a more favourable evaluation than the other two groups (page 440, para 3)
Therapist qualifications	Unclear risk	Primary therapist had received previous training in CT and comprehensive distancing. Assisted by graduate student (page 439, para 2)
Treatment fidelity	Unclear risk	Audiotapes of sessions reviewed by two judges familiar with treatment manuals but blind to each group's treatment condition (page 440, para 2)-able to classify 21 out of 24 tapes correctly. No use of fidelity scales
Other bias	Unclear risk	Insufficient information provided

**Characteristics of excluded studies** [ordered by study ID]

Study	Reason for exclusion
Armento 2011	Comparator was a control condition-study included in third wave CBT vs TAU review
Azargoon 2010	Comparator was a control condition-study included in third wave CBT vs TAU review
Ekers 2011	Comparator was a control condition-study included in third wave CBT vs TAU review
Ekkers 2011	Comparator was a control condition-study included in third wave CBT vs TAU review
Folke 2012	Did not meet diagnostic inclusion criteria-sample had long-term depression
Gawrysiak 2009	Comparator was a control condition-study included in third wave CBT vs TAU review
Kaviani 2012	Did not meet diagnostic inclusion criteria-sample had subclinical depression
Korrelboom 2012	Did not meet diagnostic inclusion criteria-sample in partial remission
Manicavasgar 2011	Three of eleven treatment groups not randomly allocated
Pellowe 2007	Comparator was a control condition-study included in third wave CBT vs TAU review
Pinniger 2012	Did not meet diagnostic inclusion criteria-mixed population

## Characteristics of ongoing studies [ordered by study ID]

### NCT01070134

Trial name or title	'Third wave' cognitive therapy versus psychodynamic therapy (PD) for patients with major depressive disorder in psychotherapeutic day treatment: a randomised clinical pilot trial
Methods	Randomised controlled trial
Participants	Adults diagnosed with major depressive disorder, referred to the day clinic, Roskilde Psychiatric Services
Interventions	<ul style="list-style-type: none"><li>• Mindfulness-based behavioural therapy-weekly individual MIBT (45 to 50 minutes), together with weekly mindfulness skills training group (1.5 hours) for 18 weeks</li><li>• Mentalisation-based therapy-weekly individual PT therapy (45 to 50 minutes), together with weekly PT group therapy (1.5 hours) for 18 weeks</li></ul>
Outcomes	Primary outcome: HAD-D Secondary outcomes: SCL-90-R, proportion of participants who achieve remission (HAM-D score < 8)
Starting date	February 2010
Contact information	Janus Jakobsen janusjakobsen@mac.com
Notes	Estimated study completion date: August 2011

### NCT01517503

Trial name or title	Acceptance and commitment therapy versus cognitive therapy for the treatment of major depressive disorder
Methods	Randomised controlled trial
Participants	Adults with major depressive disorder in routine clinical practice
Interventions	<ul style="list-style-type: none"><li>• Cognitive therapy: maximum of 20 45-minute sessions to be provided over 16 weeks, with sessions held twice weekly for the first 6 weeks and once weekly for the next 8 weeks</li><li>• Acceptance and commitment therapy: maximum of 20 45-minute sessions to be provided over 16 weeks, with sessions held twice weekly for the first 6 weeks and once weekly for the next 8 weeks</li></ul>
Outcomes	Primary outcomes: Quick Inventory of Depressive Symptomatology, HAM-D Secondary outcomes: Decentering Subscale of Experiences Questionnaire, Acceptance and Action Questionnaire, Dysfunctional Attitude Scale-Revised, Working Alliance Inventory, Europhis Quality of Life Scale, Relationship Scales, Implicit Attitude Test, Structured Clinical Interview for <i>DSM-IV</i>
Starting date	December 2011
Contact information	Nexhmedin Morina: n.morina@uva.nl
Notes	Estimated study completion date: December 2014

## DATA AND ANALYSES

### Comparison 1. Third wave CBT vs other psychological therapies

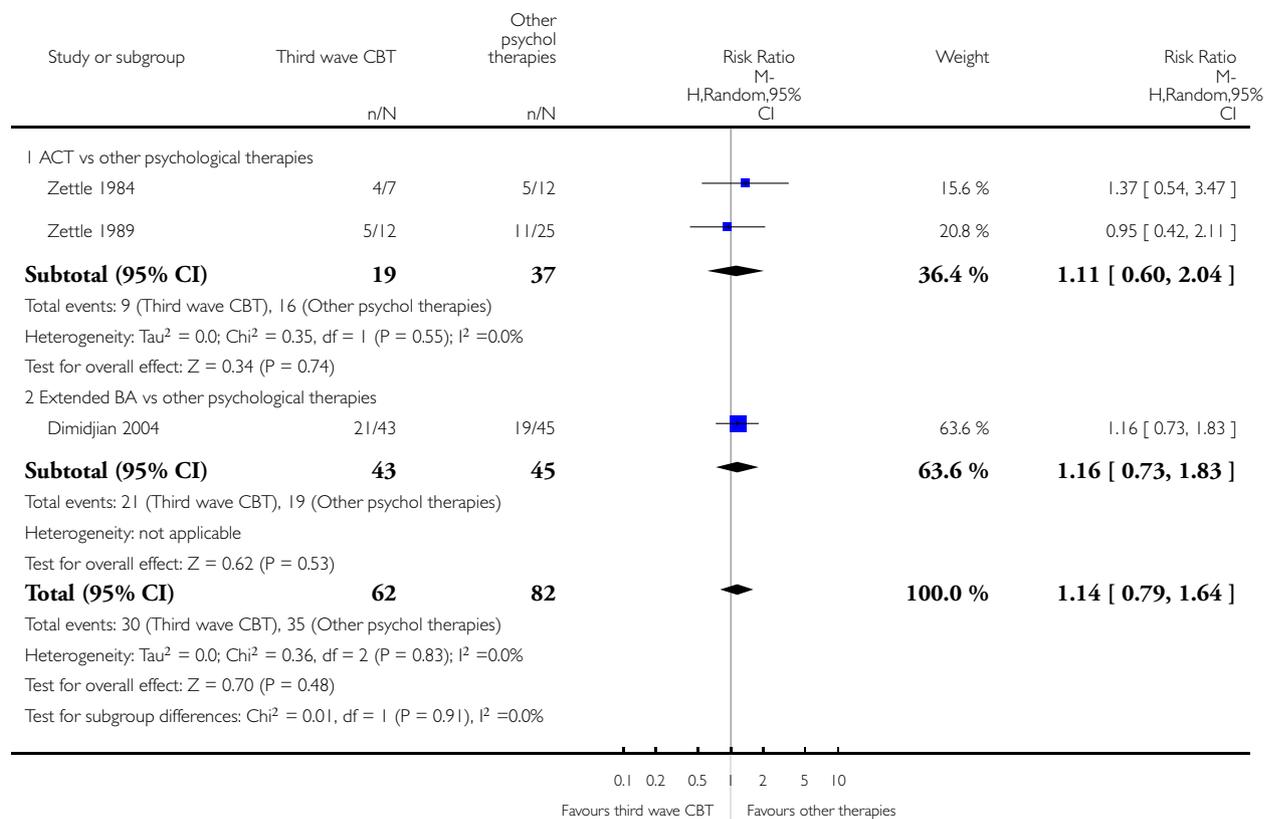
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Clinical response at post-treatment	3	144	Risk Ratio (M-H, Random, 95% CI)	1.14 [0.79, 1.64]
1.1 ACT vs other psychological therapies	2	56	Risk Ratio (M-H, Random, 95% CI)	1.11 [0.60, 2.04]
1.2 Extended BA vs other psychological therapies	1	88	Risk Ratio (M-H, Random, 95% CI)	1.16 [0.73, 1.83]
2 Clinical response at follow-up	2		Risk Ratio (M-H, Random, 95% CI)	Subtotals only
2.1 ACT vs other psychological therapies	2	56	Risk Ratio (M-H, Random, 95% CI)	0.31 [0.08, 1.26]
3 Treatment acceptability (dropout) at post-treatment	3	144	Risk Ratio (M-H, Random, 95% CI)	1.12 [0.47, 2.67]
3.1 ACT vs other psychological therapies	2	56	Risk Ratio (M-H, Random, 95% CI)	1.07 [0.10, 11.23]
3.2 Extended BA vs other psychological therapies	1	88	Risk Ratio (M-H, Random, 95% CI)	1.22 [0.45, 3.34]
4 Treatment acceptability (dropout) at follow-up	2		Risk Ratio (M-H, Random, 95% CI)	Subtotals only
4.1 ACT vs other psychological therapies	2	56	Risk Ratio (M-H, Random, 95% CI)	1.07 [0.10, 11.23]
5 Remission at post-treatment	1		Risk Ratio (M-H, Random, 95% CI)	Totals not selected
6 Depression levels at post-treatment	3	113	Mean Difference (IV, Random, 95% CI)	-1.65 [-4.17, 0.88]
6.1 ACT vs other psychological therapies	2	50	Mean Difference (IV, Random, 95% CI)	-2.58 [-6.39, 1.24]
6.2 Extended BA vs other psychological therapies	1	63	Mean Difference (IV, Random, 95% CI)	-0.93 [-4.35, 2.50]
7 Depression levels at follow-up	2	49	Mean Difference (IV, Random, 95% CI)	-4.51 [-7.47, -1.55]
7.1 ACT vs other psychological therapies	2	49	Mean Difference (IV, Random, 95% CI)	-4.51 [-7.47, -1.55]

## Analysis 1.1. Comparison 1 Third wave CBT vs other psychological therapies, Outcome 1 Clinical response at post-treatment.

Review: 'Third wave' cognitive and behavioural therapies versus other psychological therapies for depression

Comparison: 1 Third wave CBT vs other psychological therapies

Outcome: 1 Clinical response at post-treatment

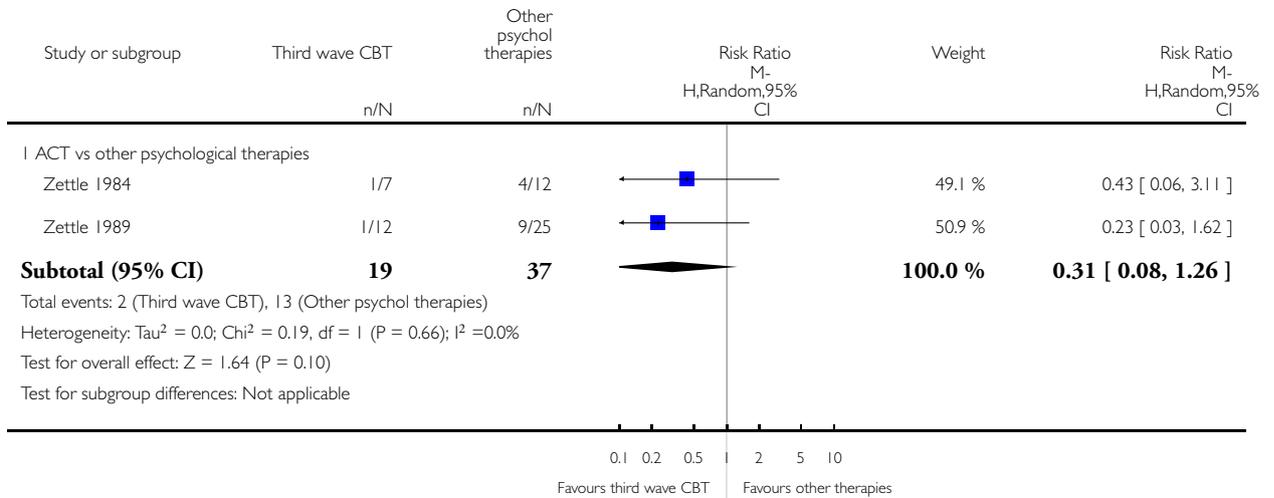


## Analysis 1.2. Comparison 1 Third wave CBT vs other psychological therapies, Outcome 2 Clinical response at follow-up.

Review: 'Third wave' cognitive and behavioural therapies versus other psychological therapies for depression

Comparison: 1 Third wave CBT vs other psychological therapies

Outcome: 2 Clinical response at follow-up

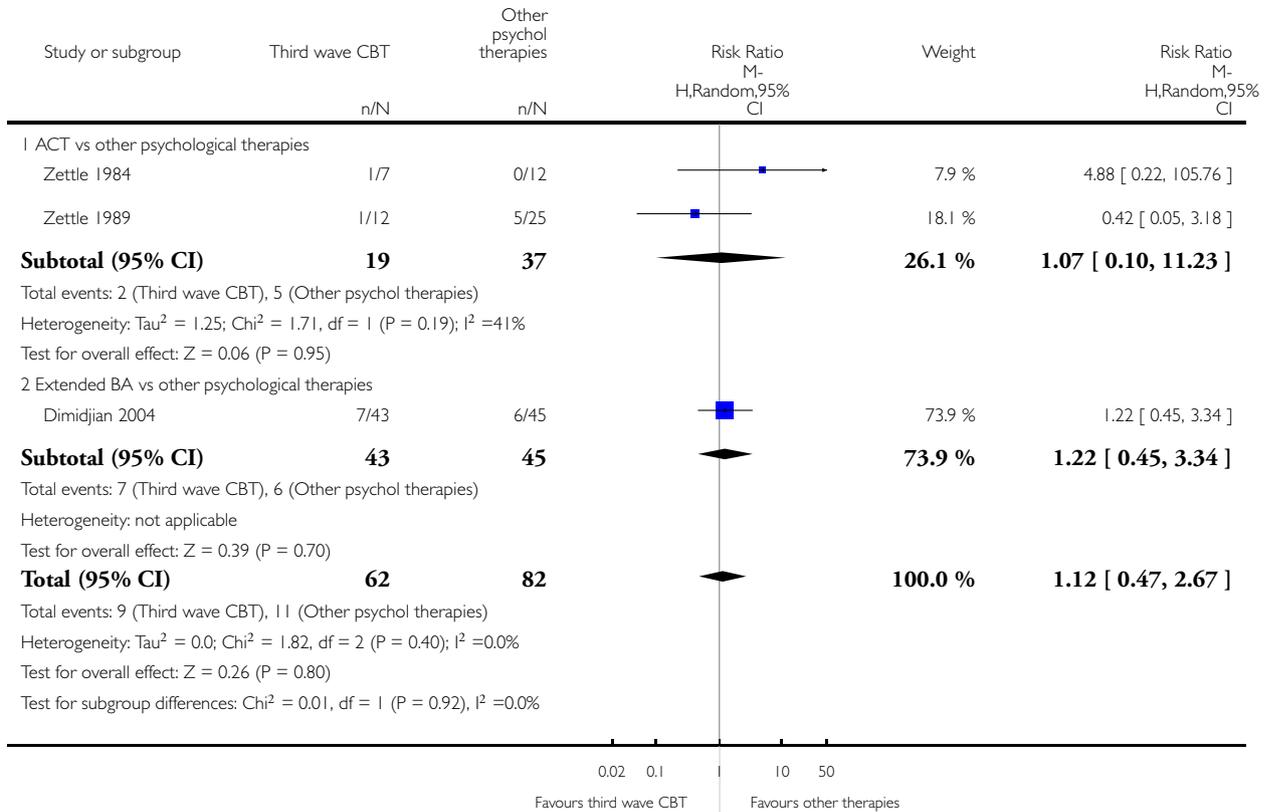


### Analysis 1.3. Comparison 1 Third wave CBT vs other psychological therapies, Outcome 3 Treatment acceptability (dropout) at post-treatment.

Review: 'Third wave' cognitive and behavioural therapies versus other psychological therapies for depression

Comparison: 1 Third wave CBT vs other psychological therapies

Outcome: 3 Treatment acceptability (dropout) at post-treatment

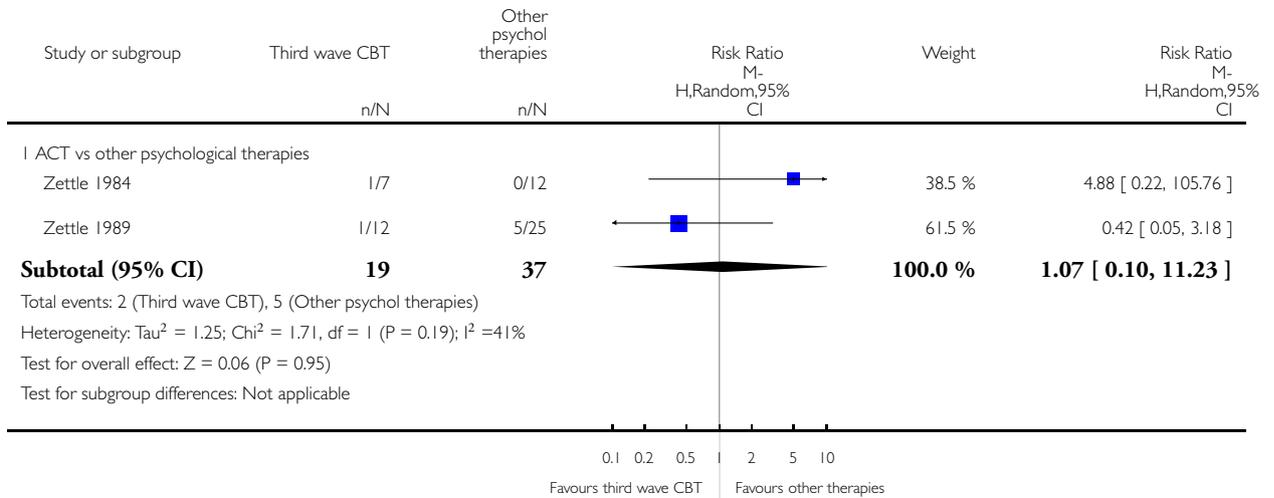


### Analysis I.4. Comparison I Third wave CBT vs other psychological therapies, Outcome 4 Treatment acceptability (dropout) at follow-up.

Review: 'Third wave' cognitive and behavioural therapies versus other psychological therapies for depression

Comparison: I Third wave CBT vs other psychological therapies

Outcome: 4 Treatment acceptability (dropout) at follow-up

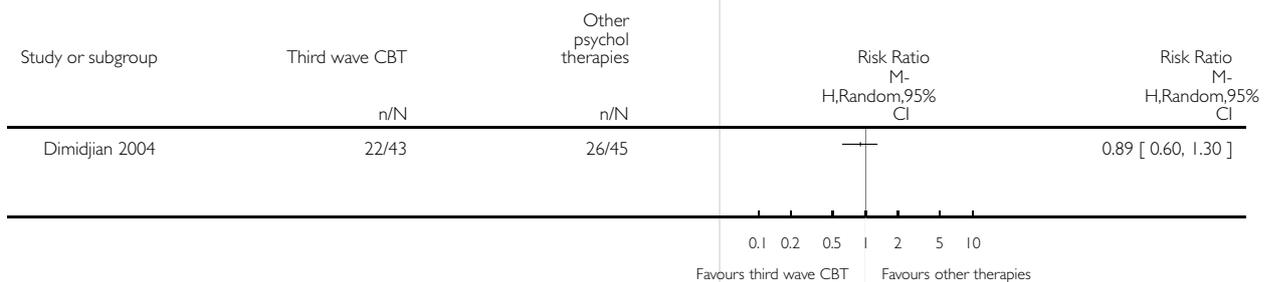


### Analysis I.5. Comparison I Third wave CBT vs other psychological therapies, Outcome 5 Remission at post-treatment.

Review: 'Third wave' cognitive and behavioural therapies versus other psychological therapies for depression

Comparison: I Third wave CBT vs other psychological therapies

Outcome: 5 Remission at post-treatment

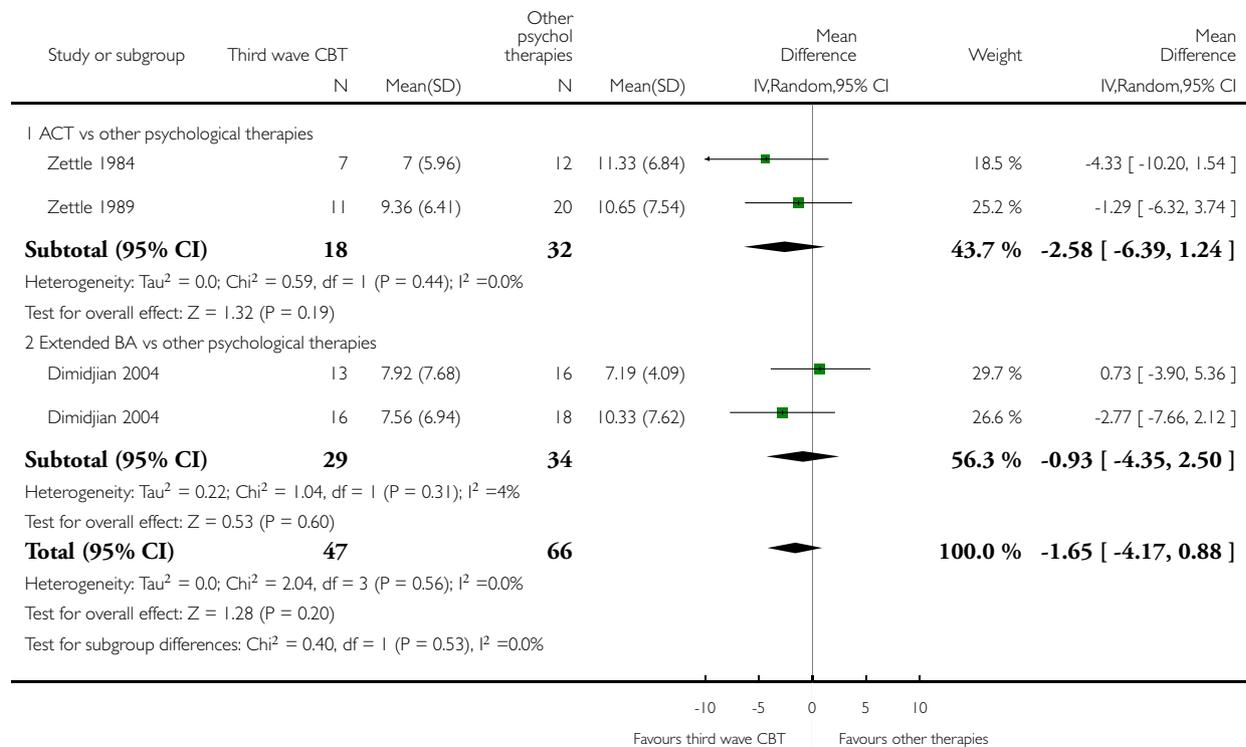


### Analysis 1.6. Comparison 1 Third wave CBT vs other psychological therapies, Outcome 6 Depression levels at post-treatment.

Review: 'Third wave' cognitive and behavioural therapies versus other psychological therapies for depression

Comparison: 1 Third wave CBT vs other psychological therapies

Outcome: 6 Depression levels at post-treatment

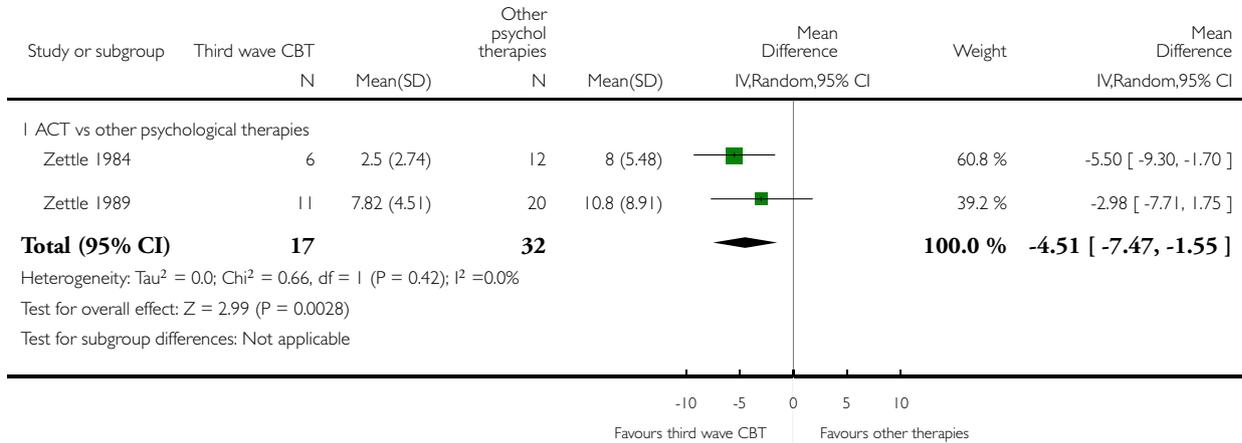


### Analysis 1.7. Comparison 1 Third wave CBT vs other psychological therapies, Outcome 7 Depression levels at follow-up.

Review: 'Third wave' cognitive and behavioural therapies versus other psychological therapies for depression

Comparison: 1 Third wave CBT vs other psychological therapies

Outcome: 7 Depression levels at follow-up



## APPENDICES

### Appendix I. CCDAN-CTR References Register search (psychotherapies for depression)

1	Title/Abstract=	therap* or psychotherap*
2	Keywords=	psychotherapy
3	Free-Text=	acceptance* or commitment* or "activity scheduling" or adlerian or art or aversion or behvio* or brief or "client cent*" or cognitive* or color or colour or compassion-focused or "compassion* focus*" or compassionate or conjoint or conversion or conversational or couples or dance or dialectic* or diffusion or distraction or eclectic or (emotion and focus*) or emotion-focus* or existential or experiential or exposure or expressive or family or focus-oriented or "focus oriented" or freudian or gestalt or "group" or humanistic or implosive or insight or integrative or interpersonal or jungian or kleinian or logo or marital or metacognitive or meta-cognitive or milieu or morita or multimodal or multi-modal or music or narrative or nondirective or non-directive or "non directive" or nonspecific or non-specific or "non

(Continued)

		specific” or “object relations” or “personal construct” or “person cent*” or person-cent* or persuasion or play or ((pleasant or pleasing) and event*) or primal or problem-focused or “problem focused” or problem-solving or “problem solving” or process-experiential or “process experiential” or psychodynamic or “rational emotive” or reality or “reciprocal inhibition” or relationship* or reminiscence or restructuring or rogerian or schema* or self-control* or “self control*” or “short term” or short-term or sex or “social effectiveness” or “social skill*” or socio-environment* or “socio environment*” or “solution focused” or solution-focused or “stress management” or supportive or time-limited or “time limited” or “third wave” or transference or transtheoretical or validation
4	Free-Text=	(abreaction or “acting out” or “age regression” or ((assertive* or autogenic or mind or sensitivity) and train*) or autosuggestion or “balint group” or ((behavior* or behaviour*) and (activation or therap* or treatment or contracting or modification)) or biofeedback or catharsis or cognitive* or “mind training” or counsel* or “contingency management” or countertransference or “covert sensitization” or “eye movement desensiti*” or “crisis intervention” or “dream analysis” or “emotional freedom” or “free association” or “functional analys*” or griefwork or “guided imagery” or hypno* or imagery or meditation* or “mental healing” or mindfulness* or psychoanaly* or psychodrama or psychoeducat* or “psycho* support*” or psychotherap* or relaxation or “role play*” or “self analysis” or “self esteem” or “sensitivity training” or “support* group*” or therapist or “therapeutic technique*” or “transactional analysis”)
5		((1 or 2) and 3) or 4
6	Title/Abstract=	(depress* or dysthymi*)
7		5 and 6
8	Tagged to CCDANCTR-Study=	Empty
9		7 and 8

## Appendix 2. CINAHL and PSYINDEX search strategies

**Psychotherapies for depression** (n1114) 2010-05-19 (310 duplicates-CCDAN Registers)

**EBSCO CINAHL** (Cumulative Index to Nursing and Allied Health Literature) was searched as follows:

1. (MH “Clinical Trials+”)
2. TI (clinic\* N1 trial\*) or AB (clinic\* N1 trial\*)
3. TI ((singl\* or doubl\* or trebl\* or tripl\*) and (blind\* or dummy or mask)) or AB ((singl\* or doubl\* or trebl\* or tripl\*) and (blind\* or dummy or mask))
4. TI ( randomi?ed or randomly) or AB (randomi?ed or randomly)
5. AB (random\* N3 allocat\*) or AB (random\* N3 assign\*)
6. (MH “Random Assignment”)
7. PT clinical trial
8. (MH “Placebos”)
9. TI placebo\* or AB placebo\*
10. AB (control N3 trial\*) or AB (control N3 study) or AB (control N3 studies)
11. S1 or S2 or S3 or S4 or S5 or S6 or S7 or S8 or S9 or S10
12. (MM “Depression+”)
13. (MM “Psychotherapy+”)

14. (MH "Psychotherapy+")
15. (MM "Psychological Processes and Principles+")
16. (MM "Behavior and Behavior Mechanisms+")
17. (acceptance\* or commitment\* or "activity scheduling" or adlerian or art or aversion or brief or "client cent\*" or cognitive or color or colour or "compassion focused" or compassionate or conjoint or conversion or conversational or couples or dance or dialectic\* or diffusion or eclectic or (emotion\* W1 focus\*) or existential or experiential or exposure or expressive or family or (focus W1 oriented) or gestalt or group or humanistic or implosive or insight or integrative or interpersonal or marital or metacognitive or milieu or morita or multimodal or "multi-modal" or music or narrative or nondirective or "non-directive" or "non directive" or nonspecific or "non-specific" or "non specific" or "object relations" or "personal construct" or "person cent\*" or persuasion or play or "pleasant event\*" or primal or "problem-focused" or "problem focused" or "problem-solving" or "problem solving" or "process-experiential" or "process experiential" or psychodynamic or "rational emotive" or reality or "reciprocal inhibition" or relationship\* or reminiscence or restructuring or schema\* or "self-control\*" or "self contol\*" or "short term" or "short-term" or sex or "social effectiveness" or "social skill\*" or socioenvironmental or "solution focused" or "stress management" or supportive or "time-limited" or "time limited" or transference or transtheoretical or validation)
- 18.(S13 or S14 or S15 or S16) and S17
19. behavio#r W3 modification\*
20. behavio#r W3 contract\*
21. behavio#r W3 treat\*
22. behavio#r W3 therap\*
23. (sensitivity W3 train\*)
24. (mind W3 train\*)
25. (autogenic W3 train\*)
26. (assertive\* W3 train\*)
27. (autosuggestion or "balint group" or biofeedback or catharsis or cognitive or "mind training" or counsel\* or "contingency management" or countertransference or "covert sensitization" or "eye movement desensiti\*" or "crisis intervention" or distraction or "dream analysis" or "emotional freedom" or "free association" or freudian or "functional analys\*" or griefwork or "guided imagery" or hypno\* or imagery or jungian or kleinian or meditation\* or "mental healing" or mindfulness\* or psychoanaly\* or psychodrama or psychoeducat\* or "psycho\* support\*" or psychotherap\* or relaxation or rogerian or "role play\*" or "self analysis" or "self esteem" or "sensitivity training" or "support\* group\*" or therapist or "therapeutic technique\*" or third-wave or "third wave" or "transactional analysis")
- 28.S13 or S18 or S19 or S20 or S21 or S22 or S23 or S24 or S25 or S26 or S27
29. S11 and S12 and S28

**OID PSYINDEX Search Strategy** (11 June 2010, 726 records NOT de-duplicated)

1. Clinical Trials.sh.
2. Treatment Effectiveness Evaluation.sh.
3. Mental Health Program Evaluation.sh.
4. randomi#ed.mp.
5. randomly.mp.
6. randomized.ep.
7. pla#ebo\$.mp.
8. trial\$.ti,ab.
9. ((singl\$ or doubl\$ or trebl\$ or tripl\$) adj3 (blind\$ or mask\$ or dummy)).mp.
10. clinical study.ep.
11. experimental study.md.
12. multicenter study.md.
13. (zugewiesen and kontrollgruppe\$.ab.
14. randomisiert\$.ab,ti.
15. ((zufa?ll\$ or randomi\$) and (experiment\$ or evalu\$ or effe?t\$) and treat\$.mp.
16. (doppelblind\$ or doppel-blind\$).ti,ab.
17. or/1-16
18. major depression/ or anaclitic depression/ or dysthymic disorder/ or endogenous depression/ or postpartum depression/ or reactive depression/ or recurrent depression/ or treatment resistant depression/
19. atypical depression/
20. or/18-19

21. exp Psychotherapy/  
(psychotherapy/ or adlerian psychotherapy/ or analytical psychotherapy/ or autogenic training/ or behavior therapy/ or brief psychotherapy/ or client centered therapy/ or cognitive behavior therapy/ or conversion therapy/ or eclectic psychotherapy/ or emotion focused therapy/ or existential therapy/ or experiential psychotherapy/ or expressive psychotherapy/ or eye movement desensitization therapy/ or feminist therapy/ or geriatric psychotherapy/ or gestalt therapy/ or group psychotherapy/ or guided imagery/ or humanistic psychotherapy/ or hypnotherapy/ or individual psychotherapy/ or insight therapy/ or integrative psychotherapy/ or interpersonal psychotherapy/ or logotherapy/ or narrative therapy/ or persuasion therapy/ or primal therapy/ or psychoanalysis/ or psychodrama/ or psychodynamic psychotherapy/ or psychotherapeutic counseling/ or rational emotive behavior therapy/ or reality therapy/ or relationship therapy/ or solution focused therapy/ or supportive psychotherapy/ or transactional analysis/)
22. exp Behavior Therapy/  
(behavior therapy/ or aversion therapy/ or conversion therapy/ or dialectical behavior therapy/ or exposure therapy/ or implosive therapy/ or reciprocal inhibition therapy/ or response cost/ or systematic desensitization therapy/)
23. exp Cognitive Behavior Therapy/  
(cognitive behavior therapy/ or acceptance and commitment therapy/)
24. exp Cognitive Techniques  
(cognitive techniques/ or cognitive restructuring/ or cognitive therapy/ or self instructional training/)
25. Schema/
26. Group Psychotherapy/  
(group psychotherapy/ or encounter group therapy/ or therapeutic community/)
27. Milieu Therapy/
28. Family Therapy/ or Couples Therapy/ or Cotherapy/ or Conjoint Therapy/ or Sex Therapy/
29. Educational Therapy/ or Psychoeducation/
30. exp Psychotherapeutic processes/  
(psychotherapeutic processes/ or countertransference/ or insight (psychotherapeutic process) or negative therapeutic reaction/ or psychotherapeutic breakthrough/ or psychotherapeutic resistance// or psychotherapeutic transference/ or therapeutic alliance/)
31. exp Psychotherapeutic techniques/  
(psychotherapeutic techniques/ or animal assisted therapy/ or autogenic training/ or cotherapy/ or dream analysis/ or guided imagery/ or mirroring/ or morita therapy/ or motivational interviewing/ or mutual storytelling technique/ or paradoxical techniques/ or psychodrama/ )
32. exp Psychoanalysis/  
(psychoanalysis or adlerian psychotherapy/ or dream analysis/ or self analysis/)
33. Covert Sensitization/
34. Behavior Contracting/
35. exp Biofeedback/  
(biofeedback/ or biofeedback training/ or neurofeedback/)
36. Assertiveness Training/ or Behavior Modification/ or Sensitivity Training/
37. Social Skills Training/
38. exp Counseling/
39. exp Contingency Management/  
(contingency management/ or token economy programs/)
40. Functional Analysis/
41. exp Problem Solving/  
(problem solving/ or anagram problem solving/ or cognitive hypothesis testing/ or group problem solving/ or heuristics/)
42. exp Relaxation Therapy/  
(relaxation therapy/ or progressive relaxation therapy/)
43. Meditation/ or Mindfulness/
44. Stress Management/
45. Self Control/
46. Existential Therapy/
47. Gestalt Therapy/
48. exp Jungian Psychology/  
(Jungian Psychology/ or Collective Unconscious)
49. Free Association/

50. Object Relations/
51. Multimodal Treatment Approach/
52. Acting Out/
53. exp Hypnotherapy/  
(hypnotherapy/ or age regression/)
54. exp Hypnosis/  
(hypnosis/ or age regression (hypnotic) or autohypnosis)
55. exp Creative Arts Therapy/  
(creative arts therapy/ or art therapy/ or dance therapy/ or music therapy/ or poetry therapy/ or recreation therapy/)
56. Catharsis/
57. Crisis Intervention/
58. Play Therapy/
59. (third wave\* or mind train\* or person cent\* or person\* construct\*).mp.
60. (person cent\* or person\* construct\*).mp.
61. (activity scheduling or behavioral activation or pleasant event\*).mp.
62. ((therap\* or psychotherap\*) adj1 (abreaction or analytic\* or color or colour or compassion or diffusion or distraction or emotion\* or interpersonal or inter-personal\* or insight oriented or focus\* or functional anal\* or metacognitive or nondirective or non directive or problem focus\* or process experiential or reciprocal inhibition or reminiscence or socioenvironmental or socio environmental or supportive or transference or transtheoretical)).mp.
63. (freudian or jungian or klenian or rogerian).mp.
64. griefwork.mp.
65. mental healing.mp.
66. or/21-65
67. (17 and 20 and 66)

## CONTRIBUTIONS OF AUTHORS

Vivien Hunot provided theoretical and clinical expertise for designing this programme of 12 linked reviews of psychotherapies for depression, drawing from her training and clinical practice as a psychotherapeutic counsellor and cognitive-behavioural therapist in NHS settings and in independent practice. She worked on protocol development, developing a search strategy and compiling data extraction forms, and wrote the protocols for each review. Dr Hunot is responsible for writing and preparing this review. Along with Dr Rachel Churchill, she conducted the original review on which this programme is based.

Theresa HM Moore managed the organisation of data for the 12 linked reviews of psychotherapies for depression, including documenting search results, tracking papers, and managing references for the project. She developed the initial version of the data collection forms. She also designed the database and spreadsheets for data collection and contributed to writing sections of the protocols/commented on text of the protocols.

Deborah Caldwell provided methodological and statistical advice for each of 12 linked protocols assessing the effects of different psychotherapies for depression. She contributed to the design of the data extraction form, drafted some sections of the protocols and commented on the protocol manuscripts. She designed the plan for the multiple treatment meta-analysis for the overview of reviews.

Philippa Davies contributed to the design of the review and the development of the protocol.

Glyn Lewis provided a clinical perspective on 12 linked psychotherapies for depression protocols.

Rachel Churchill conceived, designed, secured funding for and is managing this programme of linked reviews. She worked on all aspects of development of this project, including building and managing the review team, developing the protocol, devising a search strategy, compiling data extraction forms and compiling the overall dataset. Along with Dr Vivien Hunot, she conducted the original review on which this programme is based and has directly contributed to all aspects of drafting this manuscript. She is the guarantor of the individual reviews in this programme of work.

Hannah Jones read and commented on the protocols.

Toshi Furukawa provided theoretical and clinical expertise for this programme of linked reviews. He is Diplomate of the Academy of Cognitive Therapy (Philadelphia). He commented on the protocol manuscripts, helped revise the data extraction and summary forms, extracted data and contacted the original authors of relevant studies.

Mina Honyashiki and Peiyao Chen extracted the data, contributed to the development of the revised data extraction and summary form, managed and organised the data extraction and summary process.

## **DECLARATIONS OF INTEREST**

Two of the review authors (TAF and VH) specialise in cognitive-behavioural therapies.

No conflicts are known for other review authors.

## **SOURCES OF SUPPORT**

### **Internal sources**

- University of Bristol, UK.

### **External sources**

- Department of Health, UK.  
NIHR Programme Grant