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Individual psychological therapy in the outpatient treatment of adults with anorexia nervosa (Review)

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[Intervention Review]

Individual psychological therapy in the outpatient treatment of adults with anorexia nervosa

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ABSTRACT

Background

Anorexia nervosa is a disorder with high morbidity and significant mortality. It is most common in young adult women, in whom the incidence may be increasing. The focus of treatment has moved to an outpatient setting, and a number of differing psychological therapies are presently used in treatment. This is an update of a Cochrane review which was last published in 2008.

Objectives

To assess the effects of specific individual psychological therapies for anorexia nervosa in adults or older adolescents treated in an outpatient setting.

Search methods

We searched the Cochrane Depression, Anxiety and Neurosis Review Group Specialised Register (CCDANCTR) (16 July 2014). This register includes relevant randomised controlled trials from: the Cochrane Library (all years), MEDLINE (1950 to date), EMBASE (1974 to date), and PsycINFO (1967 to date). We screened reference lists of all included studies and sent letters to identified, notable researchers requesting information on unpublished or ongoing studies.

Selection criteria

All randomised controlled trials of one or more individual outpatient psychological therapies for adults with anorexia nervosa, as defined by DSM-5 or similar international criteria.

Data collection and analysis

We selected a range of outcome variables, including physical state, severity of eating disorder attitudes and beliefs, interpersonal function, and general psychiatric symptom severity. Continuous outcome data comparisons used the mean or standardised mean difference (MD or SMD), and binary outcome comparisons used the risk ratio (RR). Two review authors (PH and AC or ST) extracted data independently.

Main results

We identified 10 trials from the search, with a total of 599 anorexia nervosa participants, and included them in the review. Seven had been identified in the previous versions of this review and we now include three new trials. We now deem one previously identified ongoing trial to be ineligible, and six ongoing trials are new for this update. Two of the 10 trials included children. Trials tested diverse psychological

therapies and comparability was poor. Risks of bias were mostly evident through lack of blinded outcome assessments (in 60% of studies) and incomplete data reporting (attrition bias).

The results suggest that treatment as usual (TAU) when delivered by a non-eating-disorder specialist or similar may be less efficacious than focal psychodynamic therapy. This was suggested for a primary outcome of recovery by achievement of a good or intermediate outcome on the Morgan and Russell Scale (RR 0.70, 95% confidence interval (CI) 0.51 to 0.97; 1 RCT, 40 participants; very low-quality evidence). However there were no differences between cognitive analytic therapy and TAU for this outcome (RR 0.78, 95% CI 0.61 to 1.00; 2 RCTs, 71 participants; very low-quality evidence), nor for body mass index (BMI). There were no differences in overall dropout rates between individual psychological therapies and TAU.

Two trials found a non-specific specialist therapy (Specialist Supportive Clinical Management) or an Optimised TAU delivered by therapists with eating disorder expertise was similar in outcomes to cognitive behaviour therapy (BMI MD -0.00, 95% CI -0.91 to 0.91; 197 participants, low-quality evidence). When comparing individual psychological therapies with each other, no specific treatment was consistently superior to any other specific approach. Dietary advice as a control arm had a 100% non-completion rate in one trial (35 participants). None of the trials identified any adverse effects. Insufficient power was problematic for the majority of trials.

Authors' conclusions

There was a suggestion in one trial that focal psychodynamic therapy might be superior to TAU, but this is in the context of TAU performing poorly. An alternative control condition of dietary advice alone appeared to be unacceptable, but again this is based on just one trial. Owing to the risk of bias and limitations of studies, notably small sample sizes, we can draw no specific conclusions about the effects of specific individual psychological therapies for anorexia nervosa in adults or older adolescents. Larger RCTs of longer treatment duration and follow-up are needed.

PLAIN LANGUAGE SUMMARY

Outpatient psychological therapy for adults with anorexia

Why is this review important?

Anorexia nervosa is a severe and disabling mental health disorder of self starvation. In the general population the lifetime prevalence of anorexia nervosa may be as high as 5 in 100 women. About one in 10 people with anorexia nervosa is male. Psychological therapies are the main treatment and most people are treated as outpatients. A number of different types of therapy are used, from dynamic (where past issues are explored) to very directive cognitive-behavioural therapies (where specific advice is given and people are required to keep records of their eating behaviour). It is important to know which psychological therapy is most likely to help people recover. This review aimed to assess evidence about the effects of individual psychological therapy (therapy provided to one person as opposed to a group) delivered in outpatient settings to older adolescents and adults with anorexia nervosa.

Who will be interested in this review?

This review will be of interest to people with lived experience of anorexia nervosa and people involved in their care.

Which studies were included in the review?

We used search databases to find randomised controlled studies of individual psychological therapy delivered in outpatient settings to older adolescents and adults with anorexia nervosa (completed up to July 16 2014). We included 10 trials that covered 599 people with anorexia nervosa. These trials had some limitations: they were small and often lost a lot of people. The investigators and people involved usually knew which treatment group they were in, which may have affected how they reported results. The trials used different types of psychological therapies.

What does the evidence from the review tell us?

There was a limited amount of very low-quality evidence to suggest that people might do better when receiving focal psychodynamic therapy compared to no treatment or treatment as usual. With one exception, we found little difference between specific psychological therapies. Most therapies appeared as acceptable as any other approach, except for dietary advice which had a 100% non-completion rate in one small trial. Because of the risk of bias and limitations of studies, notably small sample sizes, we can draw no specific conclusions about the effects of specific individual psychological therapies for anorexia nervosa in adults or older adolescents.

What should happen next?

We need more large multicentre randomised controlled trials of commonly-used psychological therapies in older adolescents and adults with anorexia nervosa.

SUMMARY OF FINDINGS

Summary of findings for the main comparison. Individual psychological therapy versus treatment as usual in adults with anorexia nervosa

Individual psychological therapy compared to treatment as usual (TAU) in the outpatient treatment of adults with anorexia nervosa

Patient or population: Adults and older adolescents with anorexia nervosa

Settings: Outpatients

Intervention: Cognitive Analytic Therapy (CAT) or Focal Psychoanalytic Psychotherapy (FPT)

Comparison: Treatment as Usual (TAU)

Outcomes	Anticipated absolute effects (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	TAU	CAT or FPT				
Weight measured with BMI at one year follow-up - CAT versus TAU	The mean weight measured with BMI at 12 months follow-up in the control group was 17.4 kg/m^2	The mean weight measured with BMI at 12 months follow-up in the CAT group was 1.1 higher (0.74 lower to 2.94 higher)	-	30 (1 RCT)	⊕⊖⊖⊖ **very low**[1]	This difference in BMI was not significant.
Recovery not achieved according to Morgan and Russell narrow categories or similar at end of 1 year FPT treatment - FPT versus TAU	**Study population**		**RR** **0.70** (0.51 to 0.97)	40 (1 RCT)	⊕⊖⊖⊖ **very low**[1]	This difference was significant.
	947 per 1000	**663 per 1000** (483 to 919)				
Recovery not achieved according to Morgan and Russell narrow categories or similar at end of 1 year follow-up-CAT versus TAU	**Study population**		**RR** **RR 0.78** (0.61 to 1.00)	71 (2 RCTs)	⊕⊖⊖⊖ **very low**[1]	This difference was not significant.There was consistency across RCTs
	829 per 1000	**646 per 1000** (505 to 829)				

*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 **relative effect** 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.

1. In both RCTs risk of bias was high, samples were small and small effects reported: downgraded the evidence by 3 points

Summary of findings 2. Individual psychological therapy compared to a control therapy in the outpatient treatment of adults with anorexia nervosa

Individual psychological therapy compared to a control therapy in the outpatient treatment of adults with anorexia nervosa

Patient or population: Adults and older adolescents with anorexia nervosa

Settings: Outpatients

Interventions: Cognitive Behavioural Therapy (CBT), MANTRA, Focal psychodynamic Psychotherapy (FPDT), Interpersonal Psychotherapy (IPT)

Comparisons: Specialist Supportive Clinical Managment (SSCM), Optimised treatment as usual (TAU)

Outcomes	Anticipated absolute effects (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Control therapy	Individual psychological therapy				
Weight measured with BMI - CBT versus SSCM or Optimised TAU at end of treatment periods	The mean BMI ranged across control groups from 18.8 to 17.44 kg/m^2.	The mean BMI in the intervention groups was not measurably different (-0.91 to 0.91)	-	197 (2 RCTs)	⊕⊕⊖⊖ **low[1]**	This difference was not significant.
Weight measured with BMI - Cognitive therapy versus dietary advice at end of treatment periods	The mean weight measured with BMI was 15.9 kg/m^2.	The mean BMI in the intervention group was 1.8 higher (-0.12 to 3.72)	-	35 (1 RCT)	⊕⊖⊖⊖ **very low[2]**	This difference was not significant.
Weight measured with BMI - MANTRA versus SSCM at end of treatment periods	The mean weight measured with BMI was 17.62 kg/m^2.	The mean BMI in the intervention group was 0.15 higher (-0.04 to 0.34)	-	71 (1 RCT)	⊕⊖⊖⊖ **very low[3]**	This difference was not significant.
Weight measured with BMI - Focal psychodynamic therapy (FPDT) versus Optimised TAU at end of treatment periods	The mean weight measured with BMI was 17.44 kg/m^2.	The mean BMI in the intervention group was 0.14 lower (-0.68 to 0.40)	-	162 (1 RCT)	⊕⊕⊖⊖ **low[4]**	This difference was not significant.Low risk of bias, a large RCT

Weight measured with BMI - IPT versus SSCM at end of treatment periods	The mean weight measured with BMI was 18.8 kg/m^2.	The mean BMI in the intervention group was 0.70 lower (-2.38 to 0.98).	-	37(1 RCT)	⊕⊖⊖⊖ **very low[3]**	This difference was not significant.
Recovery according to Morgan and Russell narrow categories or similar - CBT versus SSCM (Global outcome rated 3 or 4) at end of treatment periods	**Study population**		**RR 1.56** (0.83 to 2.95)	37 (1 RCT)	⊕⊖⊖⊖ **very low[3]**	This difference was not significant. No data available on CBT versus Optimised TAU
	357 per 1000	**325 per 1000** (207 to 524)				
Recovery not achieved according to Morgan and Russell narrow categories or similar - FPDT versus Optimised TAU at end of treatment periods	**Study population**		**RR 0.57** (0.28 to 1.17)	94 (1 RCT)	⊕⊕⊕⊖**moderate[4]**	This difference was not significant.
	325 per 1000	**185 per 1000 (91 to 380)**				
Recovery not achieved according to Morgan and Russell narrow categories or similar - IPT versus SSCM at end of treatment periods	**Study population**		**RR 2.07** (1.17 to 3.67)	37 (1 RCT)	⊕⊖⊖⊖ **very low[3]**	This difference favouring SSCM was significant.
	438 per 1000	**906 per 1000 (512 to 1000)**				

*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 **relative effect** 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.

1. Risk of bias low in both RCTs, 1 RCT was very small, the findings were not consistent across the 2 RCTs for benefit of CBT and effects were small.
2. Risk of bias high and in only 1 small RCT
3. Low risk of bias but only 1 small RCT
4. Low risk of bias but only 1 RCT

Summary of findings 3. Individual psychological therapy versus another individual psychological therapy in the outpatient treatment of adults with anorexia nervosa.

Individual psychological therapy compared with another individual psychological therapy for anorexia nervosa.
Patient or population: Adults and older adolescents with anorexia nervosa

Settings: Outpatients

Interventions: Cognitive Behavioural Therapy (CBT) or Cognitive Orientation Therapy (COT)

Comparisons: Focal Psychodynamic Psychotherapy (FPDT), Interpersonal Psychotherapy (IPT), CBT enhanced with cognitive remediation therapy (CRT) or Self psychology

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Alternate therapy	CBT or COT				
Weight measured with BMI - CBT versus IPT or FPDT at end of treatment periods	The mean weight measured with BMI - CBT versus IPT or FPDT in the control group was 17.3 kg/m^2.	The mean weight measured with BMI - CBT versus IPT or FPDT in the intervention group was 0.41 higher (-0.08 to 0.89).	-	200 (2 RCTs)	⊕⊕⊖⊖ **low**[1]	This difference was not significant.
Weight measured with change in BMI - CBT versus Enhanced CBT e.g., with CRT at end of treatment periods	The mean BMI change - CBT versus CBT enhanced with CRT in the control group was 0.512.	The mean BMI change - CBT versus CBT enhanced with CRT, in the intervention group was 0.17 higher (-0.64 to 0.99).	-	46 (1 RCT)	⊕⊖⊖⊖ **very low**[2]	This difference was not significant.
Recovery not achieved according to Morgan and Russell narrow categories or similar - CBT versus IPT or FPDT at end of treatment periods	**Study population**		**RR** **0.80** (0.59 to 1.08)	156 (2 RCTs)	⊕⊕⊖⊖ **low**[1]	This difference was not significant.
	387 per 1000	309 per 1000 (228 to 418)				
Recovery not achieved according to Morgan and Russell narrow categories or similar - Cognitive orientation therapy (COT) versus self psychology (SP) both with nutritional counselling) at end of treatment periods	**Study population**		**RR** 2.97 (1.04 to 8.48)	13 (1 study)	⊕⊖⊖⊖ **very low**[3]	This difference favouring COT was significant.
	286 per 1000	849 per 1000 (297 to 1000)				

*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 **relative effect** 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.

1. Risk of bias low in both RCTs, 1 RCT was very small, the findings were not consistent across the 2 RCTs for benefit of CBT and effects were small.
2. Risk of bias unclear (allocation concealment) and only 1 small RCT.
3. Risk of bias high and only 1 small RCT.

BACKGROUND

Description of the condition

Accounts of anorexia nervosa-like syndromes date to the medieval fasting women saints, but definitive clinical descriptions did not appear until those of Morton in the 17th century (Silverman 1983). In the 1870s the British physician William Gull (Gull 1874), and the French physician Henri Lasègue (Lasègue 1873) provided the first modern accounts of a condition the essential features of which have remained unchanged to this day. People with anorexia nervosa are characterised by a relentless pursuit of thinness, resulting in weight loss and a refusal to maintain a normal body weight. The most widely-used diagnostic criteria for defining cases of anorexia are those from the fifth edition of the American Psychiatric Association Diagnostic and Statistical Manual (DSM-5) (APA 2013, see Appendix 1).

Anorexia nervosa is not very common in the population as a whole, but morbidity is high and mortality is amongst the highest of any psychiatric disorder (Crisp 1992; Herzog 1997). Point prevalence is no more than 0.5% of the female population over 15 years of age (Verhulst 1997Aalto-Setälä 2001; Hudson 2007) and community lifetime prevalence of up to 5% in women (Keski-Rahkonen 2007; Smink 2013). A systematic review of cumulative incidence studies reported an estimated mean yearly incidence in the general population of 8 cases per 100,000, with a likely increase in the incidence of anorexia nervosa in young women in the last century up to the 1970s (Hoek 2003). Anorexia nervosa is up to 10 times as common in women as in men, and is most common in young women (Hoek 2003; Lucas 1991; Pawluck 1998).

Description of the intervention

The principal aims of treatment for anorexia nervosa are the restoration of the person's weight to within a normal range for their height and age; the amelioration of their extreme weight and shape concerns; remission from abnormal eating behaviours such as purging; improvement in depressive and other comorbidities; improvement in quality of life; and the identification, and ideally resolution, of the contributing family and personal problems (APA 2006; RANZCP 2014). Treatment is complex and there is agreement that multidimensional, multidisciplinary treatment approaches are needed for the effective treatment of anorexia nervosa (APA 2006; RANZCP 2014). Treatment usually needs to be multidimensional in the sense that (a) comprehensive assessments are done (i.e., physical, psychological, psychosocial, developmental and family histories) and (b) multiple treatment modalities are considered (i.e., medication, nutrition, and individual, group and family psychological therapies). Treatment is usually multidisciplinary in the sense that the services of psychiatrists, primary care physicians, psychologists, registered dieticians, nurses, occupational therapists and social workers may all be employed in a comprehensive, co-ordinated manner. Medical care is in most instances likely to be provided by family doctors or physicians, and nutritional counselling by dieticians. Psychological therapy may be provided by a clinician from any one of the other disciplines, but many dieticians also train as psychotherapists.

Whilst evidence generally is limited in all aspects of treatment for anorexia nervosa (Watson 2013) and is yet insufficient to support outpatient versus inpatient programmes (Gowers 2007; Meads 1999), the treatment of anorexia nervosa has moved clinically from long-term inpatient programmes with outpatient follow-up to a more common model of outpatient care with hospital backup (Garner 1997a). Hospital care can be either residential (inpatient) or partial (day patient) or a combination (Willinge 2012). Individualised outpatient therapy on a regular basis (weekly or more frequent) for anorexia nervosa is now regarded as an appropriate approach where the person is medically stable and can attend regularly, as stated in guidelines: "most people with anorexia nervosa should be managed on an outpatient basis with psychological treatment provided by a service that is competent in giving that treatment and assessing the physical risk of people with eating disorders" (NICE 2004).

A number of psychological therapies may be used in the outpatient care of older adolescents and adults with anorexia nervosa. These include psychodynamic, cognitive behavioural (CBT) or interpersonal therapy, or combinations and variants of these. Care is usually offered in individual sessions, and family therapy is reserved for children and adolescents (see Fisher 2010 for a Cochrane review of family treatments). The following section describes specific individual therapies for anorexia nervosa with published development and rationale.

How the intervention might work

Psychodynamic psychological therapy and related approaches: Psychodynamic therapies have the longest history in therapies for anorexia nervosa. They have developed from open-ended to more time-limited structured approaches (Dare 1995). A key figure in the application of such therapies in anorexia nervosa was Bruch (Bruch 1973). She described the core therapeutic elements to change in anorexia nervosa occurring through the development of an understanding of the meaning of food for the person, and helping them find alternatives to anorexic self experience and self expression. Self psychology for eating disorders (Goodsitt 1997) has developed out of the older psychodynamic traditions. These therapies by their nature are long-term and therapist time-intensive. They also require specific training that may often not be readily available. Modified forms of dynamic therapy (see cognitive analytic therapy below) that integrate active symptom management have been recommended as viable alternatives to cognitive behavioural therapy (Garner 1997b).

Dare and colleagues (Dare 1995) developed focal psychoanalytic therapy (FPT) as a standardised form of time-limited psychoanalytic therapy that would be both more readily disseminated and subject to empirical evaluation. The therapist takes a non-directive stance, gives no advice about the eating behaviours or other problems of symptom management, but addresses first the unconscious and conscious meanings of the symptom in terms of the person's history and family experiences, second the effects of the symptom and its influence on current interpersonal relationships, and third, the manifestation of those influences in the person's relationship with the therapist.

A manualised focal psychodynamic therapy (FPDT) has been developed and evaluated by Zipfel and colleagues (Zipfel 2014). FPDT commences with a standardised and operationalised psychodynamic interview that identifies psychodynamic foci. The first phase of FPDT encompasses development of a therapeutic alliance and exploring of pro-anorectic behaviour and ego-syntonic beliefs and self esteem. During the second phase, associations between interpersonal relationships and eating behaviour and the

quality of interpersonal relationships are addressed. The third and final phase is a transition to everyday life and termination of therapy.

Cognitive analytic therapy (CAT) is a treatment that combines elements of cognitive therapy and brief-focused psychodynamic therapy. People are helped to evolve a formal, mapped-out structure of the place of anorexia in their experience of themselves and their early and current relationships. This is drawn in diagrammatic form, and the figure may be modified over the course of the treatment (Dare 2001). Treatment is conducted in 20 weekly sessions, with monthly 'booster' sessions over three months. In the studies (Dare 2001; Treasure 1995) that have applied this treatment, outcome is assessed at 12 months. The requirement for specific therapist training and supervision in CAT for anorexia nervosa may limit its dissemination.

Cognitive behavioural therapy (CBT) combines behavioural experiments with rational disputation of a person's beliefs. Garner 1997c proposed the following principles of CBT in anorexia nervosa:

1. Acceptance of conscious experience rather than unconscious phenomena;
2. Focus upon belief, assumptions, schematic processing and meaning systems as mediating variables for maladaptive behaviours and emotions;
3. The employment of questioning as a prominent therapeutic strategy;
4. Active participation by the therapist in treatment;
5. The essential contribution of homework sessions including self monitoring.

These ideas were manualised by Pike 2003. This manualised cognitive behaviour therapy for anorexia nervosa (CBT-AN) has three phases:

Phase I: In this phase the aims are to build a positive therapeutic alliance, explore and delineate key symptoms, provide psycho-education, and nutritional counselling including prescribing eating patterns.

Phase II: The goals here are to continue the emphasis on weight gain and normalising eating using cognitive strategies such as reframing and identifying dysfunctional thoughts. At this stage if appropriate, interpersonal issues may be addressed.

Phase III: Here the therapist clarifies the changes the person has made, and prepares them for lapses.

An alternative CBT for anorexia nervosa is the transdiagnostic CBT (CBT-E) for the underweight patient as developed by Fairburn and colleagues (Fairburn 2003). This has four phases that progress through psycho-education, monitoring of behaviours, behavioural experiments, cognitive strategies, and relapse prevention/termination. It is for all types of eating disorders but includes a specific module for anorexia nervosa entitled 'underweight and under-eating'. In a 'broad' form CBT-E has an additional core module that addresses mood intolerance as well as additional optional modules addressing clinical perfectionism, interpersonal deficits and low self esteem (Fairburn 2008). Motivational enhancement strategies are not emphasised. Both CBT-AN and CBT-E require monitoring of weight. CBT-E is more specific about energy needs and a goal to ‘maintenance’ body mass index (BMI) of 19 to 20 with a weight gain of approximately 500 grams per week for outpatients. CBT-E also advises involving caregivers so that they help support the person with all matters regarding food and eating in both psychological and pragmatic ways, e.g., cooking with the person. In underweight patients treatment is conducted over 40 sessions.

Interpersonal psychological therapy: Interpersonal psychotherapy (IPT) was first developed to treat depression, and later modified to treat bulimia nervosa (binge eating and purging) (Fairburn 1991). Like CBT, it is a manualised therapy and thus readily amenable to empirical evaluation. For bulimia nervosa it uses three overlapping phases. The first phase analyses the interpersonal context of the eating disorder leading to a formulation of the person's problem area(s) which forms the focus of the second phase. The third phase aims at monitoring progress in making interpersonal changes and exploring ways to cope with further interpersonal difficulties. In bulimia nervosa, but not necessarily in anorexia nervosa, attention is not paid to eating patterns or body attitudes. Specific training is required, and it is unclear how commonly it is used.

Feminist therapy: Feminist psychological approaches rest on the proposition that cultural constructions of gender are central to the understanding and treatment of eating disorders. Early feminist approaches applied the psychological construct of femininity to psychoanalytic therapy as it pertains to food and body image concerns, with a dynamic understanding of the developmental tasks of adolescence and control within the mother-daughter relationship (Orbach1985). Later theorists have moved away from this to an approach that incorporates feminist constructs of aetiology into a psychodynamic formulation and applies feminist considerations to the choice of therapist gender. The contribution of role conflict, identity confusion, sexual abuse and other traumatic experiences are key elements of the formulation on which therapy is founded (Garner 1997b). Key papers that integrate feminist and transcultural approaches to eating disorders are found in Striegel-Moore 1995, Wooley 1995 and Katzman 1997. Other descriptions are found in Dolan 1994. There are no randomised controlled trials evaluating this approach, but addressing feminist issues in therapy has 'face validity' for a disorder in which 90% of sufferers are women with body image concerns.

Motivational enhancement therapy: Treasure 1995, Ward 1996 and Vitousek 1998 have developed motivational enhancement therapies (METs) in eating disorders. This treatment targets the ego-syntonic nature of the illness and is based on a model of change with focus on stages of change. Stages of change represent constellations of intentions and behaviours through which individuals pass as they move from having a problem to doing something to resolve it. People in 'precontemplation' show no intention to change. People in 'contemplation' acknowledge they have a problem and are thinking about change, but have not yet made a commitment to change. People in the 'action' stage are actively engaged in overcoming their problem while people in 'maintenance' work to prevent relapse. The aim of MET is to help people move from earlier stages into 'action', utilising cognitive and emotional strategies. For example, with precontemplators, the therapist explores perceived positive and negative aspects of use. Open-ended questions are used to elicit client expression, and reflective paraphrase is used to reinforce key points of motivation. During a session most of the time is devoted to explaining feedback to the person following structured assessment. Later in MET,

attention is devoted to developing and consolidating a change plan. (See: Prochaska 1992 and www.dualdiagnosis.org/library/nida_00-4151/9.html for more general references). This is a widely-used approach in psychiatry and psychology, and has applicability to anorexia nervosa where there is often strong resistance to change. However, it is argued to be most useful when integrated with CBT or a similar approach (Waller 2012).

Maudsley Model for Treatment of Adults with Anorexia Nervosa (MANTRA; Schmidt 2012; Wade 2011): This approach addresses the rigid thinking style associated with anorexia nervosa (i.e., perfectionism and obsessive-compulsive personality traits), and the often impaired ability to recognise and respond to emotions in the self and others (Schmidt 2006; Treasure 2013). It incorporates both emotion skills training and cognitive remediation therapy designed to improve executive functioning, in particular cognitive flexibility, working memory and planning skills (Lock 2013; Tchanturia 2008). It is a modularised treatment that maintains a focus on specific changes required in eating and weight within a motivational interviewing framework, including individualised case conceptualisation and summary letters from the therapists. Therapy is matched to the clinical symptoms, personality traits and neuropsychological profile of participants.

Specialist supportive clinical management (SSCM; McIntosh 2006): This therapy differs from the former therapies in that it is not based on an aetiological model. It aims to foster a therapeutic relationship that promotes adherence to treatment and comprises psycho-education, care and support for changes that will improve quality of life and physical well being. There is a focus on resumption of normal eating and weight gain, strategies for weight maintenance, information about energy requirements and relearning to eat normally. Thus, it incorporates elements of nutritional counselling and some behavioural weight restoration strategies together with supportive psychotherapy.

Karolinski Mandometer treatment (Bergh 2002): This is a unique therapy developed at the Karolinski Insitute in Sweden. It combines educational and nutritional therapy with family and personal support. Nutritional therapy is aided by a computer-adapted method of weighing food. As meals are eaten, satiation is recorded and plotted on a graph against the weight of the food (measuring consumption) over the duration of the eating period. Progress is monitored by improved 'correlation' of satiation with consumption. The core of the therapy is change in eating behaviour approach and is based on the premise that anorexia nervosa is primarily a disorder of biological effects of starvation that modify eating behaviour.

Why it is important to do this review

This review aims to evaluate the efficacy of psychological therapies appropriate for the treatment of older adolescent and adult outpatients with anorexia, comparing these with pharmacotherapies and with combination therapies. The evidence for pharmacotherapy (Claudino 2006), family and other psychological therapies appropriate for children and adolescents (Fisher 2010) is addressed in other reviews. Psychological therapies for severe and enduring or treatment-resistant anorexia nervosa and inpatient versus outpatient approaches may be addressed in future reviews and are beyond the scope of the present review.

It is important to address treatments in older adolescents and adults because of the moderately high (up to 5%) community lifetime prevalence of anorexia nervosa in women (Keski-Rahkonen 2007; Smink 2013), the low rate of treatment seeking in sufferers (Keski-Rahkonen 2007), the reported rise in incidence of anorexia nervosa in young women in the 20th century (Lucas 1991), the severe morbidity from the condition, and the increased use of outpatient treatment. We have selected a broad range of outcome variables to assess, because treatment outcome studies have been criticised for a narrow focus on changes in eating behaviours and weight, without evaluating the effects of treatment on psychiatric symptoms and psychosocial functioning (Windauer 1993). However, many people, including those considered 'cured' in terms of their eating behaviours and weight, may continue to manifest a high rate of psychiatric symptoms and psychological disturbance at the conclusion of treatment.

This is an update of a Cochrane review first published in 2003 and updated in 2006 and 2008. The previous versions identified only seven small trials, two including children or adolescents, with a total of 255 participants and we did not aggregate the data. Trials tested a diverse range of psychological therapies, with poor comparability. With the exception that 'treatment as usual' or similar may be less efficacious than a specific psychological therapy, we found no specific treatment to be consistently superior to any other approach. Conclusions were thus limited. However, since the review was first published there have been developments in psychological therapies for anorexia nervosa, e.g., the manualised FPDT and the new Maudsley therapy as described above, and open evaluations of CBT-E (Byrne 2011), open and controlled evaluations of MANTRA (Schmidt 2012; Wade 2011), and a controlled evaluation of FPDT (Zipfel 2014).

OBJECTIVES

To assess the effects of specific individual psychological therapies for anorexia nervosa in adults or older adolescents treated in an outpatient setting.

METHODS

Criteria for considering studies for this review

Types of studies

We include all randomised controlled trials (RCTs) that have evaluated any form of individual psychological therapy for outpatients with anorexia nervosa.

We include cluster-randomised and cross-over trials.

Types of participants

Participant characteristics

Trials that included at least 50% older adolescents (aged over 16 years) and trials that included adults of either gender recruited from the community (e.g., volunteers from newspaper advertisements) or primary, secondary or tertiary clinical units.

Diagnosis

Anorexia nervosa as defined by DSM-III, DSM-III-R, DSM-IV (APA 1994), DSM-5 diagnostic criteria (Appendix 1; APA 2013); ICD-10 (WHO 1992); or Russell 1970.

Setting

Any outpatient setting, including treatment in primary, secondary or tertiary sectors; we document the country with any specific cultural aspects of the treatment setting in review data collection.

Comorbidities

We include trials whether or not comorbidities were present.

Types of interventions

Experimental interventions

Any outpatient-based individual psychological therapy delivered as monotherapy. We considered 'individual' in this context to mean that the therapy is provided by a single therapist to one person. The psychological therapies evaluated are those that have been developed specifically for treatment of anorexia nervosa, including addressing weight gain and refeeding. In this review we include the following psychological therapies:

- Cognitive behavioural therapy (CBT) as developed for anorexia nervosa treatment (CBT-AN) or enhanced CBT (CBT-E) transdiagnostic treatment for eating disorders;
- Integrative therapies, e.g., cognitive analytic therapy (CAT), interpersonal psychotherapy (IPT) and Maudsley Model for Treatment of Adults with Anorexia Nervosa (MANTRA);
- Psychodynamic psychological therapies e.g., focal psychoanalytic therapy (FPT); focal psychodynamic psychotherapy (FPDT);
- Feminist therapy;
- Any other psychological therapy developed as a specific treatment for anorexia nervosa to be delivered on an individual basis.

The focus of this review is the active treatment of anorexia nervosa, with restoration of weight as a primary outcome. We have not included studies of humanistic, behaviour or creative therapy, as to date none has been developed specifically for the management of anorexia nervosa. We have not included studies of systems (e.g., family) therapy and psychological therapy in relapse prevention or chronic illness, as they are not relevant to the aims of this review.

Comparator interventions

- Another individual psychological therapy, such as CBT, CBT-E, MANTRA, or the Karolinski Mandometer outpatient treatment, developed for anorexia nervosa treatment and based on a theoretical rationale.
- Treatment as usual (TAU). There is no agreed definition of TAU in the area of anorexia nervosa treatment and thus the review authors wrote to authors of trials to clarify the composition of TAU for the purposes of this review. In the trials in this review, TAU refers to a specific treatment where participants were actively treated for anorexia nervosa at a specialist psychiatric treatment centre where specific psychotherapies were not employed and therapy was not provided by a health professional experienced in treating eating disorders.
- A 'control' psychological therapy. This is one that controls for non-specific effects of therapy such as therapeutic engagement. However, there is no specific theoretical rationale for its use in anorexia nervosa and no specific therapeutic strategies for psychological issues relevant to anorexia nervosa, e.g., fear of fatness and the emotive responses to refeeding and weight regain. In this review we identified two therapies as being control therapies, SSCM and the optimised TAU of Zipfel 2014 where participants received a similar number of outpatient sessions from a health professional experienced in treating eating disorders over the course of the study as did participants in active therapy (about 40 sessions).
- Wait-list or delayed treatment condition. Participants are put on a wait list where there was no treatment for their anorexia nervosa. Thus we have not combined TAU (in this instance where an active treatment was administered) with wait list in this review.

We do not include adjunctive pharmacological or other approaches (e.g., complementary therapies such as acupuncture) in this review.

There is no restriction on frequency, duration or intensity of therapy evaluated.

Types of outcome measures

Primary outcomes

1. Weight: mean BMI (weight in kg/height^2 in metres) at end of treatment where groups were not significantly different in mean BMI at start of treatment.

2. Recovery is a dichotomous outcome according to the Morgan 1975 narrow scale of a good outcome (normal body weight > 85% of average for age, gender and height, with normal menstruation) or intermediate outcome (normal body weight > 85% of average for age, gender and height with no menstruation) versus poor outcome or similar categorical outcome.

3. Proportion of treatment dropouts or non-completers for any reason.

Secondary outcomes

4. Recovery according to the Morgan 1988 broader scale ratings of average outcome (where SMD or MD is greater than 0 in the forest plot, the active treatment is favoured, which differs from the convention of SMD or MD less than 0 favouring treatment), or another similar broader and non-categorical measure of remission status.

5. Mean eating disorder symptom scores, as measured by any recognised and validated questionnaire or interview (e.g., the Eating Disorders Examination (EDE) (Fairburn 2008, pp 270 - 308).

6. Proportion of study dropouts or non-completers due to an adverse event or experience.

7. Participant satisfaction ratings (e.g., Client Satisfaction Scale (Larsen 1972)).

8. General psychiatric symptomatology, as measured by any recognised and validated questionnaire or interview (e.g., Symptom Checklist (Baer 2010, pp 175 - 191) or DSM-IV Global Assessment of Function (APA 1994, p 32).

9. Level of depression, as measured by any recognised and validated questionnaire or interview (e.g., Hamilton Depression Rating Scale (Baer 2010 pp 25 - 27)).

10. Level of interpersonal or adaptive function, as measured by any recognised and validated questionnaire or interview (e.g. the 12-item Short Form Outcomes Survey (Ware 1996)).

Timing of outcome assessment

Post hoc the timing of outcomes was at end-of treatment and one-year follow-up.

Hierarchy of outcome measures

Primary outcomes

Weight: we selected mean BMI (weight in kg/height^2 in metres).

Recovery: we preferred the Morgan 1975 narrow scale of a good outcome over other categorical outcomes for recovery. If it was not used, then we applied the closest scheme applicable.

Secondary outcomes

Recovery: we preferred the Morgan 1988 broader scale ratings over other similar broader and non-categorical measures of remission status. If it was not available, then we used the closest scheme applicable.

Mean eating disorder symptom scores: if there were several measures used, we preferred the EDE, followed by the EDE-Questionnaire version.

Participant satisfaction ratings: if more than one rating was present then the choice was determined based on the instrument with most robust psychometric properties.

General psychiatric symptomatology: if more than one rating was present then the choice was determined based on the instrument that used firstly an objective rater blind to randomisation status and secondly the most robust psychometric properties.

Level of depression: if more than one rating was present then the choice was determined based on the instrument that used firstly an objective rater blind to randomisation status and secondly the most robust psychometric properties.

Level of interpersonal or adaptive function: if more than one rating was present then the choice was determined based on the instrument that used firstly an objective rater blind to randomisation status and secondly the most robust psychometric properties.

Search methods for identification of studies

Electronic searches

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

The Cochrane Depression, Anxiety and Neurosis Group (CCDAN) maintain two clinical trials registers at their editorial base in Bristol, UK, i.e., a references register and a studies-based register. The CCDANCTR-References Register contains over 37,500 reports of RCTs in depression, anxiety and neurosis. Approximately 60% of these references have been tagged to individual, coded trials. The coded trials are held in the CCDANCTR-Studies Register and records are linked between the two registers through the use of unique Study ID tags. Coding of trials is based on the EU-Psi coding manual. Please contact the CCDAN Trials Search Co-ordinator for further details. Reports of trials for inclusion in the Group's registers are collated from routine (weekly), generic searches of MEDLINE (from 1950), EMBASE (from 1974) and PsycINFO (from 1967); quarterly searches of the Cochrane Central Register of Controlled Trials (CENTRAL) and review-specific searches of additional databases. Reports of trials are also sourced from international trials registers courtesy of the World Health Organization's (WHO's) trials portal (ICTRP), ClinicalTrials.gov, drug companies, the handsearching of key journals, conference proceedings and other (non-Cochrane) systematic reviews and meta-analyses. Details of CCDAN's generic search strategies can be found on the Group's website.

We searched the CCDANCTR (Studies and References Registers) (all years to 16 July 2014) on condition alone, using the term: *anorexi**

We searched**LILACS** (a regional Latin American and the Caribbean database) in February 2012 using the following terms:
"mh transtornos alimentares OR mh transtornos de alimentacao OR mh trastornos de la conducta alimentaria OR mh anorexia nervosa OR mh anorexia nerviosa [Palavras] and tw terapia OR tw psicoterapia OR tw aconselhamento OR tw asesoramiento OR tw tratamento OR tratamiento OR tw intervencao OR tw intervencion OR tw educacao OR tw educacion [Palavras]"

International Trial Registers

We also searched ClinicalTrials.gov (all years to 16 July 2014) and the WHO trials portal (ICTRP) (to 5 July 2013).

Earlier searches (conducted in 2003, 2008 and 2012) can be found in Appendix 2.

Searching other resources

Handsearching

PH handsearched the *International Journal of Eating Disorders* since its first issue, updated to December 2005. From 1993 the journal has been indexed in MEDLINE and thus handsearching has become unnecessary.

Reference lists

We inspected the reference lists of all papers selected for further relevant trials.

Correspondence

We sent personal letters to identified notable researchers published in the area of treatments in anorexia nervosa, in the USA, UK, Europe, New Zealand and Australia, requesting information on trials that were unpublished or in progress.

Data collection and analysis

Selection of studies

The review authors (PH, GB and AC) selected studies based on inspection of abstracts and reading full articles. If the abstract indicated that it was a trial of therapy for anorexia nervosa, we reviewed the full article to determine firstly if the trial was randomised, and secondly if it was a trial of psychological therapy for adults and older adolescents with anorexia nervosa. Each author made this evaluation independently and we then discussed these ratings to reach a consensus.

Data extraction and management

Two review authors (PH and AC or ST) independently evaluated trials for data extraction. A third review author (AC or ST) adjudicated in case of discrepancies. Data included descriptions of the therapies and participants, quality appraisal for risk of bias, and outcomes. We entered data into a spreadsheet programme, and into the Review Manager 5 (RevMan) (RevMan 5.3) software programme. Study authorship was not concealed at the point of data collection. We contacted authors personally (on a maximum of two occasions) to provide information not available in the published trial(s) and to obtain results of unpublished or partly published trials. On each occasion, we invited authors to respond within three months of the request.

Outcome data (for full details see Appendix 3):

- Mean BMI per group;
- Numbers per group meeting the criteria for recovery or significant improvement;
- Numbers completing treatment;
- Remission rates per group;
- Mean scores on quantitative continuous data outcome measure
  - eating disorder severity
  - participant satisfaction scores
  - general psychological symptom severity
  - depression severity
  - interpersonal functioning level

Main comparisons

1. An individual psychological therapy versus treatment as usual (TAU)
2. An individual psychological therapy versus a control therapy
3. One individual psychological therapy versus another individual psychological therapy
4. An individual psychological therapy versus a wait-list control group

Assessment of risk of bias in included studies

Working independently, PH and AC assessed the risk of bias of included studies using the 'Risk of bias' tool described in the *Cochrane Handbook for Systematic Reviews of Interventions* (Higgins 2011). They assessed the following items:

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: were reports of the study free of suggestion of selective outcome reporting?
6. Treatment fidelity: were therapy sessions adequately monitored to assess if they adhered to treatment manuals and models?
7. Other potential sources of bias: was the study apparently free of other problems that could put it at a high risk of bias? We also considered both therapist qualifications and researcher allegiance (or interests) under this domain.

We included quotations from the text of included studies, comments on how we assessed the risk of bias, and judgements as follows:

- Low risk of bias
- Unclear risk of bias
- High risk of bias

If disputes arose as to which judgement should be given, we achieved resolution after consulting with the third review author (ST).

Measures of treatment effect

We conducted risk ratio (RR) analyses using a random-effects model for binary outcome data. We prefer the RR to the odds ratio as it is a more conservative statistic, and appropriate where the outcome is not a rare event such as death. In this review a RR less than 1 indicates an effect in favour of the active treatment when compared with the control treatment.

Where there was only one study or studies used the same outcome measured on the same scale, we used the mean difference (MD). We conducted standardised mean difference (SMD) analyses for continuous outcome data where the same outcomes were measured on different scales, to allow for possible heterogeneity in outcome measures. We have reported 95% confidence intervals (CIs) for RRs and MDs/SMDs.

Unit of analysis issues

Cluster-randomised trials

If we had found cluster-randomised trials we planned to proceed according to the *Cochrane Handbook* (16.3.3; Higgins 2011), i.e., to extract a direct estimate of the required effect measure from an analysis that properly accounts for the cluster design. We would then have meta-analysed effect estimates and their standard errors from correct analyses of cluster-randomised trials, using the generic inverse variance method in RevMan. If this had not been done correctly in the trial, we planned to write to authors for a re-analysis of the data.

Cross-over trials

If we had found cross-over trials we planned to follow the procedure according to the *Cochrane Handbook* (16.4.4; Higgins 2011). If we had thought that carry-over or period effects were not a problem, then we would have conducted analysis of continuous data from a two-period, two-intervention cross-over trial with a paired t-test. If we had thought that carry-over effects were a problem, then we would have used data only from the first phase of the trial, up to the point of cross-over. This would have assessed the value of ‘measurement on experimental intervention (E)’ minus ‘measurement on control intervention (C)’ separately for each participant. We would have included the effect estimate in a meta-analysis using the generic inverse variance method in RevMan.

Studies with multiple treatment groups

Where we found multiple intervention groups we followed the procedure recommended by the *Cochrane Handbook* (16.5.4;

Higgins 2011) and extracted those that were relevant to the review for pairwise comparisons. In order to avoid double-counting of participants in a summary row, if there had been more than two arms relevant to a pairwise comparison then we would have used the recommended procedure to combine all relevant experimental intervention groups of the study into a single group, and to combine all relevant control treatment groups into a single control group (16.5.4; Higgins 2011).

Dealing with missing data

We contacted authors to provide information not available or missing from the published study. We performed calculations of unpublished data such as the standard deviation where there was sufficient information (published or unpublished) provided as per section 7.7 of the *Cochrane Handbook* (Higgins 2011).

We documented authors' responses and the information supplied in the 'Risk of bias' sections in the table Characteristics of included studies. The only data that we imputed were where outcomes on weight restoration were not available. In these instances we assumed that if there was no follow-up information the participant(s) concerned did not attain normal weight for age and height.

Assessment of heterogeneity

We assessed statistical heterogeneity with the Chi^2 test ($P < 0.10$) and the observed value of the I^2 statistic (Higgins 2003). The observed value of I^2 depends on (i) magnitude and direction of effects and (ii) strength of evidence for heterogeneity (e.g., P value from the Chi^2 test, or a confidence interval for I^2). Thresholds for the interpretation of I^2 can be misleading, since the importance of inconsistency depends on several factors. Thus, we have followed the guide as suggested by the *Cochrane Handbook* (section 9.5.2): if the I^2 value lies above 40% (i.e., may represent moderate or more heterogeneity) and the direction and magnitude of treatment effect suggests important heterogeneity, we would investigate the putative source of the heterogeneity (see below; Higgins 2011).

Assessment of reporting biases

We attempted to minimise putative duplicate publication bias by checking with authors for suspected duplicate publication. We also tried to minimise location, language and citation bias by comprehensive and systematic searches that were as broad as possible and included non-English-language trials.

We would have investigated systematic differences between reported and unreported findings by inspection of funnel plots in meta-analyses of 10 or more trials, as per the *Cochrane Handbook* advice (Higgins 2011), and by statistical tests (as recommended in Higgins 2011) for funnel plot asymmetry of primary continuous outcome variable(s). However, we acknowledge that an asymmetrical funnel plot is not necessarily indicative of publication bias, and that publication bias does not necessarily cause asymmetry. As there were no meta-analyses of 10 or more trials we could not explore this technique.

Data synthesis

We planned to use a random-effects model, SMD or MD for analyses. A forest plot in which the SMD or MD is reported and is greater than zero indicates that the active treatment is favoured. This differs from the convention of SMD or MD less than zero favouring treatment. Where meta-analyses were not possible we have produced a narrative report of findings. We chose a random-effects model as a more conservative statistical measure (section 9.3.4.3, Higgins 2011) to mitigate a Type I error where there were few studies and trials of small sample size. We used SMD where trials assessed the outcome using different assessment instruments.

Subgroup analysis and investigation of heterogeneity

We did not plan any subgroup analyses, as we have taken a conservative approach to data analysis, and subgroup analyses have the increased likelihood of false negative and false positive significance tests (section 9.6.2, Higgins 2011). Subgroup analyses, for example of the purging versus non-purging subtype of anorexia nervosa (found to be associated with higher treatment attrition (Abdelbaky 2013)), may however be considered in future reviews.

We planned to address any identified heterogeneity by first checking that the data were correctly reported and entered. If data were correct and if there was a large degree of inconsistency in results, we planned to remove the meta-analysis. If the data had been sufficiently consistent that we did not remove the meta-analysis, we planned to conduct a sensitivity analysis by sequentially removing trials by sample size, starting with the smallest until there were only three trials or heterogeneity was reduced to non-significance ($P > 0.1$) level, or both. As there were no relevant meta-analyses, we did not do this.

Sensitivity analysis

We had planned sensitivity analyses, but did not conduct them due to the lack of data. These were to be a series of analyses comparing trials included and excluded according to the following criteria:

1. Size of trial - trials with < 20 participants in total and/or < 10 per group were removed;
2. Allocation concealment - sequential removal of trials graded at high and unclear risk of bias;
3. Not blinded and single-blinded (outcome assessment conducted blind) trials removed sequentially;
4. Trials that did not include a follow-up of at least six months were removed;
5. Trials that did not assess treatment integrity were removed;
6. Trials that included people younger than 16 years were removed;
7. Trials with high attrition (> 50%) were removed.

Summary of findings tables

The first author (PH) prepared 'Summary of findings' tables for the primary outcomes of weight and recovery and rated quality according to the GRADE criteria (Higgins 2011, 12.2.1).

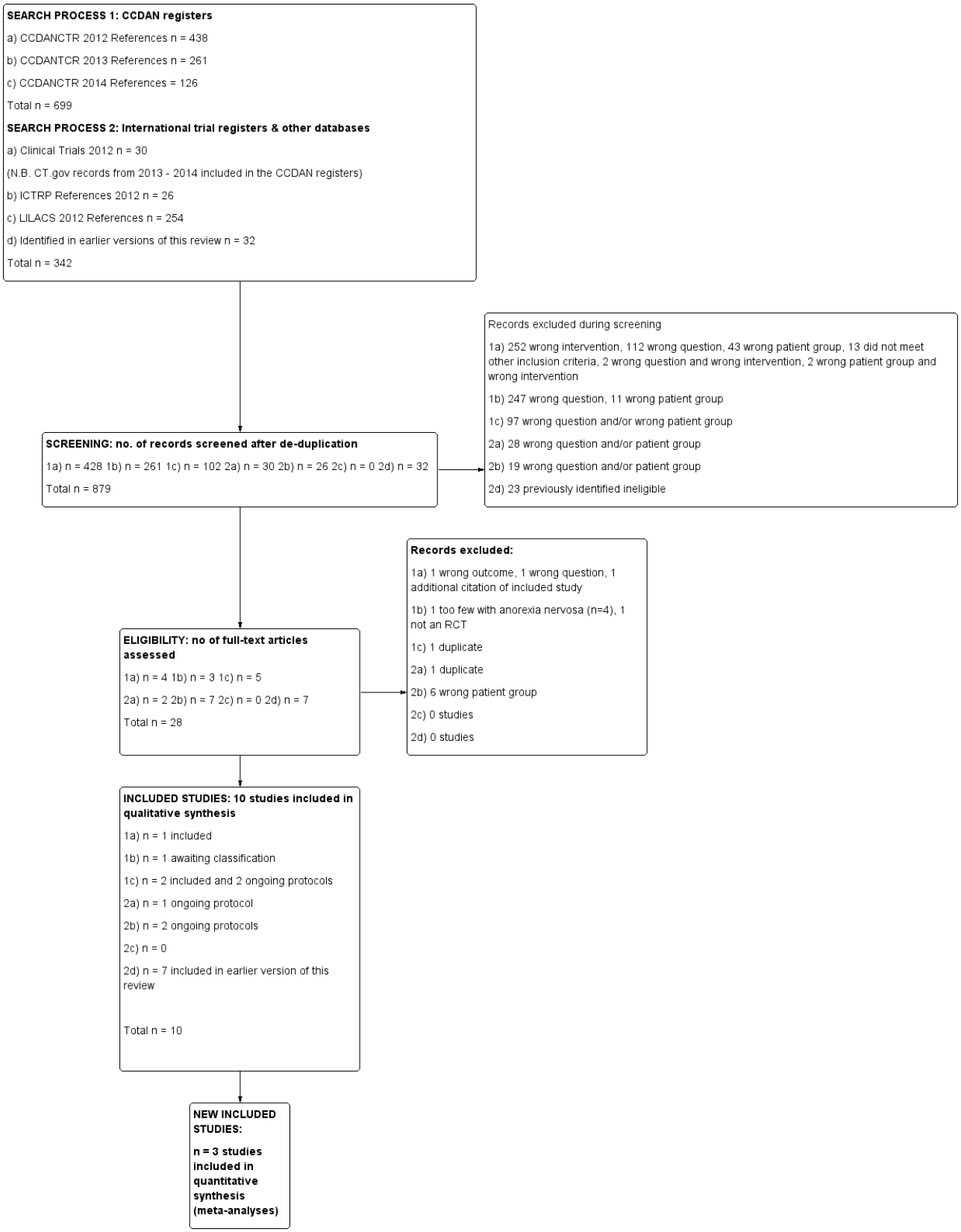
RESULTS

Description of studies

Results of the search

The results of new searches undertaken for this update review are displayed in Figure 1.

Figure 1. Study flow diagram.



(i) A search of the CCDANCTR (Studies and References register) in 2012 identified 438 records (search for condition alone = '*anorexi**'). Of these records 10 were duplicates, 252 reported studies of the wrong intervention, 113 the wrong question, 43 the wrong patient

group, 13 did not meet other inclusion criteria, two were both of the wrong question and wrong patient group, two were of both wrong patient groups and wrong intervention, one was the wrong outcome, and one was an additional report of an included study.

(ii) A second CCDANCTR update search (conducted July 5 2013) identified an additional 261 records. The majority (247) were excluded as studies of the wrong question (most were studies of prevention, not treatment) and 11 were of the wrong patient group. Three full-text reports were considered, one of which had four participants with anorexia nervosa (Stein 2013) and one of which was an ongoing study at the time, the ANTOP study (Zipfel 2014) (now included).

(iii) A third (and final) CCDANCTR search (conducted July 16 2014) identified 126 records, of which 24 were duplicates The majority (97) were excluded as studies of the wrong question (most were studies of prevention, not treatment) and/or of the wrong patient group. We considered five full-text reports and at this time formally excluded Stein 2013. The ANTOP study, now completed and published, was eligible for inclusion and analysis (see Zipfel 2014), together with Lock 2013. We also identified two new ongoing studies (Schmidt 2013 and Maria 2013) in the search results.The former is since published and will be considered in future review updates.

(iii) A search of ClinicalTrials.gov (Condition = "*anorexia nervosa*", all years to July 2014), identified 30 studies of behavioural RCTs, of which there were two duplicate studies: Geller 2011; NCT00220662 excluded, and Lock 2013; NCT00601822 included.

(iv) A search the WHO trials portal (ICTRP) in 2013 identified seven new ongoing outpatient-based trials of psychological therapy for adults with anorexia nervosa: ACTRN12611000725965; ISRCTN79119671; ACTRN12610000585022; NTR3865; ISRCTN62920529 (Schmidt 2012); ACTRN12607000440426 (Touyz 2013); ISRCTN72809357/ DRKS00000079 (Zipfel 2014). The latter three studies have now been completed, published and are duplicated in the CCDANTCTR search results above.

(v) A search of the LILACS database identified no new studies.

In summary, the update searches (2012 to 2014) identified three new studies for inclusion in this review (Lock 2013 ; Schmidt 2012; Zipfel 2014), seven trials included from the previously published versions of this review, and six trials for potential inclusion in future publications.

Excel spreadsheets summarising the searches and results and a copy of the LILACS search strategy are available from author PH.

Included studies

We identified 10 studies with a total of 599 participants (see Table of Characteristics of included studies) that were pertinent to the inclusion criteria for this review. We include one new trial (Schmidt 2012) from the 2013 search and two trials (Lock 2013; Zipfel 2014) from the 2014 search.

Design

All trials used a randomised controlled design and there were no cross-over or cluster-randomised trials.

Sample sizes

Sample sizes were 13 (Bachar 1999), 19 (Bergh 2002), 24 (Channon 1989), 62 (Dare 2001), 46 (Lock 2013), 56 (McIntosh 2005), 72 (Schmidt 2012), 35 (Serfaty 1999), 30 (Treasure 1995), and 242 (Zipfel 2014) participants with anorexia nervosa.

Setting

All trials were conducted in specialist outpatient settings. One (Bachar 1999) was in Israel, one in Sweden (Bergh 2002), one in New Zealand (McIntosh 2005), one in Germany (Zipfel 2014) and the remainder in the United Kingdom (UK) or USA.

Participants

Over all the trials there were 601 participants with anorexia nervosa meeting DSM-5 criteria (APA 2013) who were aged 16 years or older and who were treated with therapies evaluated in this review. Some trials had additional participants not included in this review: (Bachar 1999 31 people with bulimia nervosa, Bergh 2002 13 people with bulimia nervosa, and Dare 2001 22 people randomised to family therapy).

Only one trial included participants younger than 16 years (Bergh 2002) where the median age was 16 years and one trial may have had a small number of participants aged less than 16 (Bachar 1999) where the mean age was 18.1 (SD 2.4).

Participants were mostly sourced from specialist services and/or clinic referrals (Bachar 1999; Channon 1989; Dare 2001; Schmidt 2012; Serfaty 1999; Treasure 1995; Zipfel 2014) and in two trials were sourced from both referrals and community advertising (McIntosh 2005).

Small numbers of male participants were included in six trials: Bergh 2002 (n = 2, 11%), Dare 2001 (n = 2, 3%), Lock 2013 (n = 5, 9%), Schmidt 2012 (n = 5, 14%), Serfaty 1999 (n = 2, 7%), and Treasure 1995 (n = 1, 2%).

Exclusion rates of people dropped at screening by the trialists for not meeting entry criteria, ranged from none (Serfaty 1999) to 70% (Dare 2001) with median of 40%.

Interventions

Five trials evaluated a form of cognitive and/or behaviour therapy. CBT-AN was evaluated in McIntosh 2005, CBT with a cognitive focus in Channon 1989, behaviour therapy in Channon 1989, CBT-E in Zipfel 2014, cognitive therapy in Serfaty 1999 and cognitive orientation treatment (COT) in Bachar 1999.

Four trials evaluated an integrative therapy. CAT was evaluated in Dare 2001 and Treasure 1995, IPT in McIntosh 2005, and MANTRA in Schmidt 2012.

Three trials evaluated a form of psychodynamic therapy. Self psychology was evaluated in Bachar 1999, FPT in Dare 2001, and FPDT in Zipfel 2014.

No trial evaluated a form of feminist therapy.

One trial evaluate the Karolinski Mandometer outpatient treatment (Bergh 2002). The treatment approach was predominantly nutritional and behavioural and incorporated computer-supported feedback to participants on satiety ratings.

Two trials used TAU as a comparator (Dare 2001; Treasure 1995), and three trials a control therapy: specialist eclectic therapy in Channon 1989, SSCM in McIntosh 2005, and optimised TAU in Zipfel 2014.

One trial added nutritional counselling (weekly for three months and then bimonthly for three months) to the specific psychological therapies evaluated (Bachar 1999), and one used dietary advice as a comparator (Serfaty 1999). One trial only used a no-treatment wait-list (7.1 to 21.6 months) as a comparator (Bergh 2002).

Note: according to information from the author (personal communication), the CAT in Dare 2001 was the same or closely similar to the CAT in Treasure 1995, and EBT was similar to TAU in Dare 2001.

Outcomes

Primary outcomes:

Six trials reported the primary outcome of BMI at end of treatment (Bergh 2002; Channon 1989; Dare 2001; McIntosh 2005; Schmidt 2012; Serfaty 1999).

Five trials reported recovery as a dichotomous outcome. This was according to the Morgan 1975 narrow scale in Dare 2001 and Treasure 1995. In Bergh 2002 remission was defined as no longer meeting criteria for an eating disorder with normal body weight, psychiatric profile and laboratory tests as assessed by the investigators. Participants also had to state that food and dieting were no longer problems for them and that they were back in schools or professional activities. In McIntosh 2005 a clinician global rating was used (4 = full criteria for spectrum anorexia nervosa, 3 = a number of features of anorexia nervosa but not full criteria, 2 = few features of an eating disorder, 1 = no significant features of an eating disorder).

All trials excepting Bergh 2002 reported the proportion of treatment dropouts or non-completers for any reason. Bergh 2002 reported on treatment completion but not separately for the anorexia nervosa participants.

Secondary outcomes

Three trials used the Morgan 1988 broader scale ratings of average outcome or another similar broader and a non-categorical measure of remission status (Channon 1989; Dare 2001; Treasure 1995).

Seven trials reported on eating disorder symptom scores, as measured by any recognised and validated questionnaire or interview. McIntosh 2005, Schmidt 2012, and Serfaty 1999 used the Eating Disorders Examination (Fairburn 2008). Bachar 1999 used the self-report Eating Attitudes Test (EAT 26), and Bergh 2002, Channon 1989, and McIntosh 2005 used the self-report Eating Disorders Inventory.

No trial reported the proportion of study dropouts or non-completers due to an adverse event or experience.

Two trials assessed participant satisfaction as an outcome. Zipfel 2014 reported participant satisfaction ratings according to visual analogue ratings of treatment helpfulness, and Schmidt 2012 assessed treatment expectations and satisfaction on self-report visual analogue scales, but the data were not accessible for analysis in this review..

Four trials reported general psychiatric symptomatology. Bachar 1999 used the self-reported DSM Symptomatology Score, Global Severity Index (GSI) and Selves Questionnaire. In Bergh 2002 participants completed the Comprehensive Psychopathological Rating Scale Self-Rating Scale for Affective Syndromes. The Maudsley Obsessive-Compulsive Inventory was completed by participants in Channon 1989. Schmidt 2012 also reported on neurocognitive measures: Brixton Spatial Anticipation Task, Wisconsin Card Sorting Task and Trail Making Task, but these were not outcomes assessed in this review.

Four trials assessed the level of depression. Two used the Beck Depression Inventory (BDI) (Channon 1989; McIntosh 2005). Serfaty 1999 used the Hamilton Depression Rating Scale (Baer 2010), and Schmidt 2012 used the Hospital Anxiety and Depression Scale.

One trial (McIntosh 2005) used the Global Assessment of Functioning (GAF) scale (APA 1994) to report the level of interpersonal or adaptive function.

Excluded studies

We excluded 23 trials which at first sight appeared to be eligible but were excluded on closer inspection of the full-text report. We excluded one newly-identified ongoing study, published since the search date, as it is a randomised trial of chronic anorexia nervosa (Touyz 2013) and thus did not meet criteria for inclusion in this review. Characteristics of these studies and reasons for exclusion from analysis are displayed in the table Characteristics of excluded studies.

Ongoing studies

We identified five new RCTs of psychological interventions for anorexia nervosa from the searches for this update.

The first (ACTRN12610000585022) is investigating a newly-developed eight-session CBT module aimed to reduce driven exercise and improve attitudes and beliefs towards exercise, incorporated in a 34-session course of CBT for anorexia nervosa (Pike 2003). The second, called the SWAN trial (ACTRN12611000725965), is a three-site RCT comparing CBT-Enhanced (Fairburn 2008) with MANTRA (Schmidt 2006; Wade 2011) and with SSCM (McIntosh 2005). The third (ISRCTN79119671) is assessing the efficacy of sequential six-session cognitive remediation therapy (CRT) with CBT with primary outcome reduction in eating disorder symptoms. The fourth (Maria 2013) is comparing CRT with a sham CRT in 120 women with anorexia nervosa and the primary outcome of neurocognitive improvement. The fifth (NTR3865) is comparing CRT with supportive counselling, with the primary outcome of reduction in eating disorder symptoms.

All these ongoing trials may be included in future updates of this review. For further details on these studies, see Characteristics of ongoing studies.

Studies awaiting classification

One study is awaiting classification (Schmidt 2013). This is the MOSAIC study which is since published (2015) and is the definitive study for which Schmidt 2012 was a pilot trial.

New studies found for this update

We found three additional studies for this update (Lock 2013; Schmidt 2012; Zipfel 2014).

Risk of bias in included studies

Because there were so few trials, we did not statistically test levels of agreement on risk of bias of trials and data extraction. Two review authors extracted all data related to risk of bias assessment and outcomes, and then reached consensus on final ratings. Findings are displayed in Figure 2 and in Figure 3.

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

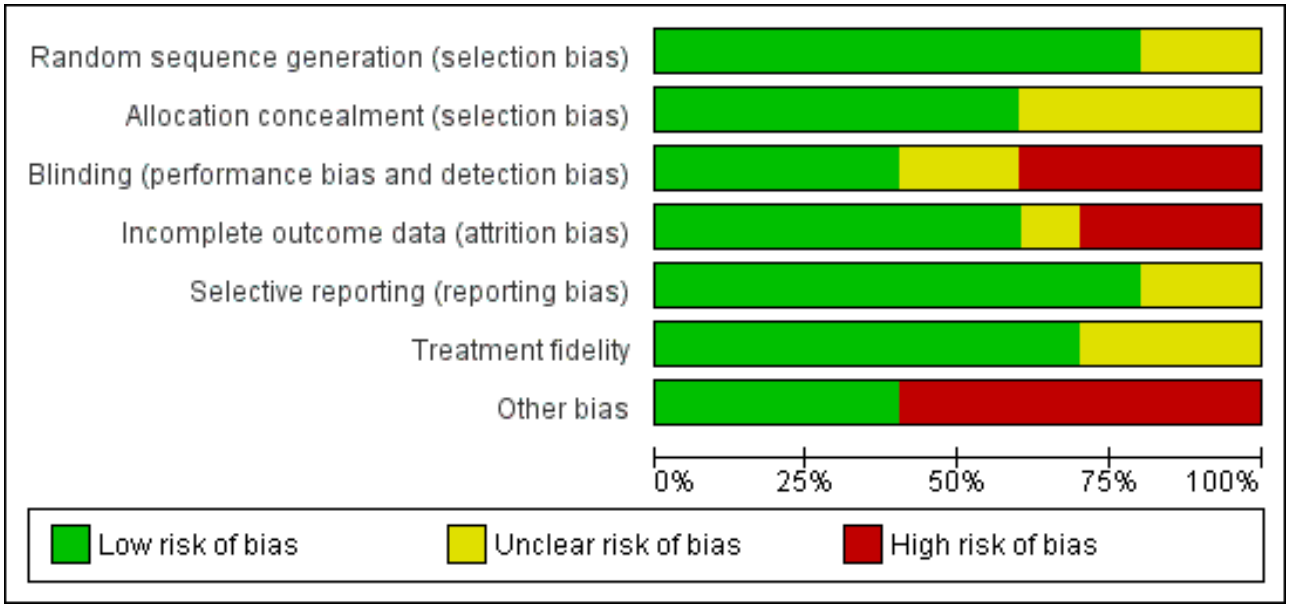
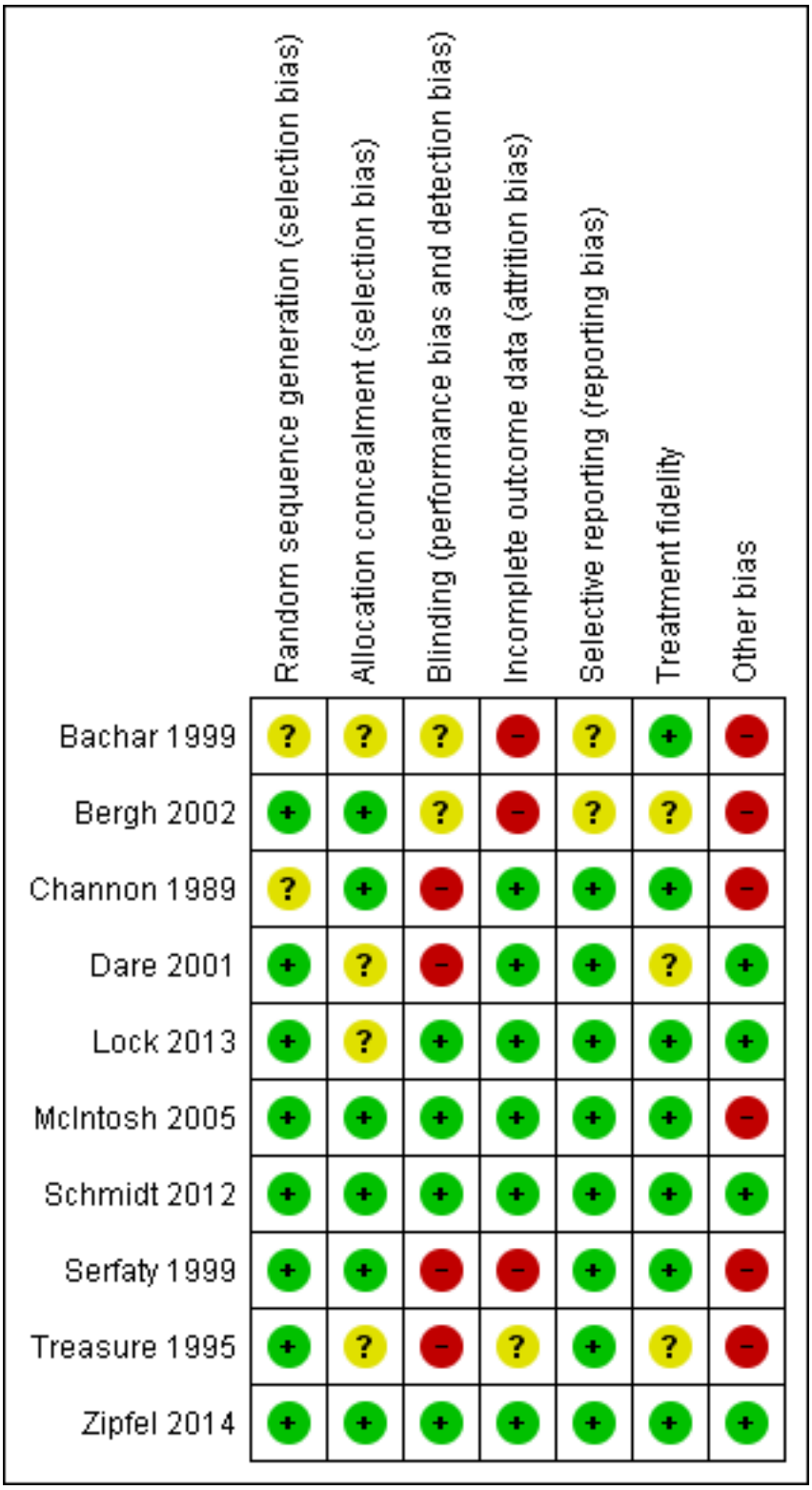


Figure 3. Risk of bias summary: review authors' judgements about each risk of bias item for each included study.



Allocation

We deemed six studies (Bergh 2002; Channon 1989; McIntosh 2005; Schmidt 2012; Serfaty 1999; Zipfel 2014) to be at low risk of bias for allocation concealment, and the remaining four trials as having an unclear risk of bias.

Blinding

Four studies (Lock 2013; McIntosh 2005; Schmidt 2012; Zipfel 2014) had a clear blinded outcome evaluation; three did not have blinded outcome assessments (Channon 1989; Serfaty 1999; Treasure 1995) and in three blinding was unclear (Bachar 1999; Bergh 2002; Dare 2001).

Incomplete outcome data

Most studies had a reported follow-up period to at least one year, except for Dare 2001 (who reported outcomes to one year after first assessment) and and Serfaty 1999 (who reported outcomes to end of treatment only). McIntosh 2005 reported outcome data to 6.7 years. Most studies conducted intention-to-treat (ITT) analyses, except for Bachar 1999. In the Schmidt 2012 trial there was a high rate of completion of outcome analyses (97%), but a lower rate (63%) of treatment completion. Treatment completion was defined as completion of at least half (more than 11) psychological therapy sessions. The Schmidt 2012 trial did not include one of the randomised participants in the ITT analyses. This participant was withdrawn after randomisation but before starting therapy.

Selective reporting

All the trials described outcome measures clearly and/or used validated instruments. In one trial it was unclear if there was selective underreporting of data (Bergh 2002).

Treatment fidelity

We rated risk of bias as being low in seven trials, where recordings were made of therapy sessions which were then reviewed for fidelity (Channon 1989; Bachar 1999; Lock 2013; McIntosh 2005; Serfaty 1999; Schmidt 2012; Zipfel 2014), and as unclear where it was not reported in three trials (Bergh 2002; Dare 2001; Treasure 1995).

Other potential sources of bias

We judged conclusions to be justified in two trials and only partially in five, mainly because of their failure to take account of their small sample size. Seven trials acknowledged support or declared interests or both (Channon 1989; Bergh 2002; Dare 2001; Lock 2013; McIntosh 2005; Schmidt 2012; Treasure 1995), and nine reported on training, experience or qualifications of therapists, or both. In one trial, therapist training was not applicable (Bergh 2002) and one reported the therapist as having little experience (Treasure 1995).

All studies reported the number of withdrawals and four gave reasons for non-completion (Dare 2001; Lock 2013; McIntosh 2005; Schmidt 2012). All but two trials (Bachar 1999; Bergh 2002) gave sufficient information on comparability of groups after randomisation or adjusted for differences in analyses, or both. The presentation of results was inadequate for later data aggregation in most trials.

Risk of bias was thus present in all but three trials (McIntosh 2005; Schmidt 2012; Zipfel 2014), in most instances because of lack of blinded outcome assessment (six studies), attrition bias (four studies) or other (e.g., very small sample in six studies).

Effects of interventions

See: **Summary of findings for the main comparison** Individual psychological therapy versus treatment as usual in adults with anorexia nervosa; **Summary of findings 2** Individual psychological therapy compared to a control therapy in the outpatient treatment of adults with anorexia nervosa; **Summary of findings 3** Individual psychological therapy versus another individual psychological therapy in the outpatient treatment of adults with anorexia nervosa.

For all comparisons there were insufficient trials for any meta-analysis or data aggregation of any more than two trials, and all analyses in forest plots refer to either single or a maximum of two trials. In this review, for dichotomous outcomes the numbers referred in the analyses are to those not achieving recovery or who did not not complete treatment.

Comparison 1: Individual psychological therapy versus treatment as usual (TAU)

Two trials of 41 and 30 participants (Dare 2001 and Treasure 1995 respectively) contributed to this comparison. Results of the main primary outcomes are summarised in Summary of findings for the main comparison.

Primary outcomes

1.1 Weight

1.1.1 CAT versus TAU

CAT was evaluated in two trials (Dare 2001; Treasure 1995) and compared with a "routine treatment" and educational behaviour treatment (EBT). Personal communication from the authors indicated that the control therapies were similar. Only Treasure 1995 had data on mean BMI at 12 months, which was not significantly in favour of CAT (MD 1.10, 95% CI -0.74 to 2.94; 30 participants; Analysis 1.1).

1.2 Recovery not achieved according to narrow Morgan and Russell categories

1.2.1 FPT versus TAU

In Dare 2001, the only data that could be extracted were for recovery by Morgan and Russell categories. The risk ratio (RR) was significantly in favour of focal time-limited psychological therapy (FPT) versus TAU (i.e. fewer people did not achieve recovery in the FPT group) (RR 0.70, 95% CI 0.51 to 0.97; 40 participants; Analysis 1.2).

1.2.2 CAT versus TAU

Dare 2001 just failed to reach significance for CAT versus TAU (RR 0.77, 95% CI 0.58 to 1.01, 41 participants; Analysis 1.2). The outcome was categorised as 'poor' in 52 participants (62%).

Data that could be extracted from Treasure 1995 were Morgan and Russell 'poor and intermediate' outcomes at one year from initiation of treatment. The RR was not significantly in favour of either therapy (RR 0.83, 95% CI 0.47 to 1.46, Analysis 1.2; 30 participants). The outcome was categorised as 'poor' in 11 participants (37%).

Where data for the two trials were combined in a subgroup analysis of CAT versus TAU, the RR just failed to reach significance (RR 0.78, 95% CI 0.61 to 1.00, 71 participants; Analysis 1.2).

1.3 Attrition

1.3.1 FPT versus TAU

Of the 84 participants randomised in Dare 2001, 30 (36%) did not complete treatment, 12 (14%) required admission to hospital and one died. There were no differences in the numbers of participants not completing treatment between FPT and TAU (RR 1.36, 95% CI 0.59 to 3.10; 40 participants).

1.3.2 CAT versus TAU

There were no differences in numbers not completing in the CAT versus TAU comparison for Dare 2001 (RR 1.30, 95% CI 0.56 to 2.97; 41 participants). Fifty-four out of 84 (64%) participants completed treatment.

Ten participants (33%) in Treasure 1995 did not complete treatment. There were no differences in the numbers of participants not completing treatment (RR 0.76, 95% CI 0.27 to 2.16; 30 participants).

When we examined the results of the two trials for CAT versus TAU in a grouped analysis there was no significant difference (RR 1.05, 95% CI 0.55 to 2.02; 71 participants; Analysis 1.3).

Secondary outcomes

1.4 Recovery not achieved according to the Morgan 1988 broader scale ratings of average outcome or similar

1.4.1 CAT versus TAU

Data on average Morgan and Russell scores at 12 months follow-up in Treasure 1995 were not significantly in favour of CAT (MD 0.90, 95% CI -1.07 to 2.87; 30 participants; Analysis 1.4).

1.5 Mean eating disorder symptom scores

No data available.

1.6 Proportion of study dropouts or non-completers due to an adverse event or experience

No data available.

1.7 Participant satisfaction ratings

No data available.

1.8 General psychiatric symptomatology, as measured by any recognised and validated questionnaire or interview

No data available.

1.9 Level of depression, as measured by any recognised and validated questionnaire or interview

No data available.

1.10 Level of interpersonal function, as measured by any recognised and validated questionnaire or interview

No data available.

Comparison 2: Individual psychological therapy versus a control therapy

Five trials (Channon 1989; McIntosh 2005; Schmidt 2012; Serfaty 1999; Zipfel 2014) in 399 participants contributed to this comparison. This is a subset of the participants in these trials. There are 21 participants in the McIntosh 2005 trial who are not included in the analyses, as they had interpersonal psychotherapy and not CBT or SSCM, the relevant treatments presented in this comparison. There are also eight participants in the Channon 1989 study who were not included in the analyses as they had a behaviour therapy not relevant to this comparison. One participant in the Schmidt 2012 trial was not analysed as she was withdrawn due to major physical illness after randomisation but before beginning treatment. Results of the main primary outcomes are summarised in Summary of findings 2.

Primary outcomes

2.1 Weight

2.1.1 CBT versus specialist supportive clinical management (SSCM) or Optimised TAU

In two trials (McIntosh 2005; Zipfel 2014) there were no end-of treatment differences in BMI for CBT versus SSCM or Optimised TAU (MD -0.00, 95% CI -0.91 to 0.91; 197 participants; Analysis 2.1) or at long-term follow-up (MD -0.02, 95% CI -0.87 to 0.82; 191 participants; Analysis 2.8).

2.1.2 Cognitive therapy versus dietary advice

Serfaty 1999 found no differences in BMI for cognitive therapy versus dietary advice (MD 1.80, 95% CI -0.12 to 3.72; 35 participants). The higher mean BMI in those who received cognitive therapy versus dietary advice just failed to reach significance (Analysis 2.1)

2.1.3 MANTRA versus SSCM

Schmidt 2012 found no difference in BMI for Maudsley Model for Treatment of Adults with Anorexia Nervosa (MANTRA) versus SSCM (MD 0.15, 95% CI -0.96 to 1.26; 71 participants; Analysis 2.1).

2.1.4 FPDT versus Optimised TAU

Zipfel 2014 found no difference in end-of-treatment BMI for FPDT versus Optimised TAU (MD -0.14, 95% CI -0.68 to 0.40; 162 participants; Analysis 2.1) or at long-term (12 month) follow-up (MD 0.25, 95% CI -0.44 to 0.94; 162 participants; Analysis 2.8).

2.1.5 IPT versus SSCM

McIntosh 2005 found no difference in end-of-treatment BMI for IPT versus SSCM (MD -0.70 95% CI -2.83 to 0.98;]37 participants; Analysis 2.1) or at long-term (12 month) follow-up (MD -0.40, 95% CI -2.62 to 1.82; 26 participants; Analysis 2.8).

2.2 Recovery not achieved according to Morgan and Russell categories

2.2.1 CBT versus SSCM or Optimised TAU

Two trials (McIntosh 2005; Zipfel 2014) found no differences in number of participants rated 3 or 4 on the global treatment outcome or not recovered between CBT and SSCM or Optimised TAU at end of treatment (RR 0.97 95% CI 0.37 to 2.54; 137 participants; Analysis 2.2) or in one trial (McIntosh 2005) at long-term follow-up (RR 1.20, 95% CI 0.60 to 2.42; 37 participants; Analysis 2.7). (Data for this analysis supplied for subset of participants by the authors of Zipfel 2014).

2.2.2 *FPDT versus Optimised TAU*

Zipfel 2014 found no differences in number of participants rated 3 or 4 on the global treatment outcome or not recovered between FPDT versus Optimised TAU at end of treatment (RR 0.57, 95% CI 0.28 to 1.17; 94 participants; Analysis 2.2).

2.2.3 *IPT versus SSCM*

McIntosh 2005 found a greater number of participants rated 3 or 4 on the global treatment outcome or not recovered who were treated with IPT versus SSCM at end of treatment (RR 2.07, 95% CI 1.17 to 3.67; 37 participants; Analysis 2.2).

2.3 Attrition

2.3.1 CBT versus SSCM, an eclectic specialist therapy, or Optimised TAU

In a meta-analysis of two trials where data were available (Channon 1989; McIntosh 2005) there was no significant difference in attrition between CBT versus a control therapy (RR 0.81, 95% CI 0.19 to 3.51; 51 participants; Analysis 2.3).

There were no data available for Optimised TAU in this comparison.

2.3.2 Cognitive therapy versus dietary advice

Serfaty 1999 found fewer participants not completing treatment in the cognitive therapy versus dietary advice groups (RR 0.10, 95% CI 0.03 to 0.33; 35 participants; Analysis 2.3). Two of the 25 participants allocated to cognitive therapy did not complete therapy, and none of the participants who received dietary advice completed treatment.

2.3.3 MANTRA versus SSCM

Schmidt 2012 found no differences in attrition between MANTRA and SSCM groups (RR 0.68, 95% CI 0.36 to 1.29; 71 participants; Analysis 2.3).

2.3.4 IPT versus ISSCM

McIntosh 2005 found no differences in attrition between MANTRA and SSCM groups (RR 1.37, 95% CI 0.57 to 3.30; 37 participants; Analysis 2.3)

Secondary outcomes

2.4 Recovery not achieved according to the Morgan 1988 broader scale ratings of average outcome or similar

No data available.

2.5 Mean eating disorder symptom scores

2.5.1 CBT versus SSCM or Optimised TAU

Two trials (McIntosh 2005; Zipfel 2014) found no differences in EDE Restraint scores or total EDI scores between CBT and SSCM or Optimised TAU (SMD 0.05, 95% CI -0.44 to 0.54; 197 participants; Analysis 2.4) at end of treatment or at long-term follow-up (SMD -0.23, 95% CI -0.93 to 0.47; 191 participants; Analysis 2.9).

2.5.2 MANTRA versus SSCM

Schmidt 2012 found no difference in EDE global symptom scores for those in the MANTRA versus the SSCM group (MD -0.11, 95% CI -0.58 to 0.35; 71 participants; Analysis 2.4). A reduced EDE symptom score indicates a better outcome.

2.5.3 FPDT versus Optimised TAU

Zipfel 2014 found no differences in total EDI scores between CBT and Optimised TAU (SMD -0.09, 95% CI -0.40 to 0.22; 162 participants; Analysis 2.4) at end of treatment or at long-term follow-up (SMD -0.05, 95% CI -0.36 to 0.26; 162 participants; Analysis 2.9).

2.5.4 IPT versus SSCM

McIntosh 2005 found no differences in total EDI scores between IPT and SSCM (SMD 1.17, 95% CI 0.46 to 1.88; 37 participants; Analysis 2.4) at end of treatment or at long-term follow-up (SMD -0.73, 95% CI -1.54 to 0.07; 26 participants; Analysis 2.9).

2.6 Proportion of study dropouts or non-completers due to an adverse event or experience

No data available.

2.7 Participant satisfaction ratings

No data available.

2.8 General psychiatric symptomatology, as measured by any recognised and validated questionnaire or interview

2.8.1 CBT versus SSCM

McIntosh 2005 found no differences between CBT and SSCM in DSM-IV Global Assessment of Function (MD -7.50, 95% CI -15.54 to 0.54; 35 participants; Analysis 2.5) at end of treatment or at long-term follow-up (MD 0.10, 95% CI -12.36 to 12.56; 29 participants; Analysis 2.10).

2.8.2 IPT versus SSCM

McIntosh 2005 found IPT participants to have lower levels of general psychiatric symptoms (DSM-IV Global Assessment of Function scores) compared to SSCM participants (MD -9.60, 95% CI -17.07 to -2.13; 37 participants; Analysis 2.5) at end of treatment but not at long-term follow-up (MD 1.40, 95% CI -10.50 to 13.30; 26 participants; Analysis 2.10).

2.9 Level of depression, as measured by any recognised and validated questionnaire or interview

2.9.1 CBT versus SSCM

McIntosh 2005 found no differences between CBT and SSCM (MD 0.10, 95% CI -4.84 to 5.04; 35 participants; Analysis 2.6) on Hamilton Depression Rating Scale (HDRS) score at end of treatment or at long-term follow-up (MD 0.80, 95% CI -4.31 to 5.91; 29 participants; Analysis 2.11).

2.9.2 MANTRA versus SSCM

Schmidt 2012 found no differences between MANTRA and SSCM in levels of depression as measured on the HDRS (MD -0.53, 95% CI -4.03 to 2.97; 71 participants; Analysis 2.6).

2.9.3 IPT versus SSCM

McIntosh 2005 found no differences between CBT and SSCM (MD 3.10, 95% CI -1.57 to 7.77; 37 participants; Analysis 2.6) on Hamilton Depression Rating Scale (HDRS) score at end of treatment or at long-term follow-up (MD -1.70, 95% CI -6.99 to 3.59; 26 participants; Analysis 2.11).

2.10 Level of interpersonal function, as measured by any recognised and validated questionnaire or interview

No data available.

Comparison 3. Individual psychological therapy versus another individual psychological therapy

Four trials with 259 participants (Bachar 1999; Lock 2013; McIntosh 2005; Zipfel 2014) contributed to analyses in this comparison. There are 16 participants in the McIntosh 2005 trial who are not included in the analyses as they had SSCM and not CBT or IPT, the treatments presented in Analysis 3. Eighty-two participants in the Zipfel 2014 trial are not included as they had Optimised TAU and did not receive focal psychodynamic therapy or CBT. Results of the main primary outcomes are summarised in Summary of findings 3.

Primary outcomes

3.1 Weight

3.1.1 CBT versus interpersonal psychological therapy (IPT) or focal psychodynamic therapy (FPDT)

Two trials (McIntosh 2005; Zipfel 2014) found no difference in BMI in participants treated with CBT compared to IPT or FPDT at end of treatment (MD 0.41, 95% CI -0.08 to 0.89; 200 participants; Analysis 3.1) or in participants treated with IPT or FPDT compared to CBT at 12-month follow-up (MD -0.19 95% CI -0.79 to 0.41; 191 participants; Analysis 3.8).

3.1.2 CBT versus Enhanced CBT e.g., with cognitive remediation therapy (CRT)

One trial (Lock 2013) found no difference in BMI in participants treated with CBT compared to CBT enhanced with CRT sessions at end of two-month therapy (MD 0.17, 95% CI -0.64 to 0.99; 46 participants; Analysis 3.1)

3.2 Recovery not achieved according to Morgan and Russell categories or similar

3.2.1 CBT versus IPT or FPDT

Two trials (Zipfel 2014; McIntosh 2005) found no differences in numbers who did not reach a partial or full recovery in participants treated with CBT versus FPDT or IPT (RR 0.80, 95% CI 0.59 to 1.08; 156 participants; Analysis 3.2). McIntosh 2005 found no differences in numbers who did not reach a partial or full recovery in participants treated with CBT versus IPT at follow-up (RR 0.54, 95% CI 0.21 to 1.40; 37 participants; Analysis 3.9).

3.2.2 Cognitive orientation therapy (COT) versus Self Psychology both with nutritional counselling

Bachar 1999 found two of seven in the self psychology group compared to six of six participants in the cognitive orientation therapy group did not achieve a BMI above 17.5 and return of menses (RR 2.97, 95% CI 1.04 to 8.48; 13 participants; Analysis 3.2).

3.3 Attrition

3.3.1 CBT versus IPT or FPDT

Two trials (McIntosh 2005; Zipfel 2014) found no difference in attrition between CBT and IPT or FPDT at end of treatment (RR 0.64, 95% CI 0.41 to 1.01; 200 participants; Analysis 3.3). and Bachar 1999 found no difference in attrition between cognitive orientation therapy and self psychology (RR 4.67, 95% CI 0.70 to 31.22; 13 participants; Analysis 3.3).

3.3.2 CBT versus Enhanced CBT e.g., with cognitive remediation therapy (CRT)

One trial (Lock 2013) found no difference in attrition between CBT and CBT enhanced with CRT sessions at end of two months therapy (RR 1.25, 95% CI 0.60 to 2.59; 46 participants; Analysis 3.3).

3.3.3 COT versus Self Psychology, both with nutritional counselling

One trial (Bachar 1999) found no difference in attrition between COT and SP at end of therapy (RR 4.67, 95% CI 0.70 to 31.22; 13 participants; Analysis 3.3).

Secondary outcomes

3.4 Recovery not achieved according to the Morgan 1988 broader scale ratings of average outcome or similar

No data available.

3.5 Mean eating disorder symptom scores

3.5.1 CBT versus IPT or FPDT

Two trials (McIntosh 2005; Zipfel 2014) reported no difference in EDE Restraint scores in the CBT group compared to the IPT group and EDI total scores at end of treatment in the CBT group compared to the FPDT group (SMD -0.33, 95% CI -1.00 to 0.35; 200 participants; Analysis 3.4) and there were no differences at long-term follow-up (SMD 0.07, 95% CI -0.21 to 0.36, 191 participants; Analysis 3.7).

3.5.2 CBT versus Enhanced CBT e.g., with CRT

One trial (Lock 2013) found no difference in EDE Restraint scores in the CBT and CBT enhanced with CRT sessions group at end of two months therapy (SMD 0.33, 95% CI -0.26 to 0.91; 46 participants; Analysis 3.4).

3.6 Proportion of study dropouts or non-completers due to an adverse event or experience

No data available.

3.7 Participant satisfaction ratings

No data available.

3.8 General psychiatric symptomatology, as measured by any recognised and validated questionnaire or interview

3.8.1 CBT versus IPT

McIntosh 2005 found no differences between CBT and IPT in DSM-IV Global Assessment of Function (MD 2.10, 95% CI -3.17 to 7.37; 40 participants; Analysis 3.5) at end of treatment or at long-term follow-up (MD -1.30, 95% CI -11.33 to 8.73; 31 participants; Analysis 3.10).

3.9 Level of depression, as measured by any recognised and validated questionnaire or interview

3.9.1 CBT versus IPT

McIntosh 2005 found no differences between CBT and IPT (MD -3.00, 95% CI -7.70 to 1.70; 40 participants; Analysis 3.6) on the Hamilton Depression Rating Scale (HDRS) score at end of treatment or at long-term follow-up (MD 2.50, 95% -2.27 to 7.27; 31 participants; Analysis 3.11).

3.10 Level of interpersonal function, as measured by any recognised and validated questionnaire or interview

No data available.

Comparison 4: Individual psychological therapy versus wait-list control

One trial of 19 participants (Bergh 2002) contributed to the analysis in this comparison. There were no data on priamry outcomes and no Summary of Finding Table was produced..

Primary outcomes

4.1 Weight

No data available.

4.2 Recovery according to Morgan and Russell categories

No data available.

4.3 Attrition

No data available.

Secondary outcomes

4.4 Recovery according to the Morgan 1988 broader scale ratings of average outcome or similar

4.4.1 Karolinski approach versus delayed treatment control

In the one trial by Bergh 2002, 10 of 11 participants in the group treated with the Karolinski approach were in remission after a median of 14.4 months of treatment, and none of the eight participants in the delayed-treatment control group went into remission during the 21.6-month observation period (RR 0.13, 95% CI 0.03 to 0.60; 19 participants; Analysis 4.1). Remission was defined as normal body weight, psychology, test results, eating behaviour and social activities.

4.5 Mean eating disorder symptom scores

No data available.

4.6 Proportion of study dropouts or non-completers due to an adverse event or experience

No data available.

4.7 Participant satisfaction ratings

No data available.

4.8 General psychiatric symptomatology, as measured by any recognised and validated questionnaire or interview

No data available.

4.9 Level of depression, as measured by any recognised and validated questionnaire or interview

No data available.

4.10 Level of interpersonal function, as measured by any recognised and validated questionnaire or interview

No data available.

DISCUSSION

Summary of main results

With regard to the first comparison examined, an individual psychological therapy compared to treatment as usual (TAU), only two trials of 71 participants informed this result. Data were not available for both trials (Dare 2001; Treasure 1995) for all primary outcomes. Where data were available, specific psychological therapies - CAT or FPT - tended to be favoured over TAU. Differences reached significance for recovery favouring FPT in one trial (Dare 2001) but failed to reach significance for recovery favouring CAT in pooled data form both trials. Outcomes were also poor in Dare 2001, with only 11 of the 43 participants (26%) allocated to a specific therapy (FPT or CAT) meeting Morgan and Russell criteria for weight recovery, and 18 of the 43 participants (42%) did not complete treatment. See Summary of findings for the main comparison.

With regard to the second comparison examined, an individual psychological therapy versus a control therapy, four trials informed results, including the largest trial to date, Zipfel 2014. In Zipfel 2014 there were no differences in primary or secondary outcomes between two manualised specialist therapies (CBT-E or FPDT) and no differences between CBT-E and a non-specific specialist approach (Optimised TAU). In McIntosh 2005 a control therapy - SSCM - was similar to CBT and tended to be favoured over IPT. However, except for secondary outcomes of lower EDE Restraint scores and higher global assessment of function scores, differences did not reach significance. Participants treated with MANTRA also had a lower global EDE score compared to those treated with SSCM but had a greater rate of hospitalisation at 12-months follow-up (the latter reported in the published analyses (Schmidt 2012)). In the meta-analyses of two trials (McIntosh 2005; Zipfel 2014) where CBT was compared to SSCM or Optimised TAU we found no differences in primary outcomes. In contrast to the Zipfel 2014 trial, the McIntosh 2005 and Schmidt 2012 trials had relatively short treatment duration (20 sessions) and with poor recovery rates at end of treatment, indicating treatment was incomplete for many. (Only 30% attained recovery in the McIntosh 2005 trial and 21% attained weight recovery in the Schmidt 2012 trial.). See Summary of findings 2.

The fourth trial in the second comparison (Serfaty 1999) found that CBT appeared much more acceptable than dietary advice alone, the latter having a 100% non-completion rate. It is unclear why dietary advice proved so unacceptable and this finding is of some concern, as the dietician is often the first clinician consulted by people seeking care. This finding merits further research using an explorative qualitative methodology.

In the third comparison of one individual psychological therapy versus another individual psychological therapy, four trials informed results, including Zipfel 2014 and McIntosh 2005. Pooled data comparing CBT with IPT (McIntosh 2005) or FPDT (Zipfel 2014) found no differences in primary or secondary outcomes at end of treatment or follow-up. The Lock 2013 trial also found no differences in primary outcomes (BMI and treatment attrition) of this review between CBT enhanced with cognitive remediation therapy compared to CBT in the short term. Finally Bachar 1999 found self-psychology therapy was associated with a significantly better outcome than cognitive orientation therapy, but there were only eight participants. See Summary of findings 3.

In the fourth comparison only one trial (Bergh 2002) compared an individual psychological therapy with a wait-list control group. This study reported the strongest effects of treatment but had only 19 participants, half of whom were less than 16 years of age. See Summary of findings table 4.

Acceptability of treatments, as reflected in non-completion rates, varied widely and may have been influenced as much by specific type of therapy as by differences in participants' demographic and other features (e.g. age and level of maturity), therapist style and other effects. Fewer participants who had FPDT versus CBT completed treatment in the Zipfel 2014 trial but this lost significance when both FPDT and IPT were compared with CBT in a meta-analysis. Lastly, studies with end-of-treatment and follow-up data reported that effects were maintained at 12 months (Bachar 1999 and Channon 1989) and indeed improvement continued in the longer-term follow-up of the McIntosh 2005 and Zipfel 2014 trials. In the McIntosh 2005 trial differences between SSCM, IPT and CBT treatment groups were not found over five years of follow-up.

Risk of bias was present in eight (Bachar 1999; Bergh 2002; Channon 1989; Dare 2001; Lock 2013; McIntosh 2005; Serfaty 1999; Treasure 1995) out of the 10 trials. Due to the small number and size of trials and risk of bias, conclusions are necessarily cautious. In addition, there was probably insufficient statistical power to demonstrate significant differences in comparisons of individual psychological therapies in all but the large high-quality Zipfel 2014 trial. Overall, most trials reported that some participants showed improvement after treatment, but the numbers of those having a good outcome were both variably defined or not defined at all.

Overall completeness and applicability of evidence

With the addition of later trials the review is improved in its ability to meet its objectives. However, the evidence base is still limited with very low or low confidence for almost all findings presented in the 'Summary of findings' tables.

When considering both trials of SSCM (McIntosh 2005; Schmidt 2012) it could be argued that, despite its 'pragmatic' nature when delivered by trained therapists with expertise in anorexia nervosa, SSCM should possibly no longer be regarded as a control therapy. It may also be that such a supportive approach, which focuses on nutritional counselling and weight restoration, is most effective in the first months of treatment. MANTRA as a novel specialist therapy requires further development and trials.

Seven trials described full demographic data (Bachar 1999; Bergh 2002; Dare 2001; Lock 2013; Schmidt 2012; Serfaty 1999; Zipfel 2014), and the remainder gave basic details. No trial gave details on side effects.The findings of most studies are applicable to adults, except for the two studies that included an unspecified number of children or younger adolescents (Bachar 1999; Bergh 2002), and to women, with inclusion of men being rare. In Serfaty 1999, seven participants were included whose weight technically put them outside former (APA 1994) but not current (APA 2013) diagnostic criteria for anorexia nervosa. McIntosh 2005 and Schmidt 2012 also included women with lenient BMI criteria and did not require participants to have amenorrhoea. All studies, however, would be applicable with the more lenient DSM-5 (APA 2013) criteria for anorexia nervosa. Except for the McIntosh 2005, Schmidt 2012 and Zipfel 2014 trials, where the exclusion rate was calculated, the percentages of exclusions was not high, which increases the generalisability of the findings.

Quality of the evidence

Notwithstanding that the present review excluded trials that compared individual psychological therapies to family therapy, we identified only 10 RCTs that specifically evaluated individual psychological therapies for the treatment of older adolescents and adults with anorexia nervosa. These were of variable quality. The median size of trials was very small, namely 45.5 (range 13 to 242) so that power was a major problem for all trials. Two trials (Bachar 1999; Bergh 2002) included children or adolescents, limiting their generalisability to older adolescents and adults with anorexia nervosa. Risk of bias was mostly attributable to lack of blind outcome assessments (six out of 10 trials) and incomplete data reporting (attrition bias in four out of 10 trials).

Strengths of the evidence are that integrity of therapy was tested in six trials, using written or recorded materials. Follow-up was less frequent than desirable (in five trials only), but intention-to-treat (ITT) analyses were done in all but one trial. One study (Treasure 1995) did not provide complete information on end-of-treatment data and in another study (Serfaty 1999), the information from the follow-up period was unclear, as well as the duration of treatment.

Potential biases in the review process

The review is likely to have identified all relevant trials, with broad-based searches (including for non-English language studies) re-run for this update, and correspondence with authors. In this review 'therapist qualifications' and 'researcher allegiance' were combined under ‘Other bias’ with unknown impact. In the next update we will consider these as independent 'Risk of bias' domains; we will also differentiate between performance bias and detection bias.

Agreements and disagreements with other studies or reviews

This review is in agreement with other systematic reviews which have employed a similar approach to evidence appraisal, such as NICE 2004 and Bulik 2007, but includes more recent trials. (These two reviews do not include the most recent studies of Schmidt 2012, Lock 2013 and Zipfel 2014). The more recent trials have not changed agreement on the finding that there is insufficient evidence to support any one individual psychological outpatient therapy over an alternative psychological therapy in adults with anorexia nervosa.

AUTHORS' CONCLUSIONS

Implications for practice

This review suggests that focal psychoanalytic therapy may be more efficacious than no treatment or treatment as usual. With one exception, we found little difference between specific psychological therapies. Most therapies appeared as acceptable as any other approach, except for dietary advice which had a 100% non-completion rate in one small trial. It is unclear why TAU performed less well than other control therapies. Because the reasons for non-completion were not reported, it is also unclear why dietary advice alone appeared so unacceptable. Because of the risk of bias and limitations of studies, most notably small sample sizes

and insufficient replication of findings, we can draw no specific conclusions from this review.

Implications for research

The current findings are based on a limited number of small trials and it was not possible to pool data from more than two trials. Larger trials are necessary to further test specific approaches such as interpersonal psychotherapy, cognitive behavioural therapy, cognitive analytic therapy, or psychodynamic therapies in comparison to each other and to control therapies. It is desirable that future trials apply consistent outcome assessments (e.g., the Morgan and Russell categories) and measure outcomes at similar time points (namely end of treatment and at one-year follow-up). A number of large ongoing trials are completed or close to completion, and these have the potential to extend the body of evidence. Non-inferiority designs, where studies are powered to test for non-significant differences between groups, will need to be considered in future trials of active therapy comparisons.

In addition, the brief periods of treatment and follow-up (as short as three months to as long as one year of treatment, with most around 20 weeks) severely limit assessment of outcome in anorexia nervosa, where few moderately- to severely-ill sufferers will respond that quickly to treatment. Longer-term studies and those that include a multidisciplinary treatment plan are also required, as most sufferers need more than psychological therapy alone.

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REFERENCES

References to studies included in this review

Bachar 1999 *{published data only}*

Bachar E, Latzer Y, Kreitler S, Berry EM. Empirical comparison of two psychological therapies. Self psychology and cognitive orientation in the treatment of anorexia and bulimia. *Journal of Psychotherapy Practice and Research* 1999;**8**(2):115-28.

Bergh 2002 *{published data only}*

Bergh C, Brodin U, Lindberg G, Sodersten P. Randomized controlled trial of a treatment for anorexia and bulimia nervosa. *Proceedings of the National Academy of Sciences of the USA* 2002;**99**(14):9486-91.

Channon 1989 *{published data only}*

Channon S, De Silva P, Hemsley D, Perkins R. A controlled trial of cognitive-behavioural and behavioural treatment of anorexia nervosa. *Behavior Research and Therapy* 1989;**27**(5):529-35.

Dare 2001 *{published data only}*

Dare C, Eisler I, Russell G, Treasure J, Dodge L. Psychological therapies for adults with anorexia nervosa. *British Journal of Psychiatry* 2001;**178**:216-21.

Lock 2013 *{published data only (unpublished sought but not used)}*

* Lock J, Agras WS, Fitzpatrick KK, Bryson SW, Jo B, Tchanturia K. Is outpatient cognitive remediation therapy feasible to use in randomized clinical trials for anorexia nervosa?. *International Journal of Eating Disorders* 2013;**46**(6):567-75.

NCT00601822. Effectiveness of cognitive remediation therapy in improving treatment retention in people with anorexia nervosa. clinicaltrials.gov/ct2/show/NCT00601822 (accessed 20th December 2013).

McIntosh 2005 *{published data only}*

Carter FA, Jordan J, McIntosh VW, Luty SE, McKenzie JM, Frampton C, et al. The long-term efficacy of three psychotherapies for anorexia nervosa: a randomized controlled trial. *International Journal of Eating Disorders* 2011;**44**(7):647-54.

Jordan J, McIntosh VV, Carter FA, Joyce PR, Frampton CM, Luty SE, et al. Clinical characteristics associated with premature termination from outpatient psychotherapy for anorexia nervosa. *European Eating Disorders Review* 2014;**22**(4):278-84.

* McIntosh VW, Jordan J, Carter F, Luty SE, McKenzie JM, Bulik CM, et al. Three psychotherapies for anorexia nervosa: a randomized controlled trial. *American Journal of Psychiatry* 2005;**162**(4):741-7.

Schmidt 2012 *{published data only}*

Schmidt U, Oldershaw A, Jichi F, Sternheim L, Startup H, McIntosh V, et al. Out-patient psychological therapies for adults with anorexia nervosa: randomised controlled trial. *British Journal of Psychiatry* 2012;**201**(5):392-9.

Serfaty 1999 *{published data only}*

Serfaty MA, Turkington D, Heap M, Ledsham L, Jolley E. Cognitive therapy versus dietary counselling in the outpatient treatment of anorexia nervosa: Effect of the treatment phase. *European Eating Disorders Review* 1999;**7**(5):334-50.

Treasure 1995 *{published data only}*

Treasure J, Todd G, Brolly M, Tiller J, Nehmed A, Denman F. A pilot study of a randomized trial of cognitive analytical therapy vs educational behavioural therapy for adult anorexia nervosa. *Behavior Research and Therapy* 1995;**33**(4):363-7.

Zipfel 2014 *{published and unpublished data}*

Gross G, Giel KE, Wild B, Teufel M, Friederich HC, De Zwaan M, et al. Patient perspective of outpatient cognitive behavior therapy in anorexia nervosa - The ANTOP study. *Zeitschrift fur psychiatrie, psychologie und psychotherapie* 2014;**62**:27-34.

Schauenburg H, Friederich HC, Wild B, Zipfel S, Herzog W. Focal psychodynamic psychotherapy of anorexia nervosa. A treatment manual [Fokale psychodynamische psychotherapie der anorexia nervosa. Ein behandlungsmanual]. *Psychotherapeut - Berlin* 2009;**54**(4):270-80.

Schauenburg H, Friederich HC, Wild B, Zipfel S, Herzog W. Focal psychodynamic psychotherapy of anorexia nervosa. A treatment manual. *Psychotherapeut - Berlin* 2009;**54**:270-80.

Wild B, Friederich HC, Gross G, Teufel M, Herzog W, Giel KE, et al. The ANTOP study: Focal psychodynamic psychotherapy, cognitive-behavioural therapy, and treatment-as-usual in outpatients with anorexia nervosa - A randomized controlled trial. *Trials* 2009;**10**:23. [ISRCTN72809357]

* Zipfel LS, Wild B, Gross G, Friederich HC, Teufel M, Schellberg D, et al. Focal psychodynamic therapy, cognitive behaviour therapy, and optimised treatment as usual in outpatients with anorexia nervosa (ANTOP study): randomised controlled trial. *Lancet* 2014;**383**(9912):127-37.

References to studies excluded from this review

Ball 2004 *{published data only}*

Ball J, Mitchell P. A randomized controlled study of cognitive behavior therapy and behavioral family therapy for anorexia nervosa patients. *Eating Disorders* 2004;**12**(4):303-14.

Brambilla 1995a *{published data only}*

Brambilla F, Draisci A, Peirone A, Brunetta M. Combined cognitive-behavioral, psychopharmacological and nutritional therapy in eating disorders: Anorexia nervosa restricted type. *Neuropsychobiology* 1995;**32**(2):59-63.

Brambilla 1995b *{published data only}*

Brambilla F, Draisci A, Peirone A, Brunetta M. Combined cognitive-behavioral, psychopharmacological and nutritional therapy in eating disorders: Anorexia nervosa binge-eating/purging type. *Neuropsychobiology* 1995;**32**(2):64-7.

Crisp 1991 *{published data only}*

Crisp AH, Norton K, Gowers S, Halek C, Bowyer C, Yeldham D, et al. A controlled study of the effect of therapies aimed at adolescent and family psychopathology in anorexia nervosa. *British Journal of Psychiatry* 1991;**159**:325-33.

Eckert 1979 *{published data only}*

Eckert ED, Goldberg SC, Halmi KA, Casper RC, Davis JM. Behaviour therapy in anorexia nervosa. *British Journal of Psychiatry* 1979;**134**:55-9.

Eisler 1997 *{published data only}*

Eisler I, Dare C, Russell GF, Szmukler G, Le Grange D, Dodge E. Family and individual therapy in anorexia nervosa; A 5-year follow-up. *Archives of General Psychiatry* 1997;**54**(11):1025-30.

Geller 2011 *{published data only}*

Geller J, Brown KE, Srikameswaran S. The efficacy of a brief motivational intervention for individuals with eating disorders: a randomized controlled trial. *International Journal of Eating Disorders* 2011;**44**(6):497-505.

Gordon 1999 *{published data only}*

Gordon CM, Grace E, Emans SJ, Goodman E, Crawford MH, Leboff MS. Changes in bone turnover markers and menstrual function after short-term oral DHEA in young women with anorexia nervosa. *Journal of Bone and Mineral Research* 1999;**14**(1):136-45.

Gowers 1994 *{published data only}*

Gowers S, Norton K, Halek C, Crisp AH. Outcome of outpatient psychotherapy in a random allocation treatment study of anorexia nervosa. *International Journal of Eating Disorders* 1994;**15**(2):165-77.

Hall 1987 *{published data only}*

Hall A, Crisp AH. Brief psychotherapy in the treatment of anorexia nervosa outcome at one year. *British Journal of Psychiatry* 1987;**151**:185-91.

Halmi 1998 *{published data only}*

Halmi K, Agras S, Mitchell J, Crow S. Fluoxetine and cognitive-behavioral therapy for anorexia nervosa; A multi-center treatment study. Proceedings of the 21st Collegium Internationale Neuro-psychopharmacologicum. 1998.

Halmi 2005 *{published data only}*

Halmi KA, Agras WS, Crow S, Mitchell J, Wilson GT, Bryson SW, et al. Predictors of treatment acceptance and completion in anorexia nervosa. *Archives of General Psychiatry* 2005;**62**(7):776-81.

Kong 2005 *{published data only}*

Kong, S. Day treatment programme for patients with eating disorders: randomized controlled trial. *Journal of advanced nursing* 2005;**51**(1):5-14.

Marco 2013 *{published data only}*

Marco JH, Perpiñá C, Botella C. Body image treatment in eating disorders: Differences in treatment response depending on the diagnosis. *Behavioral Psychology / Psicologia Conductual* 2013;**21**:491-509.

* Marco JH, Perpiñá C, Botella C. Effectiveness of cognitive behavioral therapy supported by virtual reality in the treatment of body image in eating disorders: one year follow-up. *Psychiatry Research* 2013;**209**(3):619-25.

Munford 1984 *{published data only}*

Munford PR, Tarlow G, Gerner R. Single case study: an experimental analysis of the interaction of chemotherapy and behaviour therapy in anorexia nervosa. *Journal of Nervous and Mental Disease* 1984;**172**(4):228-31.

Pike 2003 *{published data only}*

Pike KM, Walsh BT, Vitousek K, Wilson GT, Bauer J. Cognitive behavior therapy in the posthospitalization treatment of anorexia nervosa. *American Journal of Psychiatry* 2003;**160**(11):2046-9.

Pillay 1981 *{published data only}*

Pillay M, Crisp AH. The impact of social skills training within an established in-patient treatment programme for anorexia nervosa. *British Journal of Psychiatry* 1981;**139**:533-9.

Robin 1994 *{published data only}*

Robin AL, Siegel PT, Koepke T, Moye AW, Tice S. Family therapy versus individual therapy for adolescent females with anorexia nervosa. *Developmental and Behavioral Pediatrics* 1994;**15**:111-6.

Robin 1999 *{published data only}*

Robin AL, Siegel PT, Moye AW, Gilroy M, Dennis AB, Sikand A. A controlled comparison of family versus individual therapy for adolescents with anorexia nervosa. *Journal of the Americal Academy of Child and Adolescent Psychiatry* 1999;**38**(12):1482-9.

Russell 1987 *{published data only}*

Russell GF, Szmukler GI, Dare C, Eisler I. An evaluation of family therapy in anorexia nervosa and bulimia nervosa. *Archives of General Psychiatry* 1987;**44**(12):1047-56.

Stein 2013 *{published data only}*

Stein KF, Corte C, Chen DG, Nuliyalu U, Wing J. A randomized clinical trial of an identity intervention programme for women with eating disorders. *European Eating Disorders Review* 2013;**21**(2):130-42.

Touyz 2013 *{published data only}*

Stiles-Shields C, Touyz S, Hay P, Lacey H, Crosby RD, Rieger E, et al. Therapeutic alliance in two treatments for adults with severe and enduring anorexia nervosa. *International Journal of Eating Disorders* 2013;**46**(8):783-9.

* Touyz S, Le Grange D, Lacey H, Hay P, Smith R, Maguire S, et al. Treating severe and enduring anorexia nervosa: a randomized controlled trial. *Psychological Medicine* 2013;**43**(12):2502-11. [DOI: doi:10.1017/S0033291713000949; www.anzctr.org.au/ACTRN12607000440426.aspx]

Touyz S, Le Grange D, Lacey H, Hay P, Smith R, Maguire S, et al. Treating severe and enduring anorexia nervosa: a randomized

controlled trial. CORRIGENDUM. *Psychological Medicine* 2013;**43**(12):2512.

Vandereycken 1977 *{published data only}*

Vandereycken W, Pierloot R. Anorexia nervosa: weight recovery with behaviour therapy. *Feuillets Pscyhiatrique de Liege* 1977;**10**:47-58.

Wulliemier 1975 *{published data only}*

Wullieimier F, Sinclair K, Rossel F. Behaviour therapy of anorexia nervosa. *Journal of Psychosomatic Research* 1975;**19**:267-272.

References to studies awaiting assessment

Schmidt 2013 *{published data only}*

Lose A, Davies C, Renwick B, Kenyon M, Treasure J, Schmidt U, MOSAIC trial. Process evaluation of the maudsley model for treatment of adults with anorexia nervosa trial. Part II: Patient experiences of two psychological therapies for treatment of anorexia nervosa. *European Eating Disorders Review* 2014;**22**(2):131-9.

Schmidt U, Magill N, Renwick B, Keyes A, Kenyon M, Dejong H, et al. The Maudsley Outpatient Study of Treatments for Anorexia Nervosa and Related Conditions (MOSAIC): Comparison of the Maudsley Model of Anorexia Nervosa Treatment for Adults (MANTRA) with Specialist Supportive Clinical Management (SSCM) in outpatients With broadly defined anorexia nervosa: a randomized controlled trial. Journal of Consulting and Clinical Psychology May 2015 [epub ahead of print].

* Schmidt U, Renwick B, Lose A, Kenyon M, De Jong H, Broadbent H, et al. The MOSAIC Study – comparison of the Maudsley Model of Treatment for Adults with Anorexia Nervosa (MANTRA) with Specialist SupportiveClinical Management (SSCM) in outpatients with anorexia nervosa or eating disorder not otherwise specified, anorexia nervosa type: study protocol for a randomized controlled trial. *Trials* 2013;**14**:160. [ISRCTN67720902]

Waterman-Collins D, Renwick B, Lose A, Kenyon M, Serpell L, Richards L, et al. Process evaluation of the MOSAIC trial, Part I: Therapist experiences of delivering two psychological therapies for treatment of Anorexia Nervosa. *European Eating Disorders Review* 2014;**22**(2):122-30.

References to ongoing studies

ACTRN12610000585022 *{unpublished data only}*

ACTRN12610000585022. A randomised controlled trial of the Loughborough Eating disorders Activity therapy versus general cognitive behavior therapy efficacy in reducing pathological exercise behaviours and cognitions.. www.anzctr.org.au/ACTRN12610000585022.aspx (accessed 20th December 2013).

ACTRN12611000725965 *{unpublished data only}*

ACTRN12611000725965. A randomized controlled trial of three new treatments for anorexia nervosa in adults [SWAN study]. www.anzctr.org.au/ACTRN12611000725965.aspx (accessed 20th December 2013).

ISRCTN79119671 *{unpublished data only}*

ISRCTN79119671. The effectiveness of cognitive remediation therapy as a component of treatment for anorexia nervosa: a randomised controlled trial. www.controlled-trials.com/ISRCTN79119671 (accessed 20th December 2013).

Maria 2013 *{published data only}*

Maria AS, Ringuenet D, Courty A, Godart N, Duclos J, Bignami L, et al. French adaptation of cognitive remediation therapy for anorexia nervosa: Study design and preliminary findings of a multicenter randomized clinical trial in adolescents and young adults [abstract 2586]. European Psychiatry [abstracts of the 21st European Congress of Psychiatry, EPA; Apr 6 - 9 2013; Nice France]. 2013; Vol. 28:1.

NTR3865 *{unpublished data only}*

NTR3865 2013. The (cost) effectiveness of Cognitive Remediation Therapy (CRT) as a treatment enhancer in eating disorders and obsessive compulsive disorders. www.trialregister.nl/trialreg/admin/rctview.asp?TC=3865 (accessed 20th December 2013).

Additional references

Aalto-Setälä 2001

Aalto-Setälä T, Martunnen M, Tuulio-Henriksson A, Poilolainen K, Lönnqvist J. One-month prevalence of depression and other DSM-IV disorders among young adults. *Psychological Medicine* 2001;**31**(5):791-801.

Abdelbaky 2013

Abdelbaky G, Hay P, Touyz S. Factors associated with treatment attrition in anorexia nervosa: a systematic review. *OA Evidence-Based Medicine* 2013;**1**(1):8.

APA 1994

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). 4th Edition. American Psychiatric Association, 1994.

APA 2006

American Psychiatric Association. Treatment of Patients With Eating Disorders. 3. American Psychiatric Association, 2006. [DOI: 0.1176/appi.books.9780890423363.138660]

APA 2013

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 5th Edition. American Psychiatric Association, 2013.

Baer 2010

Baer L, Blais MA (editors). Handbook of Clinical Rating Scales and Assessment in Psychiatry and Mental Health. New York: Humana Press, 2010.

Bruch 1973

Bruch H. Eating Disorders: Obesity, Anorexia Nervosa and the Person Within. New York, NY: Basic Books, 1973.

Bulik 2007

Bulik CM, Berkman ND, Brownley KA, Sedway JA, Lohr KN. Anorexia nervosa treatment: a systematic review of randomized controlled trials. *International Journal of Eating Disorders* 2007;**40**(4):310-20.

Byrne 2011

Byrne SM, Fursland A, Allen KL, Watson H. The effectiveness of enhanced cognitive behavioural therapy for eating disorders: An open trial. *Behaviour Research and Therapy* 2011;**49**(4):219-26.

Claudino 2006

Claudino A, Silva de Lima M, Hay P, Schmidt U, Treasure J. Antidepressants for anorexia nervosa. *Cochrane Database of Systematic Reviews* 2006, Issue 1. [DOI: 10.1002/14651858.CD004365.pub2]

Crisp 1992

Crisp AH, Callender JS, Halek C, Hsu LK. Long-term mortality in anorexia nervosa. A 20-year follow-up of the St George's and Aberdeen cohorts. *British Journal of Psychiatry* 1992;**161**:104-7.

Dare 1995

Dare C, Crowther C. Psychodynamic models of eating disorders. In: Szmulker G, Dare C, Treasure J editor(s). Handbook of Eating Disorders: Theory, Treatment and Research. Chichester: John Wiley & Sons, 1995:125-39.

Dolan 1994

Dolan B. Gitzinger I. Why Women? Gender Isues and Eating Disorders. London: The Athlone Press, 1994.

Fairburn 1991

Fairburn CG, Jones R, Peveler RC, Carr SJ, Soloman RA, O'Connor ME, et al. Three psychological treatments for bulimia nervosa: A comparative trial. *Archives of General Psychiatry* 1991;**48**(5):456-63.

Fairburn 2003

Fairburn CG, Cooper Z, Shafran R. Cognitive behaviour therapy for eating disorders: a "transdiagnostic" theory and treatment. *Behaviour Research and Therapy* 2003;**41**(5):509-28.

Fairburn 2008

Fairburn CG. Cognitive Behaviour Therapy and Eating Disorders. New York: Guilford Press, 2008.

Fisher 2010

Fisher CA, Hetrick SE, Rushford N. Family therapy for anorexia nervosa. *Cochrane Database of Systematic Reviews* 2010, Issue 4. [DOI: 10.1002/14651858.CD004780.pub2]

Garner 1997a

Garner DM, Needleman LD. Sequencing and integration of treatments. In: Garner DM, Garfinkel PE editor(s). Handbook of Treatment for Eating Disorders. 2nd Edition. New York, NY: The Guilford Press, 1997:50-66.

Garner 1997b

Garner DM, Needleman LD. Psychoodynamic and Feminist therapies. In: Garner DM, Garfinkel PE editor(s). Handbook of treatment for eating disorders. 2. New York: The Guilford Press, 1997:58-59.

Garner 1997c

Garner DM, Vitousek KM, Pike KM. Cognitive-behavioural therapy for anorexia nervosa. In: Garner DM, Garfinkel PE editor(s). Handbook of Treatments for Eating Disorders. 2nd Edition. New York, NY: The Guilford Press, 1997:94-144.

Goodsitt 1997

Goodsitt A. Eating disorders: A self-psychological perspective. In: Garner DM, Garfinkel PE editor(s). Handbook of Treatments for Eating Disorders. 2nd Edition. New York, NY: The Guilford Press, 1997:205-28.

Gowers 2007

Gowers SG, Clark A, Roberts C, Griffiths A, Edwards V, Bryan C, et al. Clinical effectiveness of treatments for anorexia nervosa in adolescents: randomised controlled trial.. *British Journal of Psychiatry* 2007;**191**:427-35.

Gull 1874

Gull WW. Anorexia nervosa (apepsia hysterica, anorexia hysterica). *Transactions of the Clinical Society of London* 1874;**7**:22-8.

Herzog 1997

Herzog W, Deter HC, Fiehn W, Petzold E. Medical findings and predictors of long-term physical outcome in anorexia nervosa: a prospective, 12-year follow-up study. *Psychological Medicine* 1997;**27**(2):269-79.

Higgins 2003

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

Higgins 2011

Higgins JPT, Green S (editors). Cochrane Handbook for Systematic Reviews of Interventions Version 5.1.0 [updated March 2011]. The Cochrane Collaboration, 2011. Available from www.cochrane-handbook.org.

Hoek 2003

Hoek HW, Van Hoeken D. Review of the prevalence and incidence of eating disorders. *International Journal of Eating Disorders* 2003;**34**(4):383-96.

Hudson 2007

Hudson JI, Hiripi E, Pope HG Jr, Kessler RC. The prevalence and correlates of eating disorders in the National Comorbidity Survey Replication. *Biological Psychiatry* 2007;**61**(3):348-58.

Katzman 1997

Katzman MA, Lee S. Beyond body image: The integratin of feminist and transcultural theories in the understanding of self-starvation. *International Journal of Eating Disorders* 1997;**22**(4):385-94.

Keski-Rahkonen 2007

Keski-Rahkonen A, Hoek HW, Susser ES, Linna LS, Sihvola E, Raevuori A, et al. Epidemiology and Course of Anorexia Nervosa

in the Community Am J Psychiatry 2007. *American Journal of Psychiatry* 2007;**164**(8):1259-65.

Larsen 1972

Larsen DL, Attkisson CC, Hargreaves WA, Nguyen TD. Assessment of client/patient satisfaction:development of a general scale. *Evaluation and Program Planning* 1972;**2**(3):197-207.

Lasègue 1873

Lasègue C. On hysterical anorexia [De l'anorexie hysterique]. *Archives Générales de Médicine* 1873;**i**:385-403.

Lucas 1991

Lucan AR, Beard CM, O'Fallon WM, Kurland LT. 50-year trends in the incidence of anorexia nervosa in Rochester, Minn.: A population based study. *American Journal of Psychiatry* 1991;**148**(7):917-22.

McIntosh 2006

McIntosh VV, Jordan J, Luty SE, Carter FA, McKenzie JM, Bulik CM, et al. Specialist supportive clinical management for anorexia nervosa. *International Journal Eating Disorders* 2006;**38**(8):625-32.

Meads 1999

Meads C, Gold L, Burls A, Jobanputra P. In-patient versus out-patient care for eating disorders. DPHE Report no 17 University of Birmingham 1999. [ISBN 0704421151]

Morgan 1975

Morgan HG, Russell GF. Value of family background and clinical features as predictors of longterm outcome in anorexia nervosa: Four year follow-up study of 41 patients. *Psychological Medicine* 1975;**5**(4):355-71.

Morgan 1988

Morgan HG, Hayward AE. Clinical assessment of anorexia nervosa. The Morgan-Russell assessment schedule. *British Journal of Psychiatry* 1988;**152**:367-71.

NICE 2004

National Institute for Clinical Excellence. Eating disorders. Core interventions in the treatmentand management of anorexia nervosa,bulimia nervosa and related eating disorders. www.nice.org.uk/cg009 (accessed 20th December 2013).

Orbach1985

Orbach S. Accepting the symptom: A feminist psychoanalytic treatment of anorexia nervosa. In: Garner DM, Garfinkel PE editor(s). Handbook of psychotherapy for anorexia nervosa and bulimia. New York: The Guilford Press, 1985:83-104.

Pawluck 1998

Pawluck DE, Gorey KM. Secular trends in the incidence of anorexia nervosa: Integrative review of population-based studies. *International Journal of Eating Disorders* 1998;**23**(4):347-52.

Prochaska 1992

Prochaska JO, DiClemente CC, Norcross JC. In search of how people change: applications to addictive behaviors. *American Psychologist* 1992;**47**(9):1102-14.

RANZCP 2014

Hay P, Chinn D, Forbes D, Madden S, Newton R, Sugenor L, et al. Royal Australian and New Zealand College of Psychiatrists clinical practice guidelines for the treatment of eating disorders. *Australian and New Zealand Journal of Psychiatry* 2014;**48**(11):977-1008..

RevMan 5.3 [Computer program]

The Nordic Cochrane Centre, The Cochrane Collaboration. Review Manager (RevMan). Version 5.3. Copenhagen: The Nordic Cochrane Centre, The Cochrane Collaboration, 2014.

Russell 1970

Russell GF. Anorexia nervosa: its identity as an illness and its treatment. In: Price JH editor(s). Modern Trends in Psychological Medicine. Vol. **2**, London: Butterworth, 1970:131-64.

Schmidt 2006

Schmidt U, Treasure J. Anorexia nervosa: valued and visible. A cognitive-interpersonal maintenance modeland its implications for research and practice. *British Journal of Clinical Psychology* 2006;**45**(Pt 3):343-66.

Silverman 1983

Silverman JA. Richard Morton, 1637-1698. Limner of anorexia nervosa: his life and times. A tercentenary essay. *JAMA* 1983;**250**(20):2830-2.

Smink 2013

Smink FR, Van Hoeken D, Hoek HW. Epidemiology, course, and outcome of eating disorders. *Current Opinion in Psychiatry* 2013;**26**(6):543–8.

Striegel-Moore 1995

Striegel-Moore RH. A feminist perspective on the etiology of eating disorders. In: Brownell KD, Fairburn CG editor(s). Eating Disorder and Obesity. A Comprehensive Handbook. New York, NY: The Guilford Press, 1995:224-9.

Tchanturia 2008

Tchanturia K, Davies H, Lopez C, Schmidt U, Treasure J, Wykes T. Neuropsychological task performance before and after cognitive remediation in anorexia nervosa: A pilot case series.. *Psychological Medicine* 2008;**38**(9):1371-3.

Treasure 2013

Treasure J, Schmidt U. The cognitive-interpersonal maintenance model of anorexia nervosa revisited: a summary of the evidence for cognitive, socio-emotional and interpersonal predisposing and perpetuating factors. *Journal of Eating Disorders* 2013;**1**:13. [DOI: 10.1186/2050-2974-1-13]

Verhulst 1997

Verhulst FC, Van der Ende J, Ferdinand RF, Kasius MC. The prevalence of DSM-III-R diagnoses in a national sample of Dutch adolescents. *Archives of General Psychiatry* 1997;**54**(4):329-36.

Vitousek 1998

Vitousek KM, Watson S, Wilson GT. Enhancing motivation for change in treatment-resistant eating disorders. *Clinical Psychology Review* 1998;**18**(4):391-420.

Wade 2011

Wade T, Treasure J, Schmidt U. A case series evaluation of the Maudsley Model for treatment of adults with anorexia nervosa. *European Eating Disorders Review* 2011;**19**(5):382-9.

Waller 2012

Waller G. The myths of motivation: time for a fresh look at some received wisdom in the eating disorders?. *International Journal of Eating Disorders* 2012;**45**(1):1-16.

Ward 1996

Ward A, Troop N, Todd G, Treasure J. To change or not to change - 'How' is the question?. *British Journal of Medical Psychology* 1996;**69**(Pt 2):139-46.

Ware 1996

Ware JE, Kosinski M, Keller SD. A 12-item short-form health survey: construction of scales and preliminary tests of reliability and validity. *Medical Care* 1996;**34**(3):220-33.

Watson 2013

Watson H, Bulik C. Update on the treatment of anorexia nervosa: review of clinical trials, practice guidelines and emerging interventions. *Psychological Medicine* 2013;**43**(12):2477-500.

WHO 1992

World Health Organization. The ICD-10 Classification of Mental and Behavioural Disorders. Geneva: World Health Organization, 1992.

Willinge 2012

Willinge A, Thornton C, Touyz SW. The treatment setting for eating disorders: day patient treatment. In: Fox JRE, Goss KP editor(s). Eating and Its Disorders. Chichester: John Wiley & Sons, Ltd, 2012:360-93.

Windauer 1993

Windauer U, Lennerts W, Talbot P, Touyz SW. How well are 'cured' anorexia nervosa patients? An investigation of 16 weight-recovered anorexic patients. *British Journal of Psychiatry* 1993;**163**:195-200.

Wooley 1995

Wooley SC. Feminist influences on the treatment of eating disorders. In: Brownell KD, Fairburn CG editor(s). Eating Disorders and Obesity: A Comprehensive Handbook. New York, NY: The Guilford Press, 1995:294-8.

References to other published versions of this review

Hay 2003

Hay PP, Bacaltchuk J, Byrnes RT, Claudino AM, Ekmejian AA, Yong PY. Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa. *Cochrane Database of Systematic Reviews* 2003, Issue 4. [DOI: 10.1002/14651858.CD003909]

* Indicates the major publication for the study

CHARACTERISTICS OF STUDIES

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

Bachar 1999

Methods	The design was an RCT. The study was conducted in eating disorder units of 2 university general hospitals in Israel. Power calculations were not reported The study was unnamed
Participants	13 female participants with anorexia nervosa (DSM-IV) Mean age 18.1 years (SD 2.4). 5% of those screened were excluded 6 were allocated to Cognitive orientation therapy 7 were allocated to Self-psychological therapy
Interventions	All participants had 20 - 30 minute weekly sessions for 3 months, then bimonthly sessions for 3 months with a dietitian. Both therapy treatments were delivered in weekly sessions over 12 months (time of each session was not specified).This was followed by 1 year of follow-up. 1.Self-psychological therapy

Bachar 1999 *(Continued)*

	2.Cognitive orientation therapy Both groups had nutritional counselling.
Outcomes	1. DSM Symptomatology Score 2. Eating Attitudes Test (EAT 26) score 3. Global Severity Index (GSI) 4. Selves Questionnaire. These were self-administered by participants pre-therapy and at the end of therapy.
Notes	Numbers of participants are greater than in the published article; additional information was supplied by authors.

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No description of the random sequence generation was provided. Sequence Generation: The authors wrote: "The 31 bulimic patients were randomly assigned to the three groups in the following numbers: 10 in SPT, 11 in COT, and 10 in C/NC. The 13 anorexic patients were randomly assigned to the two psychological treatment groups: 7 in SPT and 6 in COT. Thus, the total number of patients in each group at the beginning of this study was 17 in SPT, 17 in COT, and 10 in C/NC."
Allocation concealment (selection bias)	Unclear risk	Method of allocation concealment not mentioned.
Blinding (performance bias and detection bias) All outcomes	Unclear risk	Blinding of the participants, personnel and outcome assessors was unclear.
Incomplete outcome data (attrition bias) All outcomes	High risk	Considerable attrition of data, no explanations given for dropouts. There was also no ITT and specific outcome data were not available for anorexia nervosa participants. "We did not implement an intent-to-treat analysis because the dropouts in our study left within the first few sessions of the therapy, which lasted one year."
Selective reporting (reporting bias)	Unclear risk	Specific outcome data were omitted for anorexia nervosa.
Treatment fidelity	Low risk	Fidelity was assessed by independent ratings of recorded sessions.
Other bias	High risk	Very small study. There was also bias in the selection strategy in that participants were "from families belonging to the upper middle class" even though "The target population for this study consisted of all the bulimic and anorexic patients who were referred to the eating disorder units of the psychiatry departments of two general hospitals in Israel" (at least mentions the area from which participants were selected). There were no inclusion and exclusion criteria for participants detailed in this paper - the lack of ITT in particular is indicative of selective outcome reporting. With regards to researcher allegiance (or interests) and description of the training and experience of therapists: There was no reporting of potential conflicts of interest.

Bachar 1999 *(Continued)*

	There was detailed description of therapist training, experience and qualifications. The therapists were graduates of courses in self-psychology and COT lead by experienced therapists. Each therapist had treated at least one patient with each therapy prior to the study. Seven were clinical psychology training residents with a Masters degree, two were psychiatric social workers and one was a psychiatrist. All were similarly experienced in care of people with eating disorders.

Bergh 2002

Methods	Design was RCT based in an academic teaching hospital in Sweden. Power calculations were made on the basis of preliminary data, indicating 14 were required in each group for 90% power. The study was not named but is known by the treatment method use of an instrument, the Mandometer.
Participants	19 patients with anorexia nervosa (DSM-IV). (13 patients with bulimia nervosa were also reported). Median age was 16 (range 10 to 33) 19 of 47 screened (40%) participated 11 were allocated to active therapy 8 were allocated to waitlist control
Interventions	Treatment sessions started at 5 per week and reduced over time to weekly, then once fortnightly, up to 2 years. The treatment incorporated computer-supported feedback (using the Mandometer) to participants on satiety ratings. The approach was predominantly nutritional and behavioural. Cisapride was administered to 7 anorexia nervosa patients. Controls were placed on a wait-list of variable duration (7.1 to 21.6 months). Short-term weight gain goals of at least 2 kg were negotiated with each participant, and then renegotiated as weight increased. Participants were then trained to eat in front of a computer monitor. Once a day they ate from a plate resting on a scale. They recorded their level of satiety at 1-minute intervals while eating, and were asked to follow a linear curve for eating rate. The latter was modified as they were trained to eat progressively more until they ingested 350 g each 10 to 15 minutes. After eating they rested in a warm room. There was a graded reduction in restriction of physical activity until remission. In addition, participants had 2 other daily meals (with supplements) and between-meal snacks provided in the programme. Short-term social and occupational goals were set and modified each 2nd week. Treatment continued for a median of 14.4 months (range 4.9 to 26.5 months). Cisapride was administered to 7 anorexia nervosa participants. 4 participants were treated as inpatients.
Outcomes	The main outcome was remission (defined as no longer meeting criteria for an eating disorder with normal body weight, psychiatric profile and laboratory tests as assessed by the investigators). Participants also had to state that food and dieting were no longer problems for them and that they were back in school or professional activities. Participants were examined by clinicians (it was unclear who these were) at 3, 6, 9, 12, 18, 24, 36, 48, and 60 months. Additional outcomes: 1. BMI 2. Comprehensive Psychopathological Rating Scale Self-Rating Scale for Affective Syndromes 3. Eating Disorder Inventory questionnaire

Bergh 2002 *(Continued)*

	3. Interview concerning ongoing treatment, use of drugs, social situation, menstruation, and eating patterns.
Notes	Data on the numbers with anorexia nervosa assigned to active treatment and control groups (11 and 8 respectively) were provided by the authors.

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	The allocation sequence was adequately generated. Sequence Generation: "We used a computer-generated randomisation list to assign patients to treatment or deferred treatment. Randomization was done in blocks of four consecutive patients at the time of the initial evaluation."
Allocation concealment (selection bias)	Low risk	Adequate - sealed envelopes used.
Blinding (performance bias and detection bias) All outcomes	Unclear risk	It was unclear if outcome ratings were blind to group status.
Incomplete outcome data (attrition bias) All outcomes	High risk	No comparative data of treatment outcome are presented for active and control groups in the published paper.There was very little detail presented in this regard; only a graph comparing the control to the active treatment group only in terms of percentage of group in remission. Incomplete outcome data were not adequately addressed.
Selective reporting (reporting bias)	Unclear risk	It is possible that there was selective outcome reporting. Authors did not give comprehensive details on the selection strategy of participants (specifically the area from which they were picked). Inclusion criteria were provided by a reference to DSM-IV. No comparative data of treatment outcome were presented for active and control groups in the published paper: There was very little detail presented in this regard; only 1 graph comparing the control to the active treatment group only in terms of percentage of group in remission.
Treatment fidelity	Unclear risk	Reliability (integrity) of computer ratings was not reported.
Other bias	High risk	Very small sample With regards to researcher allegiance (or interests) grant support was reported. The study was supported by a grant from the Swedish Council for Research in Humanities and Social Sciences and the Vardal Foundation Description of the training and experience of therapists was not applicable

Channon 1989

Methods	The design was an RCT based in a public hospital eating disorders service in the United Kingdom. Power calculations were not reported. The study was unnamed.
Participants	24 female participants with anorexia nervosa (Russell's 1983 criteria) Mean age 23.84 years 29% of those screened were excluded

Channon 1989 *(Continued)*

	8 were allocated to CBT 8 were allocated to Behavioural therapy (diary keeping and exposure) 8 were allocated Specialist eclectic therapy
Interventions	Treatment comprised 18 60-minute sessions over 6 months with 6 follow-up sessions over 6 months and then participants were followed for a further year. 1. CBT 2. Behavioural therapy (diary keeping and exposure) 3. Specialist eclectic therapy
Outcomes	1. BMI 2. Morgan and Russell interview Self-report measures of: 3. Eating disorders inventory (EDI) 4. Beck Depression Inventory (BDI) 5. Maudsley Obsessive-Compulsive Inventory and preferred weight It was unclear which clinicians administered the interview. Assessments were made pre-treatment, end-of-treatment and 6 and 12 months follow-up
Notes	

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Randomisation by computer generation but the sequence allocation was not adequately described. "Restricted randomisation was made in blocks of six, so that equal numbers of Ss were entered into each group after every six referrals."
Allocation concealment (selection bias)	Low risk	Allocations were kept in sealed envelopes
Blinding (performance bias and detection bias) All outcomes	High risk	Outcome evaluation was not blind. No mention of any other blinding
Incomplete outcome data (attrition bias) All outcomes	Low risk	Incomplete outcome data were adequately addressed. "There were no dropouts in the cognitive-behavioural group. One subject in the behavioural group and two in the control treatment dropped out during the 12-month follow-up period, but were seen at the appropriate assessment intervals and included in the analysis." There was no reason given for this dropout. ITT by withdrawals followed up and included in analysis (information given by authors on request).
Selective reporting (reporting bias)	Low risk	Authors gave sufficient detail on where participants came from and the inclusion criteria for participants in this study which reduced the risk of selective outcome reporting. The inclusion criteria and participants were female outpatients from the Eating Disorders Clinic of the Maudsley Hospital, London, who were referred for the trial during the 15-month intake period, and who met Russell's (1983) diagnostic criteria for anorexia nervosa. Participants with

Channon 1989 *(Continued)*

		bulimic features were accepted only if they also met the diagnostic criteria for anorexia nervosa. There was no selection for the amount of treatment received prior to acceptance into the trial. 34 participants were referred for an initial assessment, and 24 of these met the admission criteria for the trial.
Treatment fidelity	Low risk	Fidelity was assessed by independent ratings of recorded sessions
Other bias	High risk	Very small sample. There was transparency about sources of support (reduces risk of bias). With regards to researcher allegiance (or interests) and description of the training and experience of therapists: both active interventions were delivered by the 1st author and control therapy by psychiatrists experienced in eating disorder. Interests were declared: "Acknowledgements - The authors wish to express their gratitude to Professor Gerald Russell, in whose unit this study was carried out for his help and encouragement; and the Bethlem-Maudsley Research Fund for a generous grant that supported the study."

Dare 2001

Methods	The design was an RCT based in a public hospital eating disorders services in the United Kingdom. Power calculations were not reported. The study was not named.
Participants	84 (2 men) with anorexia nervosa (DSM-IV criteria) Mean age 26.3 years and all >18 years. Only 62 are considered in this review, as 22 were randomised to family therapy 14 were allocated to FPT 16 were allocated to CAT 18 were allocated to TAU Inclusion rate unclear
Interventions	1. FPT 2. CAT 3. Family therapy (results not included in this review) 4. TAU. This was a low-contact management, the usual practice of an eating disorder service in which specialist treatments are not used. Therapy included psycho-education, supportive encouragement towards a more healthy diet, and regular monitoring of weight and physical state. 50-minute FPT sessions were delivered weekly for 1 year, 50-minute CAT sessions were delivered weekly for 20 weeks then monthly for 3 months, and 30-minute TAU sessions were delivered at about a monthly frequency (mean of 10.9 sessions over 12 months) for 1 year
Outcomes	1. Morgan and Russell interview 2. BMI Participants were assessed pre-treatment and at 12 months (after end of all treatments) by research clinicians who were investigators (authors of the published paper)
Notes	The CAT was not 'purely' individual in that it included some contact between parents and/or the partner of the participant, and their relationship to the therapy and participant was a topic of treatment

Dare 2001 *(Continued)*

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	A stratified randomisation procedure: "the minimization method (Pocock 1983) was used to control for the age of onset and the duration of the illness, the presence of bulimic symptoms and marital status." Allocation sequence was adequately generated.
Allocation concealment (selection bias)	Unclear risk	Not described
Blinding (performance bias and detection bias) All outcomes	High risk	"The initial assessment was blind to the treatment to which the patients would be allocated. At the follow up assessments, the patients' experiences of therapy were explored at the end of the interview, and therefore the follow-up research clinician was not blind to the treatment." Blinding was performed to the extent it could have been since the follow-up involved an interview discussion of the participant's experiences.
Incomplete outcome data (attrition bias) All outcomes	Low risk	Researchers were transparent in their reporting of data, especially dropouts, but did not give explanations for dropouts. ITT was done. Outcome follow-up was incomplete in spite of best efforts. All outcomes were obtained for 1 year, but only 73% of participants at the beginning were followed beyond 1 year (with telephone follow-up for a further 11%).
Selective reporting (reporting bias)	Low risk	Authors were transparent about power of the study and were also transparent about inclusion and exclusion criteria for participants (reducing potential for bias: this is written in the "Patients" subheading in the study). The area the participants came from was mentioned ("psychiatric teaching hospital, the Maudsley").
Treatment fidelity	Unclear risk	No objective assessment of treatment fidelity was described, although therapy was closely supervised.
Other bias	Low risk	With regards to researcher allegiance (or interests) and description of the training and experience of therapists: Financial support was declared (Leverhulme Foundation and the Mental Health Research Fund) There was intensive therapist supervision but no objective assessment of experience, training and disciplines of therapists was described. Therapists administering TAU were mid-level trainee psychiatrists who changed rotations every 6 months.

Lock 2013

Methods	The design was a parallel-group RCT based in the USA. Power calculations were reported. The study was unnamed.
Participants	46/154 (30%) screened were randomised. Participants were medically stable, aged over 16 years, with DSM-IV anorexia nervosa (excepting amenorrhoea criteria), ≤ 90 mean percentile BMI for age and gender, were on a stable medication regime (if applicable) and did not have psychotic disorder, brain injury, substance use dependency, physical co-morbidities affecting weight or eating, pregnancy, or self-reported previous CBT or CRT. 23 were allocated to CBT 23 were allocted to CRT

Lock 2013 *(Continued)*

Interventions	Participants were recruited via clinics and media advertising and received 8 sessions in the randomisation phase over 2 months with 1-year follow-up. CRT for anorexia nervosa versus CBT 1. CRT was manualised and composed of modules of remediation exercises targeting cognitive flexibility and weak central coherence, with reflection on real-life behaviours. There is no direct focus on weight, eating or eating-related psychopathology. CRT was followed by 16 weeks of CBT. 2. CBT overlapped with CRT and continued for 4 months of a total of 24 sessions. The first 2 months were stage 1 and focused on assessment, formulation, challenging eating-related distorted cognitions, and weight restoration. Stage 2 focused on interpersonal difficulties and problem solving, stage 3 prepared for autonomous function without the therapist, and stage 4 addressed termination.
Outcomes	The primary outcome was study dropout assessed at end of randomisation period (2 months), end of treatment (6 months) and 1 year. Secondary outcomes were: Eating disorder features of Weight change, the EDE interview; BDI, Rosenberg self-esteem scale, Therapy Suitability and Patient Expectancy visual analogue scales, and the Helping Relationship Questioinnaire. Neurocognitive measures: WAIS-III, Delis-Kaplan Executive Functioning System, Reu-Osterrieth Complex Figure test, Wisconsin Card Sort test.
Notes	We approached the author for data on outcomes, BMI, BDI and EDE 22/7/14. Data were provided for differences between means and P values of BMI and EDE Restraint which allowed estimation of SD according to Higgins 2011 (7.7.3.3). There were baseline differences between groups on BMI, so we used differences between change in mean scores. We did not use the BDI data.

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Computer-generated block randomisation used
Allocation concealment (selection bias)	Unclear risk	Allocation procedures were unclear.
Blinding (performance bias and detection bias) All outcomes	Low risk	Single-blind. A blind assessor trained in the EDE conducted all outcome assessments.
Incomplete outcome data (attrition bias) All outcomes	Low risk	All 46 participants were included in longitudinal mixed effects analyses.
Selective reporting (reporting bias)	Low risk	This is unlikely. The authors were transparent about methods and responsive to inquiry.
Treatment fidelity	Low risk	Therapists were closely supervised, sessions audiotaped and a follow-up workshop conducted to review adherence to the 2 manuals.
Other bias	Low risk	With regards to researcher allegiance (or interests) and description of the training and experience of therapists: Financial support was declared (the NIH).

Lock 2013 *(Continued)*

	Therapists were extensively trained in both of the manuals with workshops and piloting of cases,and had weekly supervision with review of audiotapes of sessions. Therapists were PhD clinical psychologists or psychiatrists.

McIntosh 2005

Methods	The design was an RCT based in a university clinical trials service in New Zealand. Power calculations were not reported and the study was unnamed.
Participants	56 female participants with anorexia nervosa (DSM-IV criteria) of EDNOS AN (lenient weight BMI 17.5 to 19, DSM-IV criteria) without amenorrhoea criteria being imposed Age 17 - 40 years 42% of those screened were excluded 19 were allocated to CBT 21 were allocated to IPT 16 were allocated to SSCM
Interventions	Therapy comprised 20 60-minute sessions over a minimum of 20 weeks. Follow-up was at 3, 6, 9, 12 months and 2, 3, and 5 years post-treatment. 1. CBT 2. IPT 3. SSCM CBT included self monitoring and homework, assessment of motivation for engagement in treatment, prescription of normal eating and negotiation of a goal weight range in Phase 1. Phase 2 incorporated CBT skills of challenging dysfunctional thoughts and thought restructuring with psycho-educational material. Phase 3 prepared the participant for termination and included relapse prevention strategies. IPT was based on the model developed both for depression and bulimia nervosa, and used the participant's presentation of eating disorder symptoms to facilitate work on the agreed interpersonal problem. SSCM included psycho-education, 'care' and supportive psychological therapy, with focus on resumption of normal eating and weight gain, strategies for weight maintenance, information about energy requirements and relearning to eat normally. Thus, it incorporated elements of nutritional counselling and some behavioural weight restoration strategies. All therapies were delivered by therapists who were experienced in treating eating disorders. Treatment was relatively short, with 20 1-hour manual-based sessions over a minimum of 20 weeks
Outcomes	Primary outcome: clinician global rating: 4 = full criteria for spectrum AN, 3 = number of features of AN but not full criteria, 2 = few features of an eating disorder, 1 = no significant features of eating disorders. Secondary outcomes were as follows. 1. Self-reported eating disorder inventory (Version 2; EDI-2) 2. Weight 3. Per cent body fat 3. EDE subscale scores 4. GAF (from the DSM-IV)

McIntosh 2005 *(Continued)*

	5. HDRS Clinicians not aware of treatment conditions interviewed participants pre-treatment, at 10 months of treatment, and end-of treatment and longer-term follow-up when 43 (77%) of the original sample of 56 women were followed for a mean of 6.7 years. It was unclear who the clinicians were.
Notes	Moderately high exclusion rate: 400 inquiries, 135 individuals interviewed, 78 deemed eligible. Treatment was relatively short. SSCM incorporated CBT elements such as psycho-education and had focus on normalising eating. Authors provided further information on design of study.

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Randomisation was computer-generated (information supplied by the author).
Allocation concealment (selection bias)	Low risk	Allocation concealment: envelopes were used for allocation concealment (we wrote to author to find this out). Allocation concealment was adequate.
Blinding (performance bias and detection bias) All outcomes	Low risk	Blinding of outcome evaluation was done (information from author). Knowledge of the allocated interventions was adequately prevented during the study.
Incomplete outcome data (attrition bias) All outcomes	Low risk	Outcome data were complete for all participants who completed the study. There was moderate attrition, but dropouts were all well explained and well accounted for, and ITT analysis was performed by LOCF. Incomplete outcome data were properly addressed with ITT and through accountability.
Selective reporting (reporting bias)	Low risk	Selective outcome reporting: None detected
Treatment fidelity	Low risk	There was independent assessment of fidelity by recorded sessions
Other bias	High risk	Small sample size. With regards to researcher allegiance (or interests) and description of the training and experience of therapists: Authors were transparent about potential sources of support (therefore reducing sources of bias): "Supported by project (97/144) and program grants from the Health Research Council of New Zealand". The therapists were clinical psychologists or psychiatrists experienced in treatment of eating disorders. There was a very high exclusion rate of participants, suggesting that there is the possibility of selecting participants with biased judgement. Authors were transparent about the selection strategy for participants: "The inclusion criteria for this study were female gender, an age of 17–40 years, and the presence of current primary anorexia nervosa; the participants included individuals diagnosed according to the DSM-IV weight criterion (BMI <17.5), which was considered to be a strict definition of anorexia nervosa, and those diagnosed according to a lenient weight criterion (BMI 17.5–19.0). Individuals with a body mass index below 14.5 were considered unsuitable for outpatient psychological therapy and were referred for assessment at an inpatient unit. In light of debate as to the necessity of amenorrhoea in diagnosing anorexia nervosa amenorrhoea was not an inclusion requirement. The exclusion criteria were current severe major depression, psychoactive substance dependence, major medical or neurological illness, developmental learning disorder, cognitive impairment, bipolar I disorder, schizophrenia, or a chronic, refractory course of

McIntosh 2005 *(Continued)*

	anorexia nervosa. Individuals receiving a stable dose of a psychotropic medication with no change in anorexia nervosa symptoms were included; however, only two individuals were taking an antidepressant medication." Recruitment was broad-based and included referrals from health professionals, self referrals, and family referrals. The area where the participants came from was not mentioned.

Schmidt 2012

Methods	Design was a RCT in a public hospital eating disorders service in the United Kingdom. Power calculations were made based on pilot data and a sample size of 29 per group estimated to have 80% power. This was increased to 35 per group to accommodate an anticipated attrition of 15%. The study was unnamed.
Participants	1. Aged 18 years and above, either sex 2. Met DSM-IV criteria for anorexia nervosa or EDNOS 3. BMI < 18.5 kg/m^2 Specialist setting and recruitment. 72 participants 34 were allocated to MANTRA 38 were allocated to SSCM 48 of 119 (40%) screened were excluded This trial did not include 1 randomised participant in the intention-to-treat analyses. This participant was withdrawn after randomisation but before starting therapy.
Interventions	1. MANTRA 2. SSCM MANTRA is a cognitive interpersonal therapy which aims to target factors involved in the development and maintenance of AN, including: 1. Thinking styles 2. Social-emotional factors 3. Pro-anorexia beliefs 4. Responses of close others to the illness MANTRA employs a motivational interviewing style following a manual that can be tailored to meet individual participant needs. Participants received 20 weekly sessions of either therapy and 4-monthly follow-up sessions. 2 further sessions with a 'close other' were offered. Similarly assessments with a dietician and follow-up as needed were offered. In low-weight participants (BMI < 15 kg/m^2), treatment could be extended to 30 weekly sessions plus the 4 follow-ups. Therapists were trained to deliver only 1 therapy for this trial and received weekly supervision. Clinicians in both treatment conditions were responsible for the monitoring of physical risk to participants throughout treatment and follow-up.
Outcomes	Outcomes were measured at baseline, 6 months, and 12 months. Potential mediators and moderators were examined at 12 months. Some long-term outcomes will be measured at 24 months: Outcomes were a primary outcome of BMI, and EDE Global Score to assess eating disorder symptoms. Also assessed were the self-reported: 1. Clinical Assessment Questionnaire,

Schmidt 2012 *(Continued)*

	2. Hospital Anxiety and Depression Scale, and neurocognitive measures: 1. Brixton Spatial Anticipation Task, 2. Wisconsin Card Sorting Task 3. Trail Making Task Treatment expectations and satisfaction were assessed on self-reported visual analogue scales and case notes reviewed for information on admissions. It was unclear who the researchers were who conducted the assessments. Long-term outcomes to be measured at 24 months are BMI, EDE, Client Services Receipt Interview and Clinical Impairment Assessment (these are not yet available).
Notes	

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	An independent researcher generated randomisation codes using a computerised system.
Allocation concealment (selection bias)	Low risk	Sealed opaque envelopes were held by an independent researcher.
Blinding (performance bias and detection bias) All outcomes	Low risk	Outcome assessors were blind to group and correctly guessed treatment allocation in 53.5% of cases.
Incomplete outcome data (attrition bias) All outcomes	Low risk	97% completed the main outcome assessment and all but 1 participant were included in data analyses. (1 participant was withdrawn after randomisation but before starting therapy).
Selective reporting (reporting bias)	Low risk	No selective reporting was identified.
Treatment fidelity	Low risk	There was independent assessment of fidelity by recorded sessions
Other bias	Low risk	With regards to researcher allegiance (or interests) and description of the training and experience of therapists: Financial support was declared (the Psychiatry Research Trust and the National Institute of Health Research). Therapists were experienced in the treatment of eating disorders and therapists participated in training workshops and had weekly supervision. Qualifications and discipline were not reported.

Serfaty 1999

Methods	Design was an RCT, in a public hospital eating disorders service in the United Kingdom. Power calculation was done estimating at 90% power, 0.05 level of significance. The study was unnamed.
Participants	35 (two men) with anorexia nervosa (DSM-III-R) over 16 years of age. 25 were allocated to cognitive therapy 10 were allocated to dietary advice

Serfaty 1999 *(Continued)*

	None of those screened were excluded. Seven participants had a BMI of between 17.5 and 19, thus technically not meeting diagnostic criteria.
Interventions	40 participants were randomised in a 3:1 cognitive therapy:dietitian ratio. Cognitive therapy comprised 20 1-hour weekly sessions delivered over 6 months and no further follow-up was reported 1. Cognitive therapy 2. Dietary advice
Outcomes	1. BMI, and self-report questionnaires: 2. EDI 3. Dysfunctional Attitudes Scale 4. Locus of Control of Behaviour and BDI scores. BMI was calculated from height and weight and was measured by the therapists. Assessments were pre-treatment and at 6 months, which was end of treatment.
Notes	6-month data reported as "follow-up" we presume to be end-of-treatment data. Authors responded to inquiries.

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Information on sequence generation supplied by authors, i.e., using cards randomly placed into sealed envelopes. Participants were allocated to 1 of 2 groups; dietician control (D) or cognitive therapy (CT).
Allocation concealment (selection bias)	Low risk	Cards which allocated participants to their random group were placed in envelopes (authors supplied this information). Allocation was adequately concealed.
Blinding (performance bias and detection bias) All outcomes	High risk	Outcome evaluations not blinded to group. However personnel and participants were blinded for allocation (information received later from authors). During the study, knowledge of the allocated interventions were sufficiently concealed.
Incomplete outcome data (attrition bias) All outcomes	High risk	Incomplete outcome data: In the dietary counselling group, all participants dropped out. ITT analysis by estimation of outcome was used for clinical diagnosis and BMI for this group. No further follow-up was reported. Authors were transparent about numbers and explanations of dropouts: "All the participants in the dietary advice group had dropped out within 3 months of entry into the study. Although follow-up of the dietary control group was attempted, by writing and telephoning all participants and their GPs, the dietary control group refused to allow data to be released."
Selective reporting (reporting bias)	Low risk	Authors were transparent about their strategy of participant selection and presentation of outcomes.
Treatment fidelity	Low risk	There was independent assessment of fidelity by recorded sessions
Other bias	High risk	Very small sample. With regards to researcher allegiance (or interests) and description of the training and experience of therapists:

Serfaty 1999 *(Continued)*

	Interests were not declared. Cognitive therapists were either psychologists, or psychiatrists or nurse therapists. Specific level of qualifications (e.g. Masters level qualified or clinical psychology qualified) was not reported.

Treasure 1995

Methods	The design was an RCT, in a public hospital eating disorders service in the United Kingdom. No power calculations were reported. The study was unnamed.
Participants	30 (1 man) with anorexia nervosa (ICD-10) 14 allocated to EBT 16 were allocated to TAU All over 18 years of age 21% of those screened were excluded.
Interventions	Each treatment consisted of 20 weekly 50-minute sessions. The duration of treatment was 5 months with 1 year follow-up. 1. EBT 2. CAT
Outcomes	Outcomes were derived from the Morgan and Russell interview and BMI. Assessments were made pre-treatment and every 3 months to end of treatment and then up to 12 months (end of all treatments). The interview was administered face-to-face by a psychiatrist not involved in the therapy programmes except for 2 participants who were interviewed over the phone and had information supplied by their family doctor. Follow-up assessments occurred at the end of treatment and at 3-monthly intervals up to a year.
Notes	End-of-treatment data not reported. Authors responded to inquiries. They reported that the EBT group would be more like a "treatment as usual" than "dietary advice alone" treatment, and the CAT was the same as in the Dare 2001 study.

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	“After assessment patients were randomised using random numbers to the two treatment groups, (1) educational behavioural therapy and (2) cognitive analytical therapy". “The randomisation was successful in that the groups were well matched before treatment”. Allocation generation was adequate.
Allocation concealment (selection bias)	Unclear risk	Unclear. This was not mentioned,
Blinding (performance bias and detection bias) All outcomes	High risk	Outcome evaluation was not blinded. Blinding of personnel was unclear.

Treasure 1995 *(Continued)*

Incomplete outcome data (attrition bias) All outcomes	Unclear risk	Authors were transparent about dropout numbers and explanations, but did not report use of ITT: “Thirty eight patients were assessed and thirty two fulfilled these entry criteria. Of these one lost further weight after the assessment interview and was admitted before therapy began. One eligible patient refused the offer of treatment.” Incomplete outcome data were properly explained, but unclear if it was accounted for (e.g. through ITT).
Selective reporting (reporting bias)	Low risk	None detected
Treatment fidelity	Unclear risk	Not reported
Other bias	High risk	Very small sample With regards to researcher allegiance (or interests) and description of the training and experience of therapists: Financial support was declared (the study was supported by the Mental Health Foundation and the Eating Disorders Foundation (UK)). The therapists were nurses, a social worker, a psychologist (whether Masters or clinical psychologist trained was not reported) and a junior doctor who all had several years of experience with eating disorder treatments. The authors were transparent about shortcomings and potential conflicts of interest so unlikely to be selective reporting: “The size of the study was small and so the power to distinguish between two forms of treatment was limited. As this was a pilot study of a new approach the therapists were relatively inexperienced.” Authors gave sufficient details on their selection strategy of participants, including where they came from and also inclusion criteria: "The subjects were a consecutive series of outpatients from the Eating Disorder Clinic at the Maudsley Clinic who were referred for treatment during the eighteen month recruitment phase of the trial. All patients met ICD-10 diagnosis for anorexia nervosa and were over 18 years in age. Patients with a mixed diagnosis of anorexia nervosa and bulimia nervosa were included. Patients were excluded if the psychiatrist giving the assessment interview judged that inpatient treatment was necessary because of extreme, rapid weight loss with additional symptoms and signs of severe emaciation such as proximal myopathy, marrow suppression or hypoglycaemia."

Zipfel 2014

Methods	The design was a multi-site parallel group RCT based in German specialist units. Power calculations were reported. The study was named ANTOP.
Participants	242/727 (33%) screened were randomised. Participants were included if they had anorexia nervosa (AN) or sub-syndromal AN (lacking 1 diagnostic criterion according to DSM-IV such as amenorrhoea or weight phobia), were female, aged 18 years or older, and had BMI 15.0 to < 18.5. 80 were allocated to FPDT 80 were allocated to CBT 82 were allocated to Optimised TAU
Interventions	Participants received 10 months of weekly therapy with 1 year follow-up. 1. Manualised FPDT was delivered in 3 treatment phases. The 1st phase focused primarily on therapeutic alliance, ego-syntonicity of the disorder, and self esteem. In the 2nd phase of treatment, the main focus was on the association between interpersonal relationships and eating (anorectic) behaviour. In

Zipfel 2014 *(Continued)*

	the last phase, relevant aspects included the transfer to everyday life, and anticipation of treatment termination.Participants received a mean of 39.9 sessions. 2. The CBT also consisted of several treatment modules. The manual was based on CBT-E. At each session, homework, work sheets and exercises were reviewed and new ones were assigned. Psycho-education regarding underweight and starvation and the initiation and maintenance of regular dietary habits and weight gain were core components. Enhancement of self efficacy and self monitoring were crucial additional elements of the therapy. Participants received a mean of 44.8 sessions. 3. Optimised TAU. Participants accessed usual outpatient psychotherapy from a therapist with eating disorder expertise and received a similar number and intensity of sessions (mean 41.6) as those allocated to CBT or FPDT. Participants were also closely monitored by their family doctor who was educated about medical and psychiatric risk and advised to admit the participant if their weight fell below BMI of 14 kg/m^2.
Outcomes	The primary outcome was BMI at the end of the treatment (10 months after randomisation). Secondary outcome measures: the EDI version 2 score, a structured inventory of eating disorder symptoms expert version (SIAB-EX) ; general axis I psychopathology (SCID I); participant ratings of therapy helpfulness,
Notes	Authors approached for data on 11th July 2014. Data were provided for subsample of 156 participants on numbers 'recovered' and 'partially recovered' in each of the 3 groups at end of treatment (for Analysis 2.2). It is unclear how close these categories are to the Morgan and Russell outcome categories. It was unclear how many people in the TAU-O group completed treatment, how the TAU-O compares to the TAU in the Dare 2001 study or with SSCM. Authors confirmed that the adjusted means and SD in Table 2 were for the full sample where adjusted means were used for those with missing data. Data for the n that matches the mean (SD) for the helpfulness scale results (end para 2 page 7) and depression, and/or general psychiatry symptoms or quality of life (as indicated in the published protocol) were requested but not available.

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Randomisation procedure described in detail and referenced as the Rosenberg and Lachin co-variate adaptive method.
Allocation concealment (selection bias)	Low risk	Centralised randomisation done at an independent co-ordination centre. Except co-morbid anxiety groups did not differ at baseline on sociodemographic features or on all outcomes.
Blinding (performance bias and detection bias) All outcomes	Low risk	Single-blinded. Outcomes were assessed by masked assessors.
Incomplete outcome data (attrition bias) All outcomes	Low risk	Attrition was low (70% completed assessment at 1 year follow-up) and complete data analysis was conducted on the primary outcome.
Selective reporting (reporting bias)	Low risk	Authors published the protocol which accorded with the results presented.

Zipfel 2014 *(Continued)*

Treatment fidelity	Low risk	Therapies (CBT and FDPT) were provided by trained therapists and all sessions audio-taped and every 9th audiotape audited by monitors.
Other bias	Low risk	With regards to researcher allegiance (or interests) and description of the training and experience of therapists: Financial support was declared (the German federal Ministry of Education and Research). Therapists were experienced in the treatment of eating disorders and therapists participated in training for the manuals and had supervision at every 4th session. Therapists were psychologists or medical doctors with minimum of 3 years psychotherapy training in the method used.

AN: anorexia nervosa
BDI: Beck depression inventory
BMI: body mass index
CAT: cognitive analytic therapy
CBT: cognitive behavioural therapy
DAS: dysfunctional attitudes scale
DSM: Diagnostic and Statistical Manual of Mental Disorders
EBT: education behavioural therapy
EDE: eating disorder examination
EDI: eating disorders inventory
EDNOS: eating disorder not otherwise specified
FPT: Focal psychoanalytic psychotherapy (
GAF: global assessment of function
HDRS: Hamilton Depression Rating Scale
LCB: locus of control of behaviour
LOCF: last observation carried forward
MANTRA: Maudsley Model for Treatment of Adults with Anorexia Nervosa
RCT: randomised controlled trial
SSCM: specialist supportive clinical management
TAU: treatment as usual

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

Study	Reason for exclusion
Ball 2004	RCT of individual CBT versus family therapy, thereby not pertinent to this review but to the review of family therapy. (No differences between groups in this study were found however)
Brambilla 1995a	RCT of combined cognitive behavioural, antidepressant drugs and nutritional therapy, which was not pertinent to the questions in this review (compared 2 antidepressant drugs)
Brambilla 1995b	RCT of combined cognitive behavioural, antidepressant drugs and nutritional therapy, which was not pertinent to the questions in this review (compared 2 different antidepressant drugs)
Crisp 1991	RCT of individual and group (both including family therapy) versus inpatient treatment versus assessment only in adults > 20 years, which was not pertinent to the questions in this review
Eckert 1979	RCT of behavioural therapy, which was not pertinent to the questions in this review
Eisler 1997	RCT of family therapy and individual therapy of 5-year follow-up, which was not pertinent to the questions in this review
Geller 2011	Primary outcome was readiness to change and not improved weight or recovery from anorexia nervosa, and the intervention was a 'preparatory' intervention to specialist treatment.

Study	Reason for exclusion
Gordon 1999	RCT of changes in bone turnover markers and menstrual function after short-term oral DHEA, which was not pertinent to the questions in this review
Gowers 1994	RCT of individual and family psychotherapy versus no treatment, which was not pertinent to the questions in this review
Hall 1987	RCT of dietary advice versus combined individual and family psychotherapy, which was not pertinent to the questions in this review
Halmi 1998	RCT comparing drug therapy (fluoxetine) to CBT, which is not a comparison pertinent in this review
Halmi 2005	Study of predictors of treatment acceptance (primary treatment efficacy outcomes not reported) with only 37% completion rate. High self esteem was the single predictor of treatment completion. Non-completion rates were highest in the medication alone (fluoxetine 60 mg) group versus CBT versus combined treatment. Analyses not pertinent to this review
Kong 2005	RCT of a comprehensive combined psychological (CBT and IPT) and pharmacological (SSRIs and benzodiazepines) delivered in a day versus an outpatient setting. An interesting study but not pertinent to the questions in this review.
Marco 2013	Primary outcome body image improvement, low-weight participants not included and only 5/34 participants had anorexia nervosa
Munford 1984	Single case study of chemotherapy and behavioural therapy, which was not pertinent to the questions in this review
Pike 2003	RCT of CBT following hospitalisation and weight gain to within 90% of ideal body weight, thereby not pertinent to the questions in this review
Pillay 1981	RCT of social skills training versus placebo condition, which was not pertinent to the questions in this review
Robin 1994	RCT of family therapy versus individual therapy, which was not pertinent to the questions in this review
Robin 1999	RCT of family therapy versus individual therapy, which was not pertinent to the questions in this review
Russell 1987	RCT of family therapy versus individual therapy, which was a study following weight restoration and thereby not pertinent to the questions in this review
Stein 2013	Included only 4 of 69 randomised participants with anorexia nervosa and after discussion with CCDAN editorial team we decided to exclude on basis of inability to control for known and unknown potential confounders.
Touyz 2013	RCT of chronic anorexia nervosa. Specifically excluded from this review. May be included in future versions of another Cochrane review.
Vandereycken 1977	RCT of CBT versus behavioural family therapy, which was not pertinent to the questions in this review.
Wulliemier 1975	A trial (not randomised) investigating isolation, appetite stimulating drugs and psychological therapy against psychological therapy. It was excluded because it is not RCT and one of the interventions included in this study was not of relevance for the review.

CBT: cognitive behavioural therapy

DHEA: dehydroepiandrosterone

Characteristics of studies awaiting assessment *[ordered by study ID]*

Schmidt 2013

Methods	Parallel-design RCT, 2 intervention groups, blinded assessors, multicentre, superiority trial
Participants	138 adults (18 - 60 years) with anorexia nervosa and EDNOS AN type, BMI ≤ 18.5, referrals to specialised clinics Sample size based on *a priori* power analysis estimates
Interventions	MANTRA versus SSCM 20 once-weekly individual sessions with option of 10 extra sessions if needed/indicated, 4 monthly follow-up sessions
Outcomes	Primary: BMI at 12 months Secondary: BMI at 6 months, EDE or EDEQ global scores, Depression Anxiety and Stress Scale (DASS-21), Obsessive Compulsive Inventory (OCI), treatment credibility/acceptability visual analogue scales, neurocognitive improvement (on the Wisconsin card sort, Brixton Spatial Anticipation Task, Rey-osterrieth Complex Figure, Baron-Cohen's reading the Mind in Film Task tests),Client Services receipt Interview (service use costs) and Clinical Impairment Scale (global psychosocial impairment).
Notes	

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

ACTRN12610000585022

Trial name or title	LEAPOut: A RCT of the Loughborough Eating disorders Activity Therapy
Methods	Parallel design double-blinded, 2 randomised intervention groups
Participants	Adults with anorexia nervosa (DSM-5 criteria) engaging in exercise and suitable for outpatient therapy.
Interventions	CBT-AN versus CBT-AN plus 8 sessions in stage 1 of LEAP. LEAP is a CBT module that aims to reduce compulsive exercise and improve attitudes and beliefs in order to be able to engage in age, goal and health-status-appropriate exercise.
Outcomes	Primary: reduction in pathological exercise behaviours and cognitions Secondary: improved BMI, reduced eating disorder cognitions
Starting date	1 July 2010
Contact information	Prof Phillipa Hay (p.hay@uws.edu.au)
Notes	Still recruiting

ACTRN12611000725965

Trial name or title	A RCTof 3 new treatments for anorexia nervosa in adults

ACTRN12611000725965 *(Continued)*

Methods	Parallel-design, single-blinded RCT
Participants	Aged at least 18 years, and fulfil the research criteria for AN phenotype which are: meeting criteria A and B of DSM-IV for AN (i.e., refusal to maintain normal body weight and intense fear of gaining weight) and BMI < 18.5
Interventions	Participants receive between 25 and 40 outpatient, individual treatment sessions with a registered psychologist, each lasting 50 minutes. The number of sessions is determined by the participant's starting BMI. Sessions are spaced over a 10-month period. Participants are randomly allocated to 1 of 3 psychological treatments: MCMT, CBT-E, or SSCM. All are based on established treatment manuals and guidelines, and all psychologists have been trained in the treatments by the treatment developers. MCMT and CBT-E are hypothesised to result in greater improvements in symptomatology. MCMT uses a motivation-focused approach and incorporates work on thinking styles, social and emotional functioning, pro-anorexic beliefs, and interpersonal relationships. CBT-E focuses on the thoughts and beliefs that maintain the eating disorder, and incorporates mood regulation work.
Outcomes	Primary: A categorical measure of recovery as defined by having a score on the global subscale of the EDE that is < 1 SD above community norms (i.e., below 1.74) in addition to a BMI > 18.5, the WHO cut-off for healthy weight.
Starting date	29 January 2010, recruitment completed
Contact information	sue.byrne@uwa.edu.au
Notes	

ISRCTN79119671

Trial name or title	The effectiveness of cognitive remediation therapy as a component of treatment for anorexia nervosa
Methods	Single-site RCT
Participants	Women aged 18 - 65 years, meet ICD-10 criteria for anorexia nervosa or atypical anorexia nervosa, receiving outpatient therapy at a National Health Service eating disorder service in the UK
Interventions	CRT (6 sessions) then CBT (6 sessions) versus 6 sessions CBT. Individual weekly or bi-weekly outpatient sessions
Outcomes	Primary: EDE Questionnaire scores Secondary: executive function test battery, anxiety and depression scores, Social Problem Solving Inventory, perfectionism perseveration and persistence questionnaire
Starting date	1st February 2012
Contact information	Moira Cook, Ninewells Hospital
Notes	Status is completed

Maria 2013

Trial name or title	French adaptation of CRT for anorexia nervosa
Methods	Parallel-design RCT with 2 intervention arms
Participants	120 women with anorexia nervosa, aged 16 - 35 years, recruited from 3 specialised clinics
Interventions	CRT or 'sham' CRT. Sham CRT, matching CRT for intensity, is an individual manualised therapist-led 10-session twice-weekly programme that addresses soft physical activity, emotional expression and recognition training and interpersonal functioning.
Outcomes	Primary: neurocognitive improvement on Trail Making and Wisconsin Card Sort tests at end of therapy and 6 and 12 months follow-up and improved clinical status Secondary: improved BMI, central coherence, self-reported eating disorder symptoms, cognitive flexibility and motivation to change
Starting date	September 2012
Contact information	Dr A-S Maria, Inserm U 669, Cochin-Maison de Solenn
Notes	Abstract only information

NTR3865

Trial name or title	CRT for eating disorders and obsessive compulsive disorders
Methods	Single-blind parallel group RCT
Participants	DSM-IV anorexia nervosa or eating disorder not otherwise specified, anorexia nervosa type
Interventions	10 individual sessions of CRT over 10 weeks, versus supportive counselling of 10 bi-weekly sessions
Outcomes	Primary: eating disorder symptom reduction Secondary: cost effectiveness and improved cognitive flexibility
Starting date	1st May 2013
Contact information	l.sternheim@altrecht.nl
Notes	

AN: anorexia nervosa
BMI: body mass index
CBT: cognitive behavioural therapy
CRT: cognitive remediation therapy
CBT-E: enhanced cognitive behavioural therapy
EDE: eating disorder examination
MCMT: Maudsley Cognitive Motivational Therapy
SD: standard deviation
SSCM: specific supportive clinical management

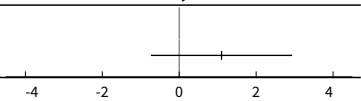
DATA AND ANALYSES

Comparison 1. Individual psychological therapy versus treatment as usual (TAU)

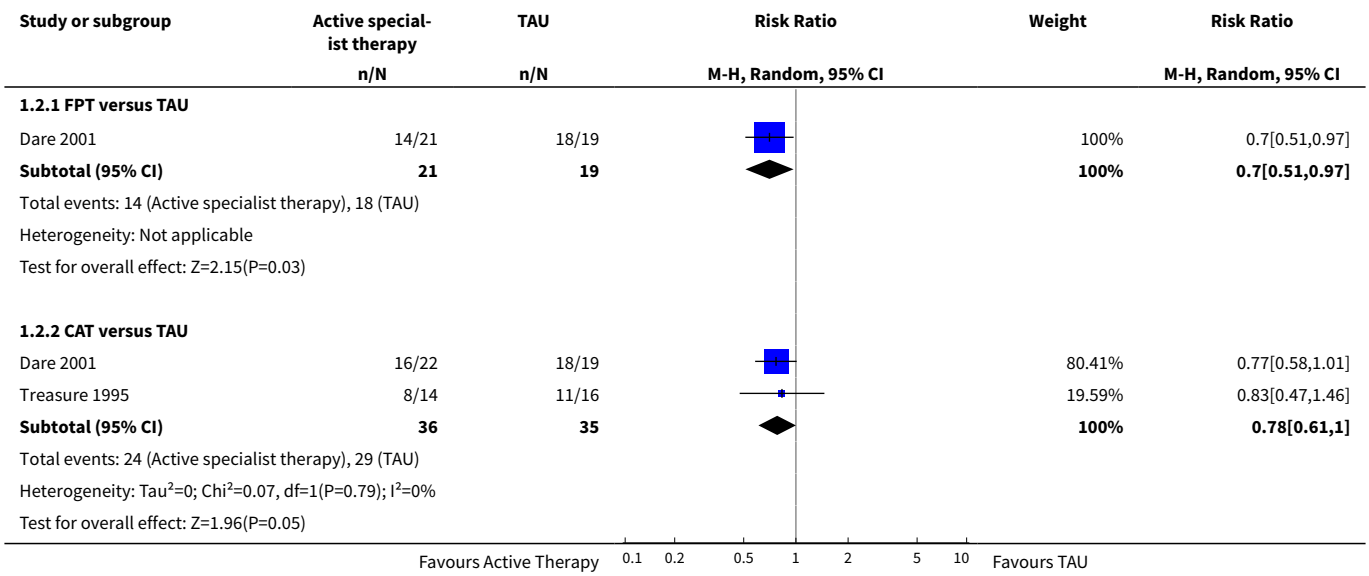
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Weight measured with BMI at one year follow-up	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
1.1 CAT versus TAU	1		Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]
2 Recovery not achieved according to Morgan and Russell narrow categories or similar	2		Risk Ratio (M-H, Random, 95% CI)	Subtotals only
2.1 FPT versus TAU	1	40	Risk Ratio (M-H, Random, 95% CI)	0.70 [0.51, 0.97]
2.2 CAT versus TAU	2	71	Risk Ratio (M-H, Random, 95% CI)	0.78 [0.61, 1.00]
3 N participants not completing the trial for any reason	2		Risk Ratio (M-H, Random, 95% CI)	Subtotals only
3.1 FPT versus TAU	1	40	Risk Ratio (M-H, Random, 95% CI)	1.36 [0.59, 3.10]
3.2 CAT versus TAU	2	71	Risk Ratio (M-H, Random, 95% CI)	1.05 [0.55, 2.02]
4 Recovery not achieved according to the Morgan 1988 broader scale ratings of average outcome or similar	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
4.1 CAT versus TAU	1		Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]

Analysis 1.1. Comparison 1 Individual psychological therapy versus treatment as usual (TAU), Outcome 1 Weight measured with BMI at one year follow-up.

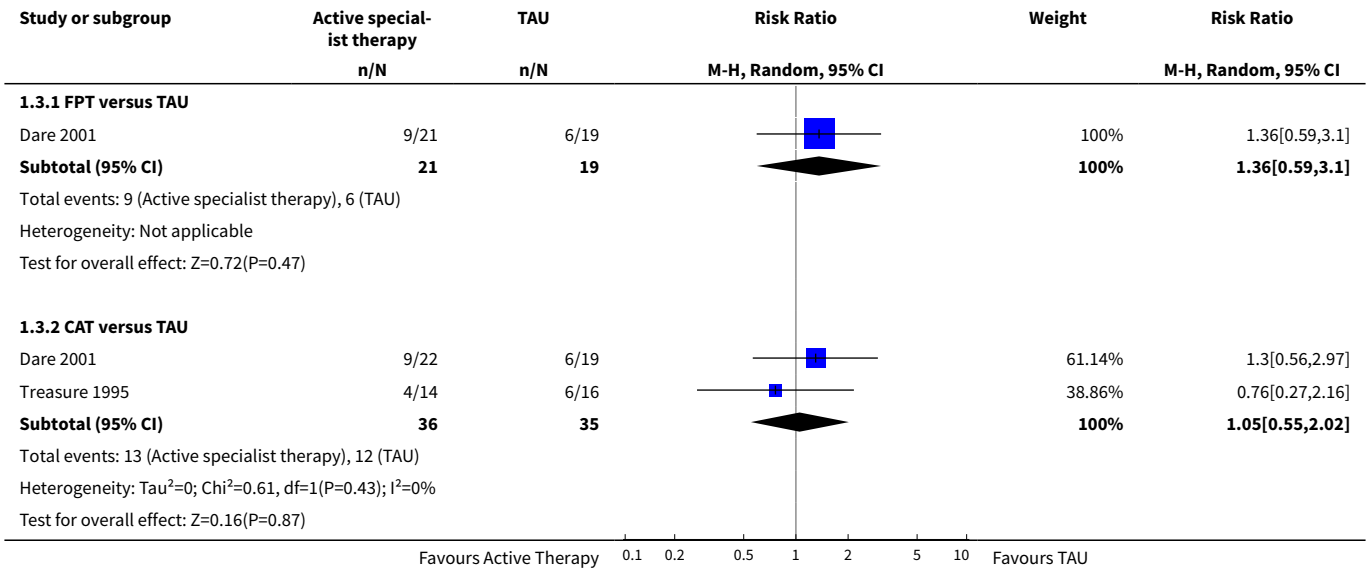
Study or subgroup	Active specialist therapy N	Active specialist therapy Mean(SD)	TAU N	TAU Mean(SD)	Mean Difference Random, 95% CI	Mean Difference Random, 95% CI
1.1.1 CAT versus TAU						
Treasure 1995	14	18.5 (2.1)	16	17.4 (3)		1.1[-0.74,2.94]



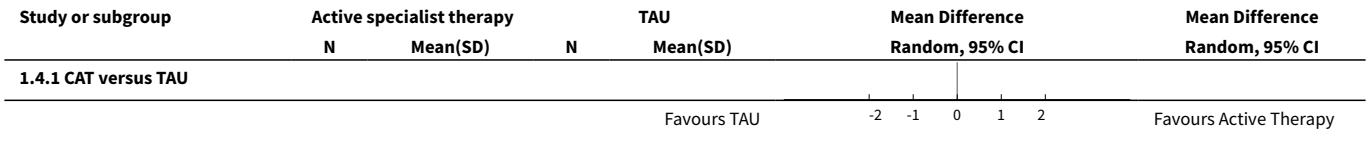
Analysis 1.2. Comparison 1 Individual psychological therapy versus treatment as usual (TAU), Outcome 2 Recovery not achieved according to Morgan and Russell narrow categories or similar.

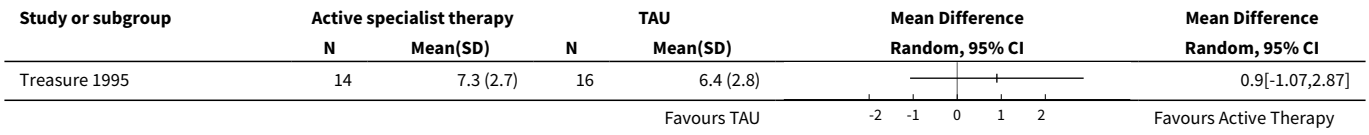


Analysis 1.3. Comparison 1 Individual psychological therapy versus treatment as usual (TAU), Outcome 3 N participants not completing the trial for any reason.



Analysis 1.4. Comparison 1 Individual psychological therapy versus treatment as usual (TAU), Outcome 4 Recovery not achieved according to the Morgan 1988 broader scale ratings of average outcome or similar.





Comparison 2. Individual psychological therapy versus a control therapy

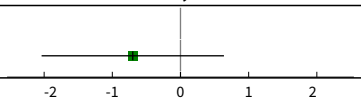
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Weight measured with BMI	4		Mean Difference (IV, Random, 95% CI)	Subtotals only
1.1 CBT versus SSCM or Optimised TAU	2	197	Mean Difference (IV, Random, 95% CI)	-0.00 [-0.91, 0.91]
1.2 Cognitive therapy versus dietary advice	1	35	Mean Difference (IV, Random, 95% CI)	1.80 [-0.12, 3.72]
1.3 MANTRA versus SSCM	1	71	Mean Difference (IV, Random, 95% CI)	0.15 [-0.96, 1.26]
1.4 Focal psychodynamic therapy (FPDT) versus Optimised TAU	1	162	Mean Difference (IV, Random, 95% CI)	-0.14 [-0.68, 0.40]
1.5 IPT versus SSCM	1	37	Mean Difference (IV, Random, 95% CI)	-0.70 [-2.38, 0.98]
2 Recovery not achieved according to Morgan and Russell narrow categories or similar	2		Risk Ratio (M-H, Random, 95% CI)	Subtotals only
2.1 CBT versus SSCM (Global outcome rated 3 or 4) or optimised TAU	2	137	Risk Ratio (M-H, Random, 95% CI)	0.97 [0.37, 2.54]
2.2 FPDT versus Optimised TAU	1	94	Risk Ratio (M-H, Random, 95% CI)	0.57 [0.28, 1.17]
2.3 IPT versus SSCM	1	37	Risk Ratio (M-H, Random, 95% CI)	2.07 [1.17, 3.67]
3 Number of participants not completing therapy for any reason	4		Risk Ratio (M-H, Random, 95% CI)	Subtotals only
3.1 CBT versus SSCM, an eclectic specialist therapy or Optimised TAU	2	51	Risk Ratio (M-H, Random, 95% CI)	0.81 [0.19, 3.51]
3.2 Cognitive therapy versus dietary advice	1	35	Risk Ratio (M-H, Random, 95% CI)	0.10 [0.03, 0.33]
3.3 MANTRA versus SSCM	1	71	Risk Ratio (M-H, Random, 95% CI)	0.68 [0.36, 1.29]

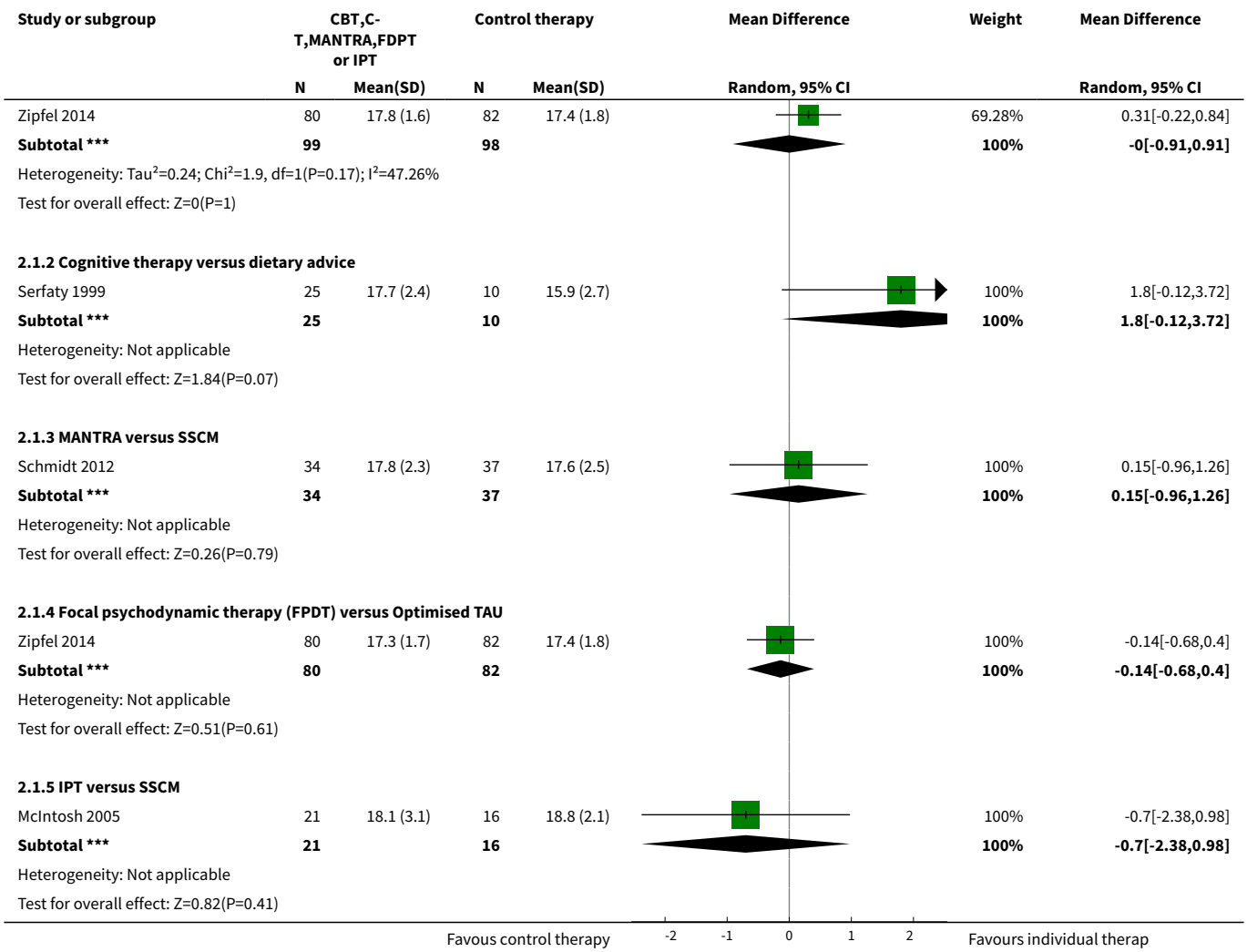
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
3.4 IPT versus SSCM	1	37	Risk Ratio (M-H, Random, 95% CI)	1.37 [0.57, 3.30]
4 Mean eating disorder symptoms score	3		Std. Mean Difference (IV, Random, 95% CI)	Subtotals only
4.1 CBT versus SSCM or Optimised TAU	2	197	Std. Mean Difference (IV, Random, 95% CI)	0.05 [-0.44, 0.54]
4.2 MANTRA versus SSCM	1	71	Std. Mean Difference (IV, Random, 95% CI)	-0.11 [-0.58, 0.35]
4.3 FPDT versus Optimised TAU	1	162	Std. Mean Difference (IV, Random, 95% CI)	-0.09 [-0.40, 0.22]
4.4 IPT versus SSCM	1	37	Std. Mean Difference (IV, Random, 95% CI)	1.17 [0.46, 1.88]
5 General psychiatric symptoms	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
5.1 CBT versus SSCM (DSM-IV Global Assessment of function (GAF) scores)	1		Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]
5.2 IPT versus SSCM	1		Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]
6 Level of depression measured with the Hamilton Depression Rating Scale (HDRS)	2		Mean Difference (IV, Random, 95% CI)	Subtotals only
6.1 CBT versus SSCM	1	35	Mean Difference (IV, Random, 95% CI)	0.10 [-4.84, 5.04]
6.2 MANTRA versus SSCM	1	71	Mean Difference (IV, Random, 95% CI)	-0.53 [-4.03, 2.97]
6.3 IPT versus SSCM	1	37	Mean Difference (IV, Random, 95% CI)	3.1 [-1.57, 7.77]
7 Recovery not achieved according to the Morgan and Russell categories or similar at long term follow-up	1		Risk Ratio (M-H, Random, 95% CI)	Totals not selected
7.1 CBT versus SSCM	1		Risk Ratio (M-H, Random, 95% CI)	0.0 [0.0, 0.0]
7.2 IPT versus SSCM	1		Risk Ratio (M-H, Random, 95% CI)	0.0 [0.0, 0.0]
8 Weight measured with BMI at long-term follow-up	2		Mean Difference (IV, Random, 95% CI)	Subtotals only

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
8.1 CBT versus SSCM or Optimised TAU	2	191	Mean Difference (IV, Random, 95% CI)	-0.02 [-0.87, 0.82]
8.2 FPDT versus Optimised TAU	1	162	Mean Difference (IV, Random, 95% CI)	0.25 [-0.44, 0.94]
8.3 IPT versus SSCM	1	26	Mean Difference (IV, Random, 95% CI)	-0.40 [-2.62, 1.82]
9 Mean eating disorder symptom score at long term follow-up	2		Std. Mean Difference (IV, Random, 95% CI)	Subtotals only
9.1 CBT versus SSCM or optimised TAU	2	191	Std. Mean Difference (IV, Random, 95% CI)	-0.23 [-0.93, 0.47]
9.2 FPDT versus Optimised TAU	1	162	Std. Mean Difference (IV, Random, 95% CI)	-0.05 [-0.36, 0.26]
9.3 IPT versus SSCM	1	26	Std. Mean Difference (IV, Random, 95% CI)	-0.73 [-1.54, 0.07]
10 General psychiatric symptoms at long-term follow-up	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
10.1 CBT versus SSCM (DSM-IV Global Assessment of function (GAF) scores)	1		Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]
10.2 IPT versus SSCM	1		Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]
11 Level of depression measured with the Hamilton Depression Rating Scale (HDRS) at long term follow-up	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
11.1 CBT versus SSCM	1		Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]
11.2 IPT versus SSCM	1		Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]

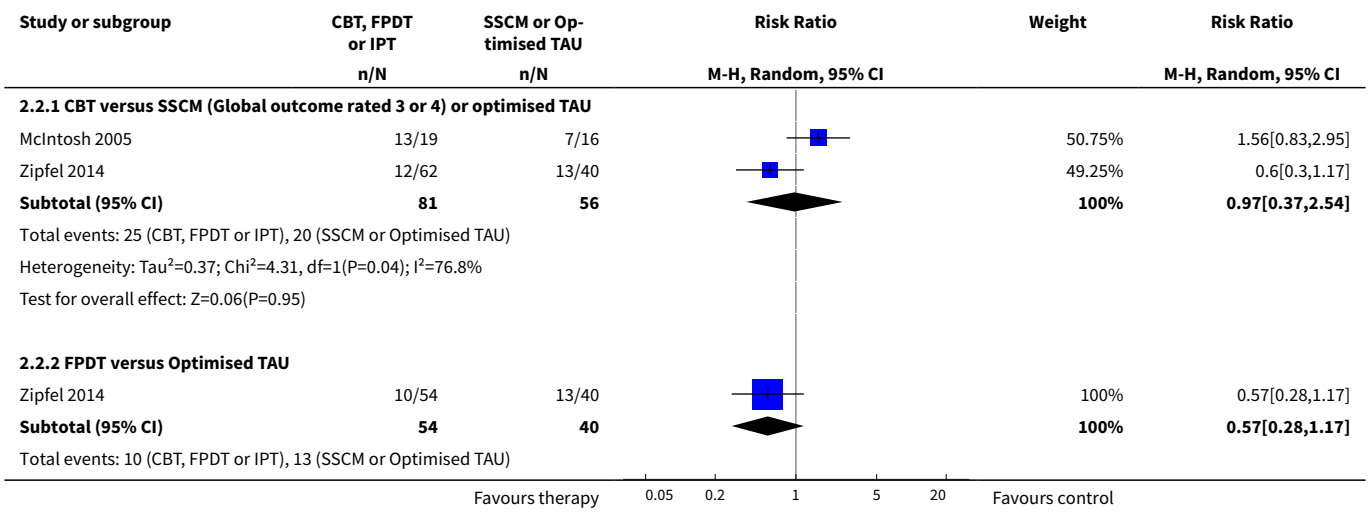
Analysis 2.1. Comparison 2 Individual psychological therapy versus a control therapy, Outcome 1 Weight measured with BMI.

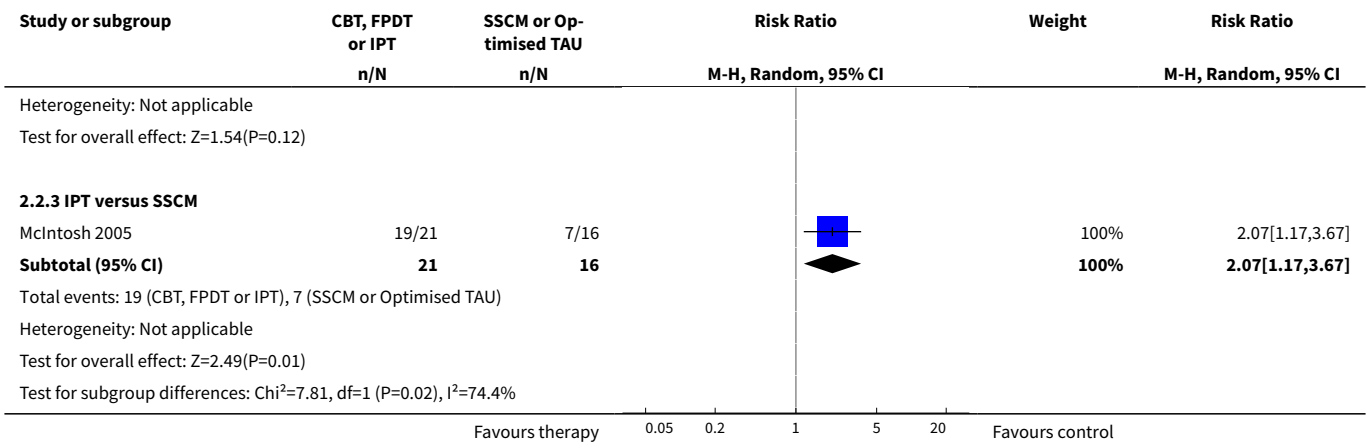
Study or subgroup	CBT,CT,MANTRA,FDPT or IPT		Control therapy		Mean Difference	Weight	Mean Difference
	N	Mean(SD)	N	Mean(SD)	Random, 95% CI		Random, 95% CI
2.1.1 CBT versus SSCM or Optimised TAU							
McIntosh 2005	19	18.1 (1.9)	16	18.8 (2.1)		30.72%	-0.7[-2.04,0.64]



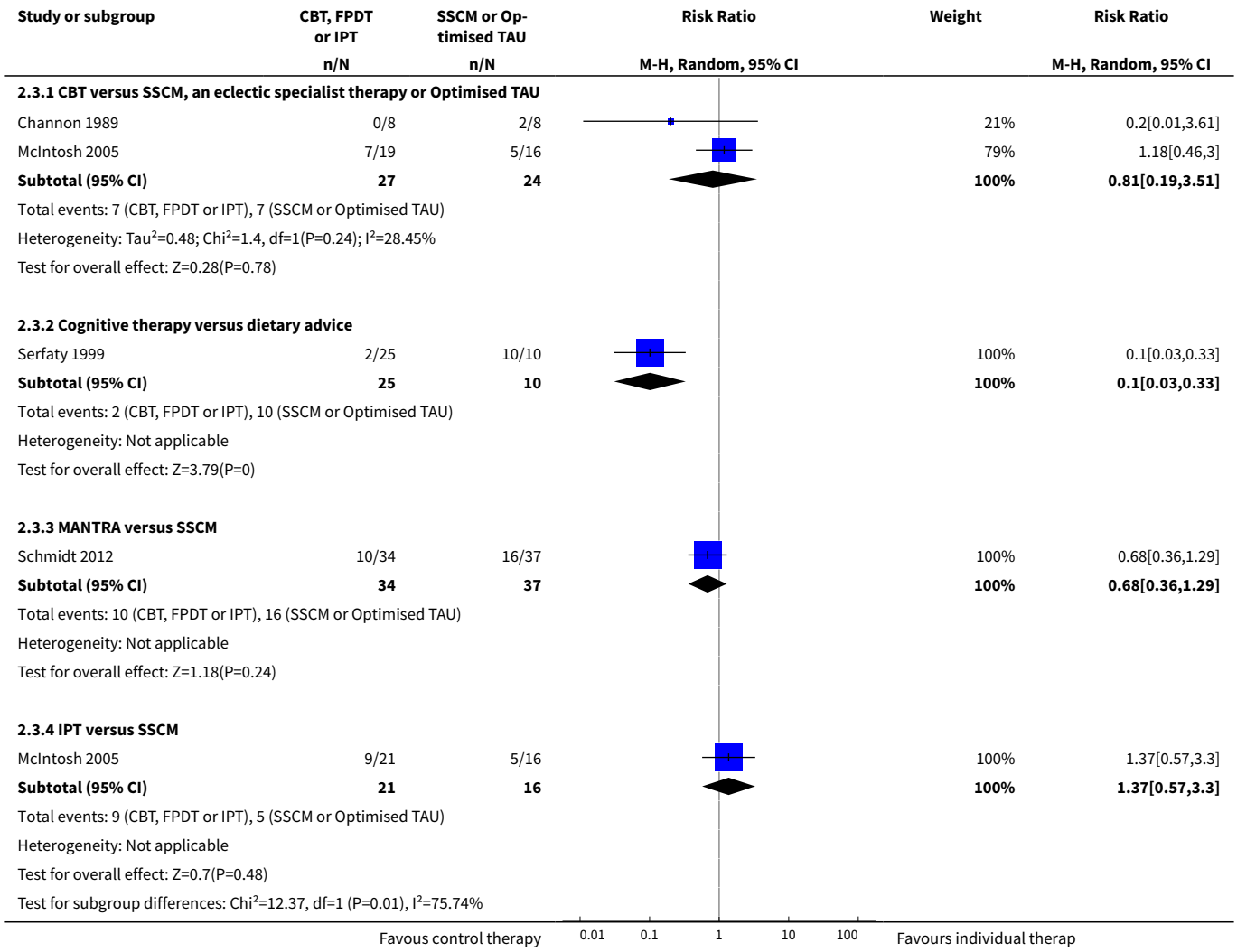


Analysis 2.2. Comparison 2 Individual psychological therapy versus a control therapy, Outcome 2 Recovery not achieved according to Morgan and Russell narrow categories or similar.

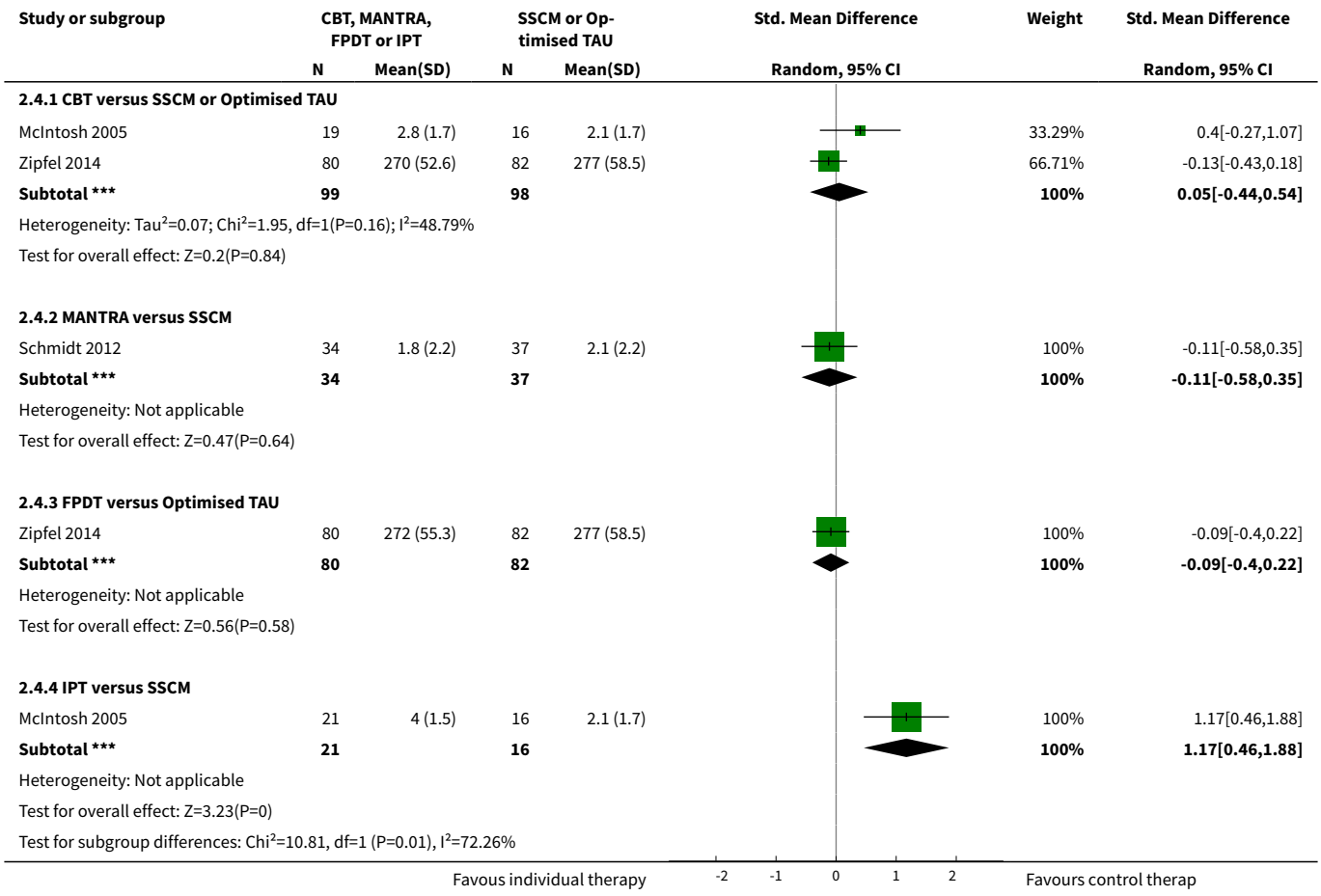




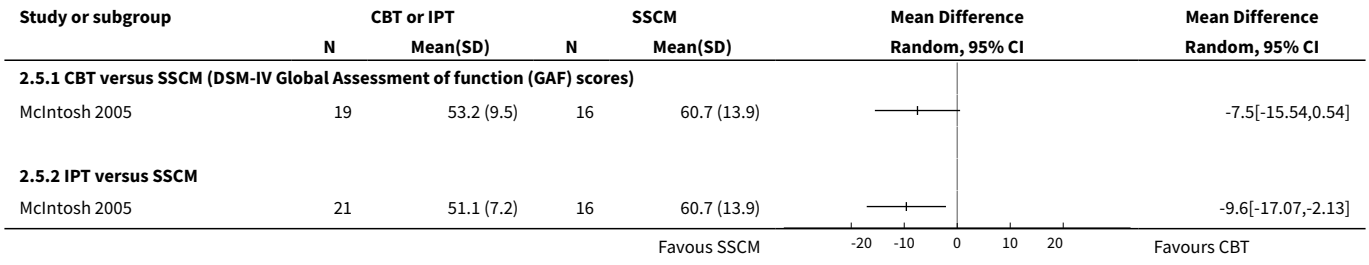
Analysis 2.3. Comparison 2 Individual psychological therapy versus a control therapy, Outcome 3 Number of participants not completing therapy for any reason.



Analysis 2.4. Comparison 2 Individual psychological therapy versus a control therapy, Outcome 4 Mean eating disorder symptoms score.

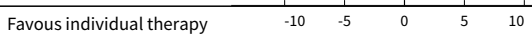


Analysis 2.5. Comparison 2 Individual psychological therapy versus a control therapy, Outcome 5 General psychiatric symptoms.



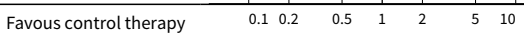
Analysis 2.6. Comparison 2 Individual psychological therapy versus a control therapy, Outcome 6 Level of depression measured with the Hamilton Depression Rating Scale (HDRS).

Study or subgroup	CBT, MANTRA or IPT N	CBT, MANTRA or IPT Mean(SD)	SSCM N	SSCM Mean(SD)	Mean Difference Random, 95% CI	Weight	Mean Difference Random, 95% CI
2.6.1 CBT versus SSCM							
McIntosh 2005	19	6.9 (7.8)	16	6.8 (7.1)		100%	0.1[-4.84,5.04]
Subtotal ***	**19**		**16**			**100%**	**0.1[-4.84,5.04]**
Heterogeneity: Not applicable							
Test for overall effect: Z=0.04(P=0.97)							
2.6.2 MANTRA versus SSCM							
Schmidt 2012	34	6.9 (6.9)	37	7.4 (8.2)		100%	-0.53[-4.03,2.97]
Subtotal ***	**34**		**37**			**100%**	**-0.53[-4.03,2.97]**
Heterogeneity: Not applicable							
Test for overall effect: Z=0.3(P=0.77)							
2.6.3 IPT versus SSCM							
McIntosh 2005	21	9.9 (7.3)	16	6.8 (7.1)		100%	3.1[-1.57,7.77]
Subtotal ***	**21**		**16**			**100%**	**3.1[-1.57,7.77]**
Heterogeneity: Tau^2=0; Chi^2=0, df=0(P<0.0001); I^2=100%							
Test for overall effect: Z=1.3(P=0.19)							
Test for subgroup differences: Chi^2=1.54, df=1 (P=0.46), I^2=0%							



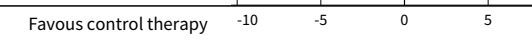
Analysis 2.7. Comparison 2 Individual psychological therapy versus a control therapy, Outcome 7 Recovery not achieved according to the Morgan and Russell categories or similar at long term follow-up.

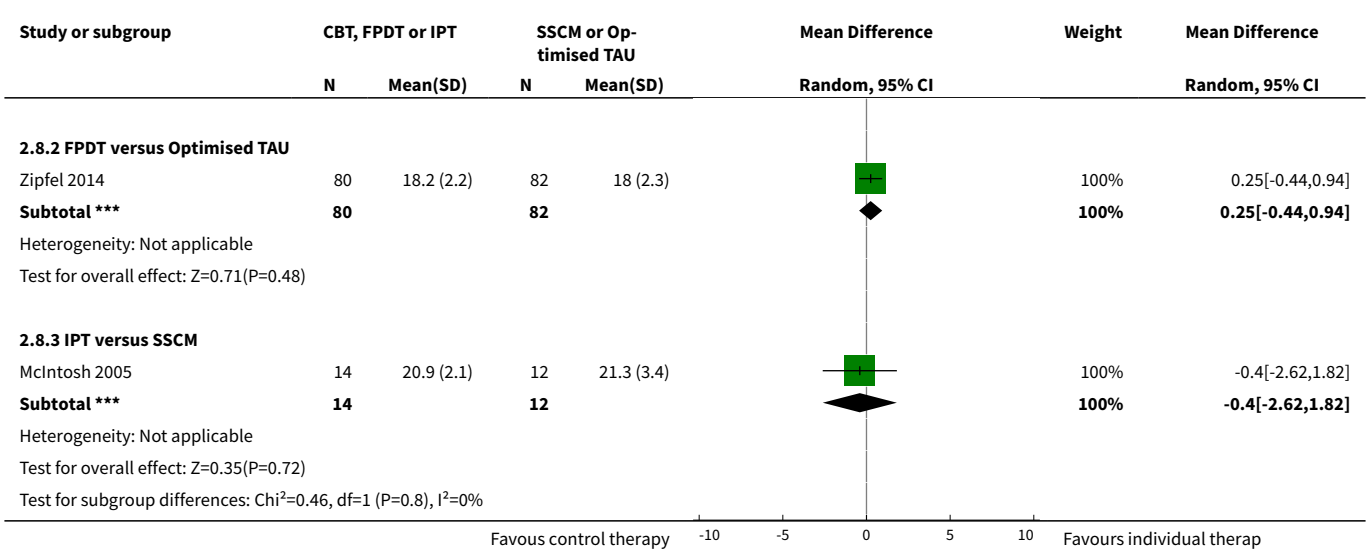
Study or subgroup	CBT or IPT n/N	SSCM n/N	Risk Ratio M-H, Random, 95% CI	Risk Ratio M-H, Random, 95% CI
2.7.1 CBT versus SSCM				
McIntosh 2005	10/19	7/16		1.2[0.6,2.42]
2.7.2 IPT versus SSCM				
McIntosh 2005	9/21	7/16		0.98[0.47,2.06]



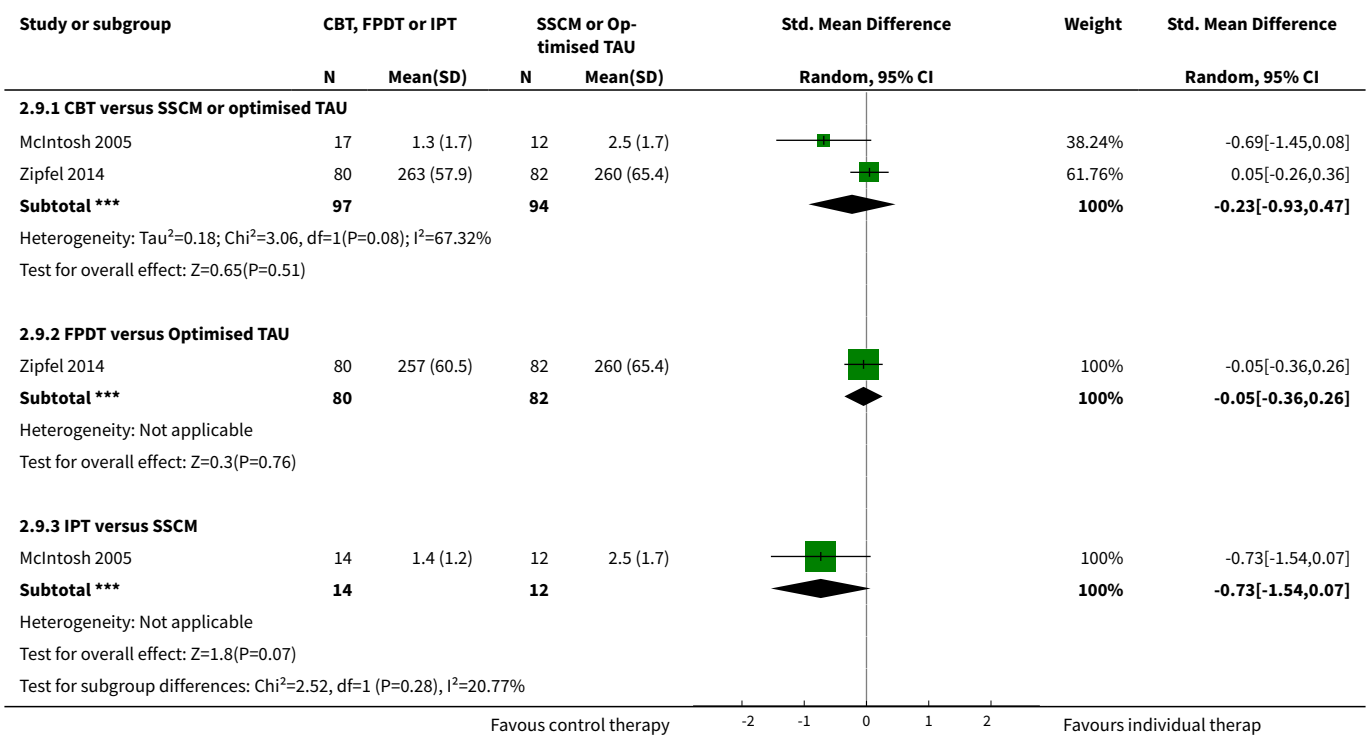
Analysis 2.8. Comparison 2 Individual psychological therapy versus a control therapy, Outcome 8 Weight measured with BMI at long-term follow-up.

Study or subgroup	CBT, FPDT or IPT N	CBT, FPDT or IPT Mean(SD)	SSCM or Optimised TAU N	SSCM or Optimised TAU Mean(SD)	Mean Difference Random, 95% CI	Weight	Mean Difference Random, 95% CI
2.8.1 CBT versus SSCM or Optimised TAU							
McIntosh 2005	17	20.2 (2.2)	12	21.3 (3.4)		13.9%	-1.1[-3.29,1.09]
Zipfel 2014	80	18.1 (2.1)	82	18 (2.3)		86.1%	0.15[-0.53,0.83]
Subtotal ***	**97**		**94**			**100%**	**-0.02[-0.87,0.82]**
Heterogeneity: Tau^2=0.1; Chi^2=1.14, df=1(P=0.29); I^2=12.46%							
Test for overall effect: Z=0.05(P=0.96)							



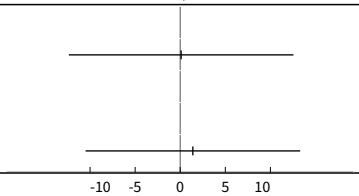


Analysis 2.9. Comparison 2 Individual psychological therapy versus a control therapy, Outcome 9 Mean eating disorder symptom score at long term follow-up.



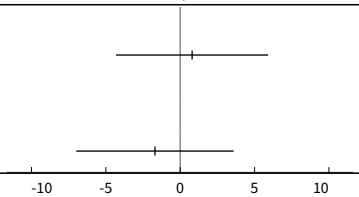
Analysis 2.10. Comparison 2 Individual psychological therapy versus a control therapy, Outcome 10 General psychiatric symptoms at long-term follow-up.

Study or subgroup	CBT or IPT N	CBT or IPT Mean(SD)	SSCM N	SSCM Mean(SD)	Mean Difference Random, 95% CI	Mean Difference Random, 95% CI
2.10.1 CBT versus SSCM (DSM-IV Global Assessment of function (GAF) scores)						
McIntosh 2005	17	65.2 (15.9)	12	65.1 (17.5)		0.1[-12.36,12.56]
2.10.2 IPT versus SSCM						
McIntosh 2005	14	66.5 (12.6)	12	65.1 (17.5)		1.4[-10.5,13.3]



Analysis 2.11. Comparison 2 Individual psychological therapy versus a control therapy, Outcome 11 Level of depression measured with the Hamilton Depression Rating Scale (HDRS) at long term follow-up.

Study or subgroup	CBT or IPT N	CBT or IPT Mean(SD)	SSCM N	SSCM Mean(SD)	Mean Difference Random, 95% CI	Mean Difference Random, 95% CI
2.11.1 CBT versus SSCM						
McIntosh 2005	17	7.2 (6.8)	12	6.4 (7)		0.8[-4.31,5.91]
2.11.2 IPT versus SSCM						
McIntosh 2005	14	4.7 (6.7)	12	6.4 (7)		-1.7[-6.99,3.59]



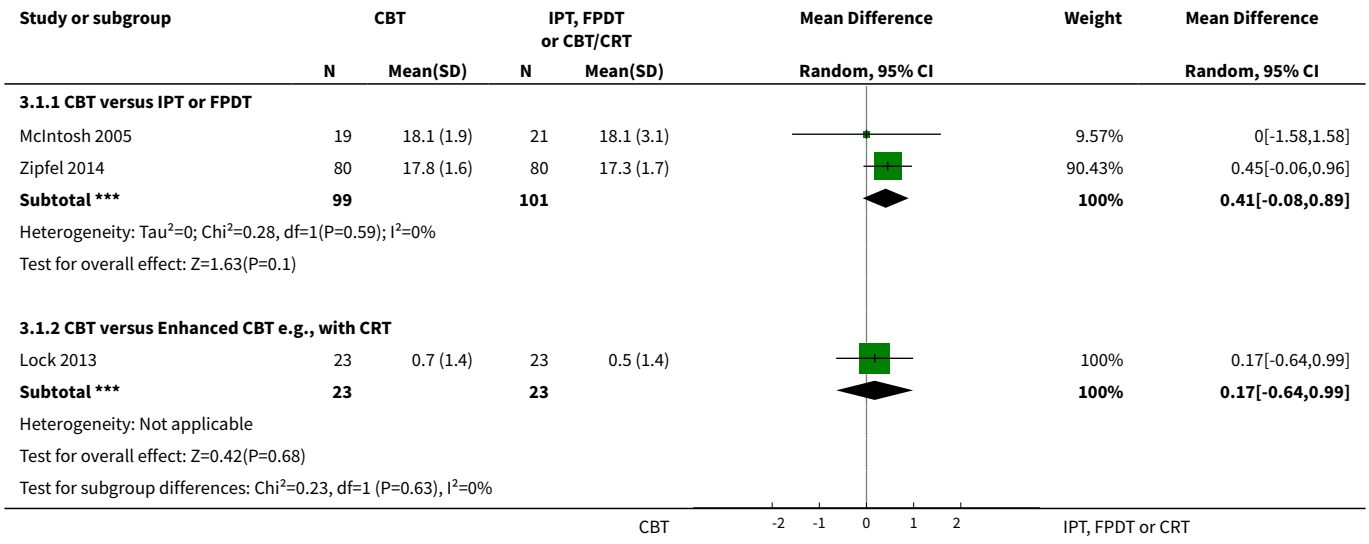
Comparison 3. Individual psychological therapy versus another individual psychological therapy

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Weight measured with BMI, or change in BMI	3		Mean Difference (IV, Random, 95% CI)	Subtotals only
1.1 CBT versus IPT or FPDT	2	200	Mean Difference (IV, Random, 95% CI)	0.41 [-0.08, 0.89]
1.2 CBT versus Enhanced CBT e.g., with CRT	1	46	Mean Difference (IV, Random, 95% CI)	0.17 [-0.64, 0.99]
2 Recovery not achieved according to Morgan and Russell narrow categories or similar	3		Risk Ratio (M-H, Random, 95% CI)	Subtotals only
2.1 CBT versus IPT or FPDT	2	156	Risk Ratio (M-H, Random, 95% CI)	0.80 [0.59, 1.08]
2.2 Cognitive orientation therapy (COT) versus self-psychology (SP) both with nutritional counselling)	1	13	Risk Ratio (M-H, Random, 95% CI)	2.97 [1.04, 8.48]
3 Number of participants not completing treatment	4		Risk Ratio (M-H, Random, 95% CI)	Subtotals only

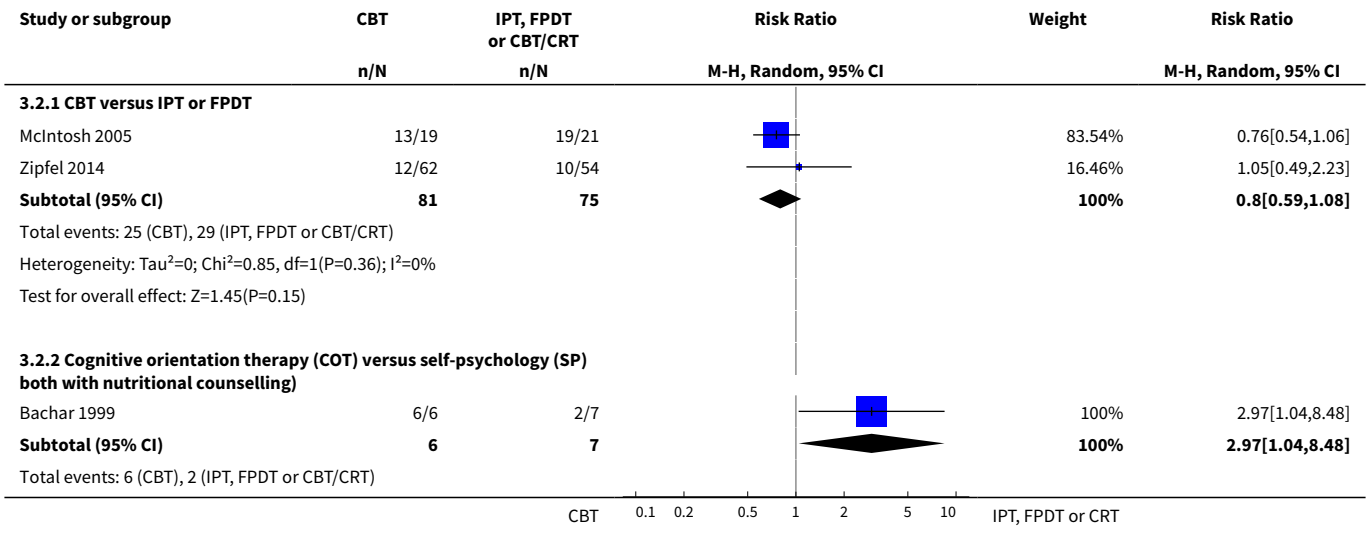
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
3.1 CBT versus IPT or FPDT	2	200	Risk Ratio (M-H, Random, 95% CI)	0.64 [0.41, 1.01]
3.2 CBT versus Enhanced CBT e.g., with CRT	1	46	Risk Ratio (M-H, Random, 95% CI)	1.25 [0.60, 2.59]
3.3 COT versus SP (both with nutritional counselling)	1	13	Risk Ratio (M-H, Random, 95% CI)	4.67 [0.70, 31.22]
4 Mean eating disorder symptom scores at end of treatment	3		Std. Mean Difference (IV, Random, 95% CI)	Subtotals only
4.1 CBT versus IPT (EDE Restraint score) or FPDT (EDI total score)	2	200	Std. Mean Difference (IV, Random, 95% CI)	-0.33 [-1.00, 0.35]
4.2 CBT versus Enhanced CBT e.g., with CRT (EDE Restraint scores)	1	46	Std. Mean Difference (IV, Random, 95% CI)	0.33 [-0.26, 0.91]
5 General psychiatric symptoms	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
5.1 CBT versus IPT (DSM-IV Global Assessment of function (GAF) scores)	1		Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]
6 Level of depression measured with the Hamilton Depression Rating Scale (HDRS)	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
6.1 CBT versus IPT	1		Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]
7 Mean eating disorder symptoms scores at long term follow-up	2		Std. Mean Difference (IV, Random, 95% CI)	Subtotals only
7.1 CBT versus IPT (EDE restraint) or FPDT (EDI total scores)	2	191	Std. Mean Difference (IV, Random, 95% CI)	0.07 [-0.21, 0.36]
8 Weight as measured with BMI at long term follow-up	2		Mean Difference (IV, Random, 95% CI)	Subtotals only
8.1 CBT versus IPT or FPDT	2	191	Mean Difference (IV, Random, 95% CI)	-0.19 [-0.79, 0.41]
9 Recovery not achieved according to the Morgan and Russell categorical outcome or similar at long term follow-up	1		Risk Ratio (M-H, Random, 95% CI)	Totals not selected
9.1 CBT versus IPT (Global outcome rated 3 or 4)	1		Risk Ratio (M-H, Random, 95% CI)	0.0 [0.0, 0.0]
10 General psychiatric symptoms at long term follow-up	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
10.1 CBT versus IPT (DSM-IV Global Assessment of function (GAF) scores)	1		Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]

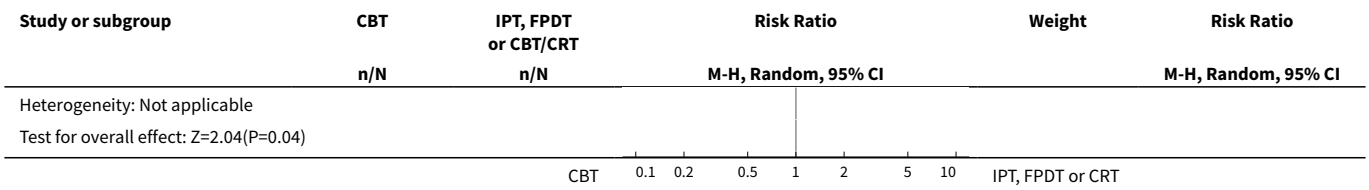
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
11 Level of depression measured with the Hamilton Depression Rating Scale (HDRS) at long term follow-up	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
11.1 CBT versus IPT	1		Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]

Analysis 3.1. Comparison 3 Individual psychological therapy versus another individual psychological therapy, Outcome 1 Weight measured with BMI, or change in BMI.

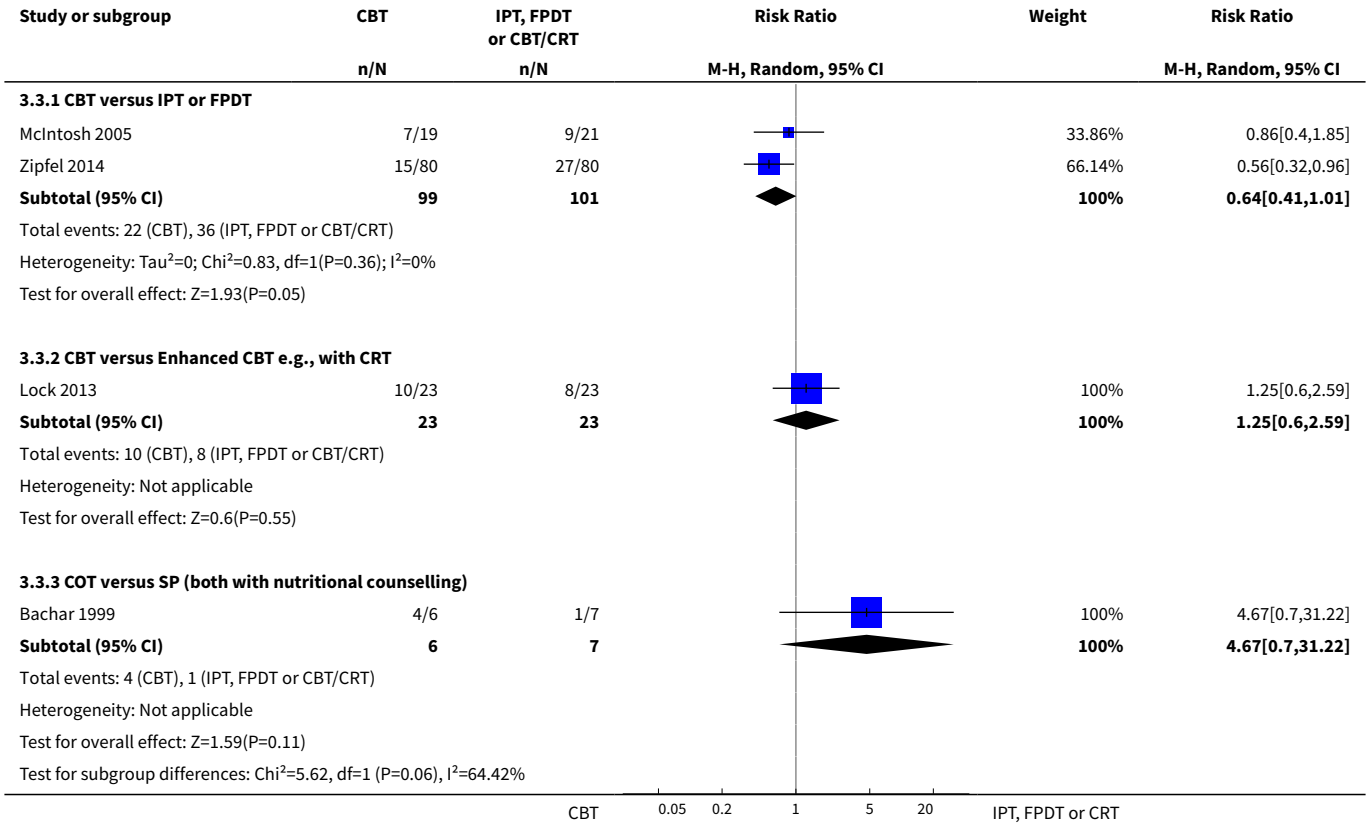


Analysis 3.2. Comparison 3 Individual psychological therapy versus another individual psychological therapy, Outcome 2 Recovery not achieved according to Morgan and Russell narrow categories or similar.

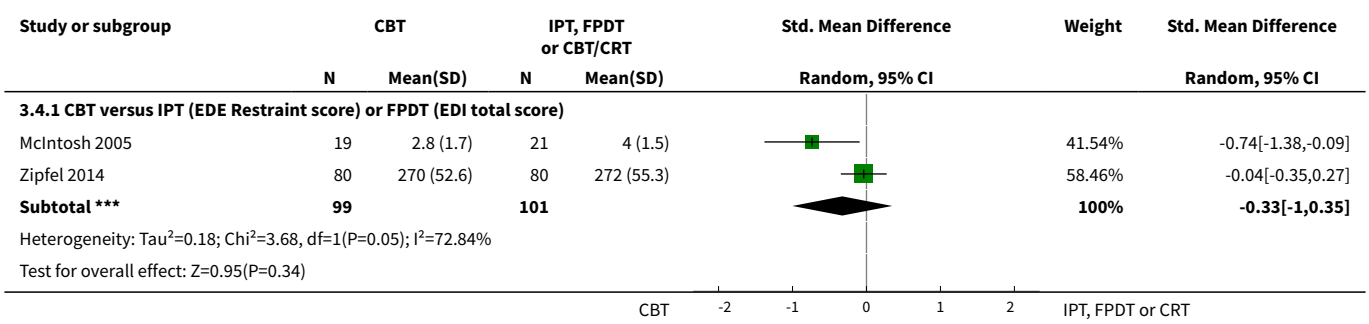


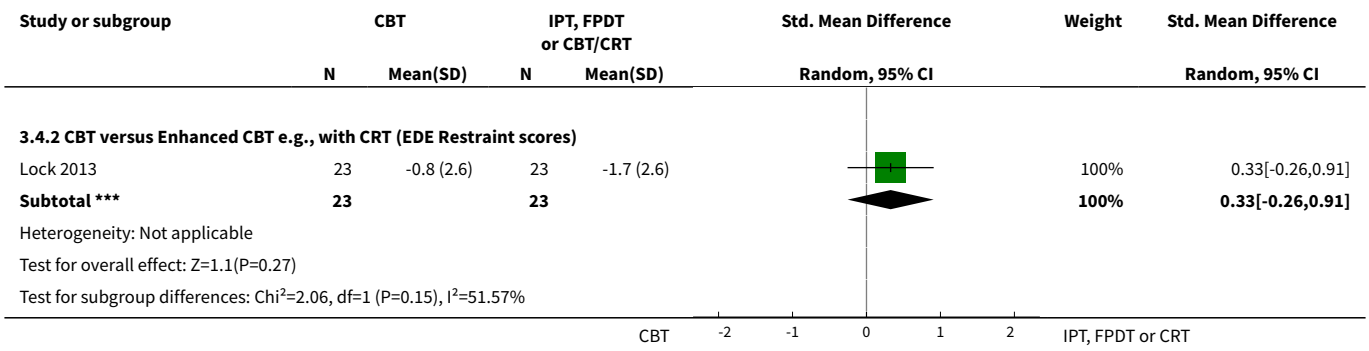


Analysis 3.3. Comparison 3 Individual psychological therapy versus another individual psychological therapy, Outcome 3 Number of participants not completing treatment.

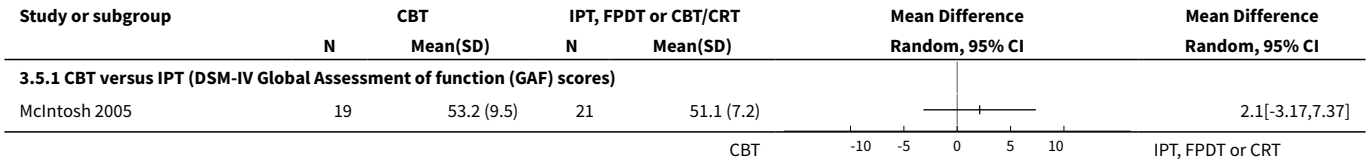


Analysis 3.4. Comparison 3 Individual psychological therapy versus another individual psychological therapy, Outcome 4 Mean eating disorder symptom scores at end of treatment.

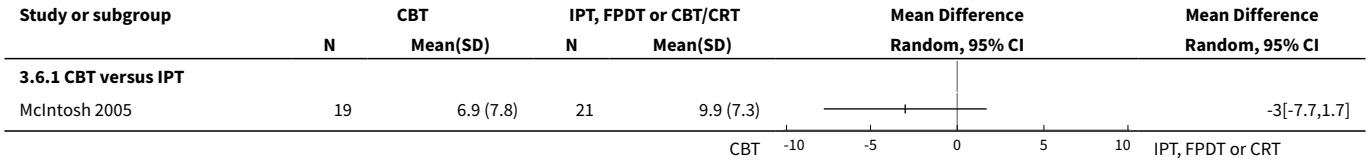




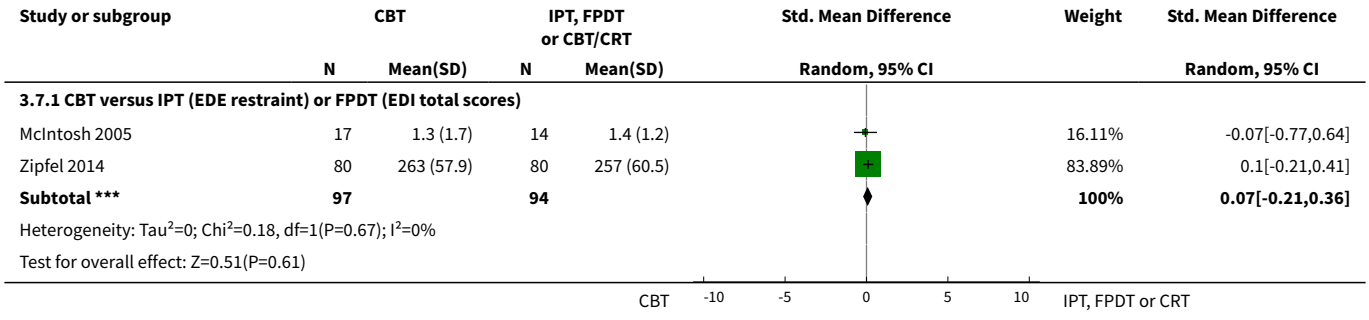
Analysis 3.5. Comparison 3 Individual psychological therapy versus another individual psychological therapy, Outcome 5 General psychiatric symptoms.



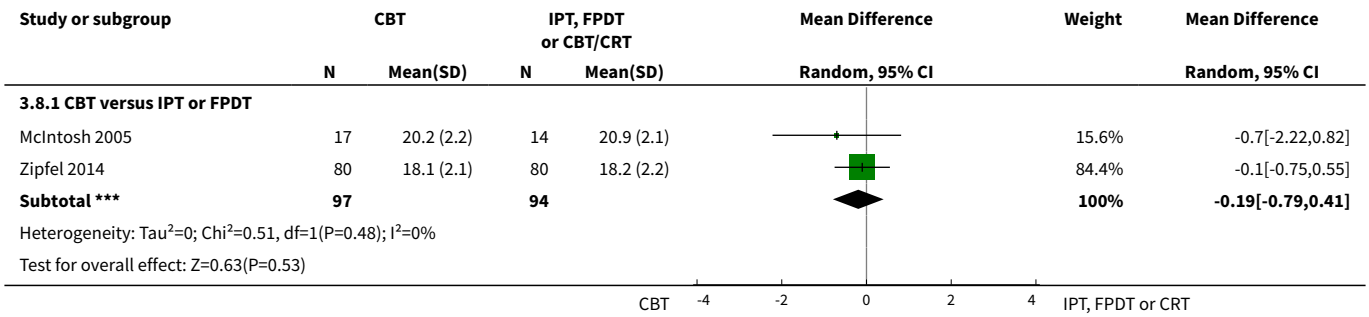
Analysis 3.6. Comparison 3 Individual psychological therapy versus another individual psychological therapy, Outcome 6 Level of depression measured with the Hamilton Depression Rating Scale (HDRS).



Analysis 3.7. Comparison 3 Individual psychological therapy versus another individual psychological therapy, Outcome 7 Mean eating disorder symptoms scores at long term follow-up.

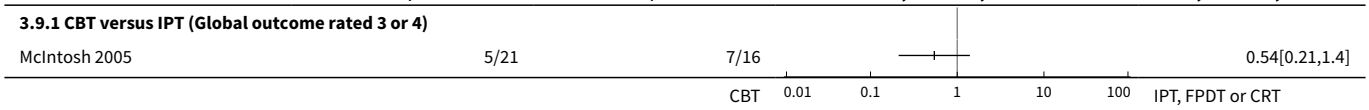


Analysis 3.8. Comparison 3 Individual psychological therapy versus another individual psychological therapy, Outcome 8 Weight as measured with BMI at long term follow-up.



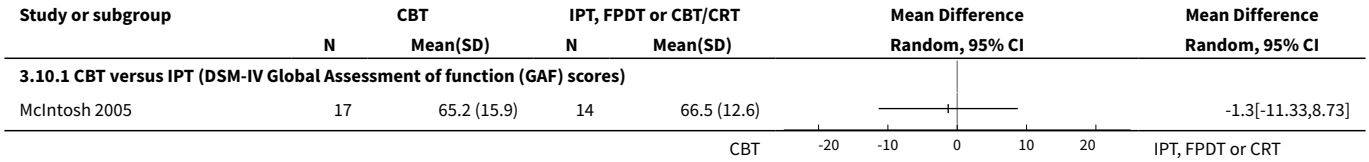
Study or subgroup	CBT N	CBT Mean(SD)	IPT, FPDT or CBT/CRT N	IPT, FPDT or CBT/CRT Mean(SD)	Mean Difference Random, 95% CI	Weight	Mean Difference Random, 95% CI
3.8.1 CBT versus IPT or FPDT							
McIntosh 2005	17	20.2 (2.2)	14	20.9 (2.1)		15.6%	-0.7[-2.22,0.82]
Zipfel 2014	80	18.1 (2.1)	80	18.2 (2.2)		84.4%	-0.1[-0.75,0.55]
Subtotal ***	**97**		**94**			**100%**	**-0.19[-0.79,0.41]**
Heterogeneity: Tau^2=0; Chi^2=0.51, df=1(P=0.48); I^2=0%							
Test for overall effect: Z=0.63(P=0.53)							

Analysis 3.9. Comparison 3 Individual psychological therapy versus another individual psychological therapy, Outcome 9 Recovery not achieved according to the Morgan and Russell categorical outcome or similar at long term follow-up.



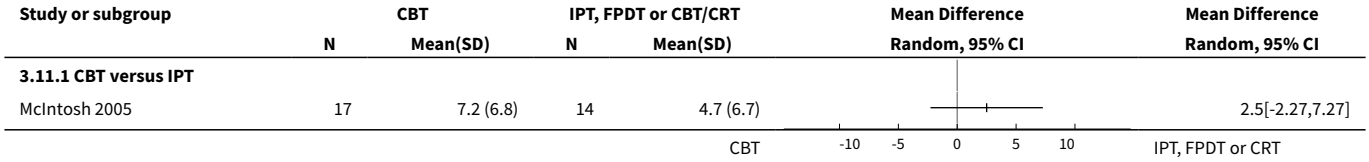
Study or subgroup	CBT n/N	IPT, FPDT or CBT/CRT n/N	Risk Ratio M-H, Random, 95% CI	Risk Ratio M-H, Random, 95% CI
3.9.1 CBT versus IPT (Global outcome rated 3 or 4)				
McIntosh 2005	5/21	7/16		0.54[0.21,1.4]

Analysis 3.10. Comparison 3 Individual psychological therapy versus another individual psychological therapy, Outcome 10 General psychiatric symptoms at long term follow-up.



Study or subgroup	CBT N	CBT Mean(SD)	IPT, FPDT or CBT/CRT N	IPT, FPDT or CBT/CRT Mean(SD)	Mean Difference Random, 95% CI	Mean Difference Random, 95% CI
3.10.1 CBT versus IPT (DSM-IV Global Assessment of function (GAF) scores)						
McIntosh 2005	17	65.2 (15.9)	14	66.5 (12.6)		-1.3[-11.33,8.73]

Analysis 3.11. Comparison 3 Individual psychological therapy versus another individual psychological therapy, Outcome 11 Level of depression measured with the Hamilton Depression Rating Scale (HDRS) at long term follow-up.



Study or subgroup	CBT N	CBT Mean(SD)	IPT, FPDT or CBT/CRT N	IPT, FPDT or CBT/CRT Mean(SD)	Mean Difference Random, 95% CI	Mean Difference Random, 95% CI
3.11.1 CBT versus IPT						
McIntosh 2005	17	7.2 (6.8)	14	4.7 (6.7)		2.5[-2.27,7.27]

Comparison 4. Individual psychological therapy versus wait-list control

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Number not achieving remission defined by normal: body weight, psychology, test results, eating behaviour & social activities	1		Risk Ratio (M-H, Random, 95% CI)	Totals not selected
1.1 Karolinski Institute Mandometer outpatient treatment versus wait-list control group	1		Risk Ratio (M-H, Random, 95% CI)	0.0 [0.0, 0.0]

Analysis 4.1. Comparison 4 Individual psychological therapy versus wait-list control, Outcome 1 Number not achieving remission defined by normal: body weight, psychology, test results, eating behaviour & social activities.

Study or subgroup	Psychological therapy n/N	Wait-list control n/N	Risk Ratio M-H, Random, 95% CI	Risk Ratio M-H, Random, 95% CI
4.1.1 Karolinski Institute Mandometer outpatient treatment versus wait-list control group				
Bergh 2002	1/11	8/8		0.13[0.03,0.6]

APPENDICES

Appendix 1. DSM 5 criteria for anorexia nervosa

DSM-5 criteria adapted from APA 2013

a. Restriction of energy intake relative to requirements leading to a significantly low body weight and/or failure to make expected weight gain during period of growth.

b. Intense fear of gaining weight or becoming fat and/or persistent behaviour interfering with weight gain.

c. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self evaluation, or denial of the seriousness of the current low body weight

Anorexia nervosa may be further defined as meeting criteria for either the restrictive type (during the current episode of anorexia nervosa, the person has not regularly engaged in binge-eating or purging behaviour, i.e. self-induced vomiting or the misuse of laxatives, diuretics, or enemas), or the binge-eating/purging type (during the current episode of anorexia nervosa, the person has regularly engaged in binge-eating or purging behaviour, i.e. self-induced vomiting or the misuse of laxatives, diuretics or enemas).

Appendix 2. Searches for earlier versions of the review

Earlier searches were conducted in 2003, 2008 and 2012.

CCDANCTR Search (Studies and References) 2012
Free-text = anorexi*

An additional search was also conducted at this time for eating disorders not otherwise specified.

CCDANCTR 2008:
CCDANCTR-Studies:

Diagnosis = (Anorexia or "Eating Disorder*") and Intervention = (*therapy or counselling or educat*)

CCDANCTR-References:
Keyword = ("Anorexia Nervosa" or "Eating Disorder*") and Free-text = (*therap* or treatment or intervention* or counsel* or *educat* or training)

Other databases:
Supplementary searches were also conducted (2003, 2008) on the following databases:

- Cochrane Central Register of Controlled Trials (CENTRAL)
- CURRENT CONTENTS
- EMBASE
- EXTRAMED
- MEDLINE
- PSYCLIT
- SCOPUS

Results:

For the first version of this review published in 2003, a total of 4673 studies, including papers and abstracts on therapy for people with anorexia nervosa were identified from the first searches. 839 studies were found from Current Contents, 2438 from MEDLINE, 1215 studies from PSYCLIT, 51 studies from the International Journal of Eating Disorders, and 130 studies found from the CCDANCTR search. After screening, we considered 46 of these studies potentially eligible and were published randomised controlled trials, and we included six.

The second updated search (2002 to December 2005) identified 4539 studies in the MEDLINE search and 58 in the CCDANCTR search, from which we identified one new trial for inclusion (McIntosh 2005), and we excluded one (Ball 2004). We excluded three trials identified from the MEDLINE search (Halmi 2005, Kong 2005, Pike 2003).

Appendix 3. Data extraction

Whether objectives and specification of main outcomes were determined a priori.
The sample size per group
The duration of treatment (weeks) and duration of follow-up (months)
Whether a power calculation was reported
The method of random allocation
The concealment of randomisation (this refers to protecting details on how the allocation code from those involved in participant recruitment)
Whether there was a clear description of treatment (and what was the therapy involved)
Blinding method
The source of participants, whether this reflected a representative sample
The diagnostic criteria used
The recording of exclusion criteria, number of exclusions and refusals
Demographic information of participants (age, gender, etc.)
Information on compliance, treatment integrity adherence, dropouts, and adverse side effects
Outcome assessments and measures
Outcomes of the randomisation
What happened to withdrawals in the analyses and how analyses were presented and appropriateness of statistical methods
Whether conclusions appears justified
Whether author interests were declared
Outcome data, including numbers per group meeting criteria for recovery and/or significant improvement, completing treatment, mean BMI per group, remission rates, global treatment and functional outcomes and mean scores on any quantitative continuous data outcome measure.

WHAT'S NEW

Date	Event	Description
19 April 2016	Amended	The author team identified a small error in analysis 2.4. This has been amended throughout the review and makes no change to the conclusions.

HISTORY

Protocol first published: Issue 4, 2002
Review first published: Issue 4, 2003

Date	Event	Description
10 July 2015	New citation required but conclusions have not changed	Methods updated and new studies incorporated. Conclusions unchanged.
10 July 2015	New search has been performed	Search updated July 16 2014. Three new eligible RCTs identified.
1 November 2008	Amended	Converted to new format

CONTRIBUTIONS OF AUTHORS

Phillipa Hay prepared the protocol for this review, was responsible for the initial data searches, and together with Angélica Claudino and Stephen Touyz (2006 update) for quality checking of data extraction and entry. This updated review is written by Phillipa Hay, and all the co-review authors provided commentary on the findings and the conclusions. Phillipa Hay was responsible for the data searches, and all review authors for critical appraisal of newly-identified trials and text of the 2015 update.

DECLARATIONS OF INTEREST

In the past PH has received reimbursement of expenses for speaking at medical meetings and attending symposia from Astra-Zeneca, Solvay Pharmaceuticals, Bristol-Myers Squibb, and Pfizer Pharmaceuticals, and for educational training for family doctors from Bristol-Myers Squibb, Pfizer Pharmaceuticals and Lundbeck and has been funded by Jansen-Cilag to attend educational symposia (none in the past 10 years).

PH and ST receive royalties from McGraw Hill Pubs and honoraria from Biomed Central.

ST has received honoraria for consultancy to a Shire Pharmaceuticals Advisory Board.

AC has received reimbursement for speaking at medical meetings or attending symposia from Eli-Lilly and Lundbeck in the past (last in 2010).

GAB has no conflicts to declare.

PH and ST are authors on a trial deemed ineligible (Touyz 2013) and two ongoing trials referenced in this review (ACTRN12610000585022; ACTRN12611000725965).

SOURCES OF SUPPORT

Internal sources

- The University of Adelaide, Department of Psychiatry, Australia.
- University of Western Sydney School of Medicine 2008 summer scholarship to Mr Ekmejian, Australia.

External sources

- No sources of support supplied

DIFFERENCES BETWEEN PROTOCOL AND REVIEW

For the 2006 update, we altered the inclusion criteria to exclude studies with greater than 50% non-completion rate.

For the 2015 update, the methods of this review have applied the current 'Risk of bias' tool. We have provided more detail on the types of studies, participants and outcomes.

We amended the Types of participants section to clarify that at least 50% of a study's participants had to be older than16 years old for the study to be included.

We added information to the Methods on the timing of outcome assessment and how we implemented a hierarchy for choosing outcome measures.

We have removed the subgroup analyses listed in the protocol as we decided they were not relevant to anorexia nervosa.

We have added a reference to denote the 2013 edition of DSM diagnostic criteria and have modified Appendix 1 to depict these current criteria.

The Zipfel 2014 trial had two arms of an individual psychotherapy as defined in this review, i.e. focal psychodynamic therapy (FPDT) and cognitive behavioural therapy (CBT). Although our option in the protocol was to combine these two relevant experimental intervention groups into a single group, this would have resulted in loss of information for a meta-analysis of CBT versus a control therapy. We therefore elected to do a third option (as described by Higgins 2011 section 16.5.4) and divided the data from the control therapy, Optimised TAU, evenly among the comparisons, keeping the means and SD constant to avoid double-counting of Optimised TAU. The same procedure was followed in the three-armed McIntosh 2005 study.

We have added 'Summary of findings' tables.

INDEX TERMS

Medical Subject Headings (MeSH)

Anorexia Nervosa [psychology] [*therapy]; Cognitive Behavioral Therapy [methods]; Psychotherapy [*methods]; Psychotherapy, Psychodynamic [methods]; Randomized Controlled Trials as Topic

MeSH check words

Adolescent; Adult; Female; Humans; Male