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

Hay PPJ, Bacaltchuk J, Byrnes RT, Claudino AM, Ekmejian AA, Yong PY

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[Intervention Review]

Individual psychotherapy 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 commonest 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 psychotherapies are presently used in treatment.

Objectives

The aim of the present review was to evaluate the evidence from randomised controlled trials for the efficacy of outpatient psychotherapies used in the treatment of older adolescents and adults with anorexia nervosa.

Search methods

CCDANCTR-Studies and CCDANCTR-References were searched on 12/2/2008. Further database searches of MEDLINE, EXTRAMED, EMBASE, PSYCLIT, CURRENT CONTENTS were carried out, hand-search of The International Journal of Eating Disorders, and the reference lists of all papers selected. Personal letters were sent to identified notable researchers who had published in the area, requesting information on trials that are unpublished or in progress. The search was updated to December 2005 (MEDLINE and CCDAN registers) and then to Feb 2008 (MEDLINE, SCOPUS, and CCDAN registers).

Selection criteria

All randomised controlled trials of adult individual outpatient therapy for anorexia nervosa, as defined by DSM-IV or similar international criteria. Quality assessment was made according to Quality Rating Scale criteria and in addition, whether the trial had examined treatment integrity.

Data collection and analysis

A range of outcome variables were selected, including physical state, severity of eating disorder attitudes and beliefs, interpersonal function, and general psychiatric symptom severity. Continuous outcome data comparisons used the standardised mean difference statistic, and binary outcome comparisons used relative risk. Reliability of data extraction and quality assessment were made with the kappa statistic. Sensitivity analyses to evaluate the effects of trial quality and subgroup analyses to explore specific questions of treatment effects from different settings, frequency and duration of therapies were planned.

Main results

Seven small trials only, two of which included children or adolescents, were identified from the search, and aggregation of data was not possible. Bias was possible due particularly to lack of blinding of outcome assessments. The results in two trials suggested that 'treatment as usual' or similar may be less efficacious than a specific psychotherapy. 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. One trial found a nonspecific therapy was favoured over two specific psychotherapies.

Authors' conclusions

No specific approach can be recommended from this review. It is unclear why 'treatment as usual' performed so poorly, or why dietary advice alone appeared so unacceptable, as the reasons for non-completion were not reported. There is an urgent need for large well-designed trials in this area.

PLAIN LANGUAGE SUMMARY

Outpatient psychotherapy for anorexic adults

This review aimed to assess evidence about the effects of outpatient psychotherapy on older adolescents and adults with anorexia nervosa. Although anorexia nervosa is a severe and disabling disorder, only seven trials were found. The trials used different types of psychotherapy. It was not possible to make firm conclusions about the therapies tested. Participants who did not receive psychotherapy (e.g. were in a waiting-list control group or who got 'treatment as usual') did poorly. In one study, all those in the control group who got only 'dietary advice' dropped out. There is an urgent need for multi-centre, large randomized controlled trials of commonly used psychotherapies in older adolescents and adults with anorexia nervosa.

BACKGROUND

Accounts of anorexia nervosa like syndromes date to the medieval fasting women saints, but definitive clinical descriptions did not appear until the 1870's, when the British physician William Gull (Gull 1874), and the French physician Henri Laseque (Lasegue 1873) provided detailed accounts of a condition whose essential features have remained unchanged to this day. Patients 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 fourth edition of the American Psychiatric Association Diagnostic and Statistical Manual (DSM-IV) (APA 1994, see Additional Table 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 (Herzog 1997, Crisp 1992). Point prevalence is no more than 0.5% of the female population over 15 years of age, and it may be considerably less (Verhulst 1997, Aalto-Setala 2001). A systematic review of 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 1970 (Hoek 2003). Anorexia nervosa is up to ten times as common in women as in men, and is most common in young women (Hoek 2003, Lucas 1991, Pawluck 1998).

The principal aims of treatment in anorexia nervosa are the restoration of the patient'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 co-morbidity, improvement in quality of life and the identification, and hopeful resolution, of the contributing family and personal problems (Garner 1997 b). Thus treatment is complex and there is widespread agreement that multi-dimensional, multi-disciplinary treatment approaches are needed for the effective treatment of anorexia nervosa (APA 1994, Garner 1997 b). Treatment usually needs to be multi-dimensional 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 psychotherapies). Treatment is usually multi-disciplinary in the sense that the services of psychiatrists, primary care physicians, psychologists, registered dietitians, nurses, and social workers may all be employed in a comprehensive, coordinated manner. Medical care is most instances likely to be provided by family doctors or physicians, and nutritional counseling by dieticians. Psychotherapy may be provided by a clinician from any one of the other disciplines, but many dieticians also train as psychotherapists.

While evidence is as yet insufficient to support out-patient versus in-patient programmes (Meads 1999), the treatment of anorexia nervosa has moved clinically from long term in-patient programmes with outpatient follow up, to a more common model of outpatient care with hospital backup (Garner 1997 a). A number of psychotherapeutic approaches may be used in the out-patient 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 or group sessions, and family therapy is more usual for children and adolescents. Detailed accounts are found in Garner 1997 b.

It is not known which, if any, treatment approaches are most commonly used clinically world-wide in older adolescents and adults with anorexia nervosa. It is likely that use is influenced by factors such as availability of training and ongoing supervision for therapists, and health resource issues for consumers and providers that are outside the scope of this review. The following is an overview of therapies that have received most academic attention in anorexia nervosa and other eating disorders.

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 as being through developing an understanding of the meaning of food for the patient, 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 accessible or 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 1997 a).

Dare and colleagues (Dare 1995) have developed focal psychoanalytic therapy (FPT) as a standardised form of time-limited psychoanalytic therapy that may 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 patient'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 patient's relationship with the therapist.

Cognitive-behaviour and cognitive therapy (CBT & CT) are time-limited manual-based therapies that address abnormal cognitions (beliefs) and behaviours that are thought to promote and maintain the disorder. They are commonly used in other eating disorders such as bulimia nervosa. Garner 1997 c described CBT for anorexia nervosa as a therapy that addresses the patient's set of beliefs, attitudes and assumptions about the meaning of body weight, thinness being held as the principal construct for self-worth, and weight gain being feared. Combinations of positive and negative reinforcers maintain the patient's behaviour and help explain the ego-syntonic nature of the illness. Strategies are proposed that challenge these beliefs and behaviours to normalize eating patterns are promoted. More recently, Fairburn and colleagues have proposed that cognitive therapy should focus on the excessive need for self-control over weight and shape (Fairburn 1999). A further variation, sometimes used as a comparison therapy, is behaviour therapy (BT) which applies behavioural strategies only such as keeping a diary of eating patterns, exposure to "normal" eating and techniques to help distract from extreme weight control behaviours such as vomiting. The highly structured and manualised nature of CBT or BT render them amenable to empirical evaluation and dissemination.

Cognitive-analytic therapy (CAT) is a treatment that combines elements of CT 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.

Feminist therapy rests on the proposition that cultural construc-

tions of gender are central to the understanding and treatment of eating disorders. Katzman 1997, Striegel-Moore 1995, and Wooley 1995 are key figures in the integration of feminist and transcultural approaches to eating disorders. Other descriptions are found in Dolan 1994. There are no randomised controlled trials evaluating its approach, but addressing feminist issues in therapy has 'face validity' for a disorder in which 90% of sufferers are women with body image concerns.

Interpersonal psychotherapy (IPT) was first developed to treat depression, and later modified to treat bulimia nervosa (Fairburn 1991). Like CBT, it is a manual based therapy and thus readily amenable to empirical evaluation. In 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 form 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 common its use by therapists has become.

Treasure 1995, Vitousek 1998 and Ward 1996 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 'pre-contemplation' 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 third 'action' stage are actively engaged in overcoming their problem while people in 'maintenance' work to prevent relapse. The aim of MET is to help patients move from earlier stages into 'action' utilising cognitive and emotional strategies. For example with pre-contemplators, 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 following structured assessment, most of the time is devoted to explaining feedback to the client. Later in MET, attention is devoted to developing and consolidating a change plan. (See: Prochaska 1992 and http://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 in anorexia nervosa where there is often strong resistance to change. As an approach, it would arguably be a useful adjunct to other specific therapies, but is as yet unsupported by evidence.

Most recently Fairburn and colleagues have developed a 'transdiagnostic' form of CBT for all eating disorders which extends CBT to include therapy modules addressing putative maintaining factors namely (poor) interpersonal function, (low) self-esteem, (high) perfectionism and mood intolerance (Fairburn 2003). This therapy is conducted over 40 sessions for low-weight participants with anorexia nervosa.

Much has been written about theoretical models for these and other therapies, but empirical evaluation of treatments is limited (Treasure 2002). This review aims to evaluate the efficacy of outpatient psychotherapies appropriate for the treatment of older adolescents and adults with anorexia, comparing these with pharmacotherapies and with combination therapies. The evidence for inpatient versus outpatient approaches, pharmacotherapy, family and other psychotherapies appropriate to children and adolescents with anorexia nervosa is to be addressed in other reviews, and is beyond the scope of the present review. It is timely to address treatments in older adolescents and adults because of the reported rise in incidence in anorexia nervosa in such young women, the severe morbidity from the condition and the increased used 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 patients, 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.

OBJECTIVES

To evaluate the evidence from randomised controlled trials for the efficacy of outpatient psychotherapies used in the treatment of older adolescents and adults with anorexia nervosa.

Specific comparisons will be made with the following comparative or control treatments.

Treatment as usual versus:

Individual psychotherapies (time-limited)

Interpersonal psychotherapy (IPT)

Cognitive-analytic therapy (CAT)

Cognitive behavioural therapy (CBT).

Dietary advice versus:

Individual time-limited psychotherapies

IPT

CAT

CBT.

'Control' psychotherapy versus:

IPT

CAT

CBT.

Waiting list versus:

IPT

CAT

CBT.

In addition specific individual psychotherapy comparisons will be made of:

CBT versus time-limited individual psychodynamic therapies

CBT versus IPT

CBT versus CAT

Individual psychotherapy versus a pharmacological therapy

Combinations of pharmacological therapy and individual psychotherapy versus either drug therapy or psychotherapy alone.

METHODS

Criteria for considering studies for this review

Types of studies

All randomised controlled trials (RCTs) that have evaluated any form of individual psychotherapy for outpatients with anorexia nervosa were included.
For the 2006 update of the review, it was decided that studies with >50% non completion rates would be excluded.

Types of participants

Anorexia nervosa (DSM-III, DSM-III-R, DSM-IV diagnostic criteria (APA 1994); ICD-10 (WHO 1992); Russell 1970 (Russell 1970)
Other criteria:
People of either gender
Older adolescents and adults (aged > 16 years)
Recruited from the community (e.g. volunteers from newspaper advertisements) or primary, secondary or tertiary clinical units
Treated in primary, secondary or tertiary sectors
The country and/or any specific cultural aspects of the treatment setting will be documented in review data collection.

Types of interventions

Any outpatient-based psychological therapy, specifically CBT, BT, IPT, psycho-dynamic psychotherapy, motivational enhancement therapy, feminist therapy, their combinations and/or variants and any other individual psychotherapies.
The focus of this review was the active treatment of anorexia nervosa, with restoration of weight as one of the primary outcomes, and studies of psychotherapy in relapse prevention were thereby not included.

Types of outcome measures

Primary outcome
Weight restoration to within the normal weight range (e.g. body mass index, BMI, at least)
Weight, mean BMI (weight in kg/height in metres, squared) at end of treatment where groups were not significantly different in mean BMI at start of treatment. (In the meta-view graph where SMD is >0 the active treatment is favoured. This differs from the convention of SMD<0 favouring treatment).
Secondary outcomes
Recovery according to the Morgan 1975 narrow scale of:
1. a good outcome, namely normal body weight (>85% of average for age, gender and height) with normal menstruation or
2. intermediate outcome, namely normal body weight (>85% of average for age, gender and height) with no menstruation. (In the meta-view graphs this is depicted as those in a category <2 so that RR<1 favours the active treatment)
Recovery according to the Morgan 1988 broader scale ratings of average outcome (where SMD is >0 in the meta-view graph, the active treatment is favoured, which differs from the convention of SMD<0 favouring treatment)
Mean eating disorder symptom scores, as measured by any recognised and validated questionnaire or interview
Proportion of study "drop-outs" or non-completers for any reason
Proportion of study "drop-outs" or non-completers due to an adverse event or experience
Patient satisfaction ratings
Level of side effects or negative effects of therapy
General psychiatric symptomatology, as measured by any recognised and validated questionnaire or interview
Level of depression, as measured by any recognised and validated questionnaire or interview
Level of interpersonal function, as measured by any recognised and validated questionnaire or interview.

Search methods for identification of studies

1. Electronic database searches
The CCDAN registers were searched using the following terms
CCDANCTR-Studies (searched on 12/2/2008)
Diagnosis = Anorexia or "Eating Disorder*"

and
Intervention = *therapy or counselling or educat*)
CCDANCTR-References (searched on 12/2/2008)
Keyword = "Anorexia Nervosa" or "Eating Disorder*"
and
Free-text = *therap* or treatment or intervention* or counsel* or *educat* or training
Supplementary searches include;
MEDLINE search since 1966
EXTRAMED search using terms as in the MEDLINE search
EMBASE search using terms as in the MEDLINE search
PSYCLIT search using terms as in the MEDLINE search
CURRENT CONTENTS search using terms as in the MEDLINE search
Search in Cochrane Collaboration Controlled Trials Register (CCCTR: The Cochrane Library, 1997 Internet version)

Date of the first search date was November 2002. An updating search of MEDLINE and CCDANCTR was conducted in December 2005. An updating search of MEDLINE, SCOPUS, PSYCHINFO, and CCDANCTR was conducted in December 2007.

2. Handsearches

Handsearch of The International Journal of Eating Disorders since its first issue (conducted by PJH), updated to December 2005.

3. Reference lists

The reference lists of all papers selected were inspected for further relevant trials.

4. Personal communication

Personal letters were sent to identified notable researchers published in the area of treatments in anorexia nervosa, in the US, UK, Europe, NZ and Australia, requesting information on trials that were unpublished or in progress.

Data collection and analysis

1. Selection of studies

Studies were selected by authors (PH, AC, for the 2006 update by PH and RB, and for the 2008 update by AE and PH) based on 1. inspection of abstracts and 2. reading full articles. If the abstract indicated that it was a trial of therapy for anorexia nervosa, the full article was reviewed to determine, firstly, if the trial was randomised and secondly, if it was a trial of psychotherapy for adults and older adolescents with anorexia nervosa. Each author made this evaluation independently and then these ratings were discussed to reach consensus between authors.

2. Data extraction

Trials were evaluated for data extraction by two review authors independently. Data were entered into a spreadsheet programme, and into the Review Manager software programme.
Data were extracted on:
2.1 whether objectives and specification of main outcomes were determined a priori
2.2 the sample size per group
2.3 the duration of treatment (weeks) and duration of follow-up (months)
2.4 whether a power calculation was reported
2.5 the method of allocation
2.6 the concealment of randomization (this refers to protecting details on how the allocation code from those involved in patient recruitment)
2.7 whether there was a clear description of treatment (and what the therapy involved)
2.8 the quality of blinding would be rated according to the following scale
2.9 the source of participants, whether this reflected a representative sample
2.10 diagnostic criteria used
2.11 recording of exclusion criteria, number of exclusions and refusals
2.12 demographic information of participants (age, gender etc.)
2.13 information on compliance, treatment integrity adherence, dropouts, and adverse side-effects
2.14 outcome assessments and measures
2.15 outcomes of the randomisation
2.16 what happened to withdrawals in the analyses and how analyses were presented and appropriateness of statistical methods
2.17 whether conclusions appears justified
2.18 whether author interests were declared
2.19 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.

3. Quality assessment of studies

Trials were assessed for their quality using the Quality Rating Scale (QRS) (Moncrieff 2001), a 23-item scale measuring differing aspects of internal and external validity of trials (the items are presented in Additional Table 2). Authorship was not concealed at the point of data collection. Trials were evaluated for quality by two review authors independently and level of agreement tested by the kappa statistic. In addition, an evaluation of whether the trial examined treatment integrity was made. For this update trials were also evaluated according to proposed guidelines for "risk of bias appraisal" in REVMAN v 5.
Authors were contacted personally to provide information not available in the published trial(s), for information needed for subgroup or sensitivity analyses, for quality evaluation of trial(s) and to obtain results of unpublished or partly published trials.

4. Data synthesis

Where additional studies are included in future updates of the review, formal meta-analysis is planned as presented below.

Measurement of treatment effect

Relative risk (RR) analyses using a random effects model were conducted for binary outcome data. The RR was used rather than the odds ratio, as it is a more conservative statistic, and appropriate where the outcome is not a rare event such as death. A RR of <1 indicated an effect in favour of the active treatment when compared with the control treatment.

Standardised mean difference (SMD) analyses were conducted for continuous outcome data to allow for possible heterogeneity in outcome measures.

95% confidence intervals (CI) are reported for both RR and SMD.

Sensitivity analysis

Sensitivity analyses were planned. These are a series of analyses where the results of the meta-analysis are compared with trials included and excluded according to the following criteria:

1. Size of trial - trials with <20 subject in total and/or <10 per group, were removed
2. Allocation concealment gradings - sequential removal of trials graded 0 and 1
3. Not blinded and single-blinded (outcome assessment conducted blind) trials removed sequentially
4. Trials that did not apply an intention-to-treat analysis were removed
5. Trials that did not include a follow-up of at least 6 months were removed
6. Trials that did not assess outcome over more than one domain (namely, physical state, severity of eating disorder attitudes and beliefs, social and/or occupational function, mood or other general psychiatric symptoms) were removed
7. Trials that did not assess treatment integrity were removed
8. Trials that included people younger than 16 years were removed.

Sub-group analysis

Where possible the following subgroup analyses were planned:

1. The treatment setting: primary, secondary, tertiary
2. Frequency of therapy: less than weekly, weekly average, more than weekly
3. Duration of psychotherapy: brief (< ten weeks), medium term (11-20 weeks), long term (>20 weeks).

Heterogeneity

Chi-square tests for homogeneity were done at the 5% level of significance and the I-square statistic (>50%). If significant heterogeneity was found, trials of smallest size were removed sequentially in a sensitivity analysis to reach p>0.05 on the test.

Publication bias

Funnel plots were conducted to investigate the possibility of publication bias.

RESULTS

Description of studies

See: Characteristics of included studies; Characteristics of excluded studies.

A total of 5512 studies, including papers and abstracts, on therapy for patients with anorexia nervosa were identified from the search, 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. Forty-six of these studies were fully published randomised controlled trials. Forty trials were excluded. Most of the excluded studies compared in-patient psychotherapy, inpatient pharmacological therapy, family therapy and one study focused on a single subject. Characteristic of these studies and reasons for exclusion from analysis are displayed in the Table of Excluded studies. Trials of comparisons of solely an individual psychotherapy versus a family therapy were not included in this review. It is anticipated they will be included in the planned review of family therapy trials in anorexia nervosa by Treasure and colleagues (personal communication).

The updated search (2002 to December 2005) identified 4539 studies in the MEDLINE search and 58 in the CCDANCTR search, from which one new trial was identified for inclusion (McIntosh 2005) and one was excluded (Ball 2004). Three trials identified from the MEDLINE search were excluded (Halmi 2005, Kong 2005, Pike 2003). A total of seven studies were identified (see Table of Included Studies) that were pertinent to the inclusion criteria in this review.

Dare 2001 conducted a RCT of three "active" outpatient treatments compared to "routine" outpatient treatment in 84 adults with anorexia nervosa (DSM-IV criteria) presenting sequentially to the specialist outpatient service. Participants were randomly allocated to focal psychoanalytic psychotherapy (FPT), cognitive-analytic therapy (CAT), family therapy (FT) and low contact routine care from a supervised psychiatry trainee. All were conducted over one year except the CAT which was over 20 weekly sessions followed by less frequent 'booster' sessions over three months.

Channon 1989 compared 'CBT' with a cognitive focus to BT (diary keeping and exposure) and standard "eclectic" therapy in 24 of 34 outpatients referred to a specialist service. Treatments comprised 18 intensive sessions over six months with 6 booster sessions over 6 months follow-up. Mean ages ranged from 21.6 to 25.75 years. Overall participants in all treatment groups improved.

Serfaty 1999 compared a form of cognitive and behavioural therapy (CBT) over 20 weekly sessions with dietary advice in 35 patients "followed" to 6 months (see note about end of treatment and follow-up in the Table of Included Studies). On post-randomisation group comparisons, those in the dietary counselling alone group had significantly shorter duration of illness (2.2 years SD 4.5 vs 5 years SD 5.5, p=0.048). The small numbers randomised may have contributed to this difference and it was likely that the study was under-powered. All patients in the dietary advice groups

dropped out within 3 months of commencing treatment. CBT subjects showed significant improvements in eating disorder and depressive symptom severity, and body mass index.

Bachar 1999 reported a comparison of self-psychology treatment and cognitive-orientation treatment (COT) for 25 participants with bulimia nervosa and eight late adolescent (mean age 18.1 years, SD 2.4) anorexia nervosa patients. The small number of participants with anorexia nervosa severely limits conclusions about them in this trial. All were specialist referrals and all participants with anorexia nervosa had nutritional counseling (weekly for 3 months and then bimonthly for 3 months) in addition to the specific psychotherapy. Therapists were supervised and treatment was conducted over one year in weekly 50-minute sessions. Five of the six treated with self-psychology responded successfully (remission defined as BMI > 17.5 and menses resumed), but neither of the two treated with cognitive-orientation therapy remitted after 6 months of therapy.

Treasure 1995 compared two forms of outpatient treatment, educational behaviour treatment (EBT) and cognitive analytical therapy (CAT) for adults with anorexia nervosa. Information from the author (Treasure, personal communication) was that the CAT in Dare 2001 was the same or closely similar to the CAT in Treasure 1995 and EBT was similar to treatment as usual in Dare 2001. Thirty patients were randomly allocated to the two treatments. At one year, the group had gained 6.8kg and 19 (63%) had a good or intermediate recovery in terms of nutritional outcome. The group given CAT reported significantly greater subjective improvement, but there were no between group differences reported in other outcome parameters. End of treatment data were not reported. Therapists were supervised and treatment was conducted over 20 weekly 50-minute sessions.

Bergh 2002 conducted an RCT of a treatment for 19 outpatients with anorexia nervosa and 13 with bulimia nervosa from 47 treatment referrals. The median age of the 19 anorexia nervosa patients was 16 years. The treatment approach was predominantly nutritional and behavioural and incorporated computer supported feedback to participants on satiety ratings. It was the most intensive of therapist and participant time. Short-term weight gain goals of at least 2 kg were negotiated with each participant, and then re-negotiated 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 until they were trained to eat progressively, more until they ingested 350g each 10-15 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 two other daily meals (with supplements) and between meal snacks provided in the programme. Short-term social and occupational goals were set and modified each second week. Treatment continued for a median of 14.4 months (range 4.9-26.5 months).

Pre-treatment comparative data for active and control groups is presented together in the report with a text comment that the groups were similar with regard to baseline characteristics. Duration in the waiting-list control group was variable (7.1-21.6 months). Cisapride was administered to seven anorexia nervosa patients. Four patients were treated as inpatients.

McIntosh 2005 have reported the results of their trial of 56 women (aged 17-40 years) with anorexia nervosa broadly defined (BMI 15.5 to 19 kg/m2), who were randomised to CBT, IPT or a control treatment of specialist supportive care, termed nonspecific clinician management (NSCM). CBT included self-monitoring and homework, assessment of motivation for engage 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 psychoeducational material. Phase 3 prepared the patient for termination and included relapse prevention strategies. IPT was based on the model developed both for depression and bulimia nervosa, and used the patient's presentation of eating disorder symptoms to facilitate work on the agreed interpersonal problem. NSCM included psychoeducation, "care" and supportive psychotherapy, with focus on resumption of normal eating and weight gain, strategies for weight maintenance, information about energy requirements and re-learning 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 one hour manual-based sessions over a minimum of 20 weeks.

Risk of bias in included studies

Because there were so few trials, levels of agreement on quality of trials and data extraction were not tested statistically. All data related to quality assessment and outcome were extracted by two review authors, who then reached consensus on final ratings.

All studies were described as randomised and duration of treatment ranged from between 20 weeks (McIntosh 2005), 5 months (Serfaty 1999) to over one year. Most studies had a reported follow-up period of at least one year except for Dare 2001, Serfaty 1999 and McIntosh 2005. Only one study (McIntosh 2005) had a clear blind outcome evaluation. Intention to treat (ITT) analyses were done in most of the studies except for Bachar 1999. Three studies were graded as "A" according to the methodological quality assessment criteria for allocation concealment, and the remaining three trials were graded as "B". All had <50 participants in each treatment arm, and two (Bergh 2002, Bachar 1999) had <10 participants in a treatment arm. A power calculation was reported in two trials (Serfaty 1999, Bergh 2002).

Two studies included an unspecified number of children or younger adolescents (Bergh 2002, Bachar 1999) (in the former study, 50% of the 19 participants were below 16 years.) Most

study participants were women or included a very small number of men (eg two). Serfaty 1999 included seven participants whose weight technically put them outside diagnostic criteria for anorexia nervosa. McIntosh 2005 also included women with lenient BMI criteria and did not require participants to have amenorrhoea, limiting the generalisability of this trial. One study failed to report exclusion criteria or numbers excluded (Serfaty 1999), and only four studies reported both (Bachar 1999, Treasure 1995, Bergh 2002, McIntosh 2005). Except for the McIntosh 2005 trial, where the exclusion rate was calculated, the percentage of exclusion rates were not high. In the McIntosh 2005 trial, only 78 of 135 (58%) of screened individuals were included, and exclusion criteria comprised a number of co-morbidities common in anorexia nervosa patients, namely current severe major depression, psychoactive substance dependence and major medical illness. In addition, those deemed to have a chronic refractory illness were also excluded. Four trials described full demographic data (Bergh 2002, Bachar 1999, Dare 2001, Serfaty 1999), and the remainder gave basic details. No trial gave details on side-effects.

All studies reported the number of withdrawals and two gave reasons for non-completion (Dare 2001, McIntosh 2005). All described outcome measures clearly and/or used validated instruments. All but two trials (Bergh 2002, Bachar 1999) gave sufficient information on comparability of groups after randomisation and/or adjusted for differences in analyses. The presentation of results was inadequate for later data aggregation in most trials. Three trials were judged to have "mainly appropriate" statistics and three had appropriate and comprehensive statistical analyses. Conclusions were judged justified in two trials and only partially in five (mainly because of their failure to take account of their small size). Six trials acknowledged support and/or declared interests.

Overall Quality Rating Scale (QRS) scores for the included trials ranged from 21 to 35, with a median of 27, and a maximum score of 44 achieved. Risk of bias was present in all but one trial (McIntosh 2005) in most instances because of lack of blinded outcome assessment.

Effects of interventions

There were insufficient trials for any meta-analysis, and all analyses in Metaview refer to single trials.

Results for specific comparisons

1. Treatment as usual versus Individual psychotherapies (time-limited) or IPT or CAT or CBT

While no formal aggregation of data was attempted, CAT was evaluated in two trials (Dare 2001, Treasure 1995) and compared with a "routine treatment" and EBT. Personal communication from the authors indicated that the control therapies were similar. The results from both studies was consistent, namely that CAT was favoured over the control therapies.

In the trial by Dare 2001, the only data that could be extracted was recovery on Morgan and Russell categories. The relative risk (RR) was significantly in favour of focal time-limited psychotherapy (FPT) versus treatment as usual (RR 0.70, 95% CI 0.51 to 0.97), but just failed to reach significance for CAT versus treatment as usual (RR 0.77, 95% CI 0.58 to1.01). Of the 84 participants randomised, 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 treatment as usual (RR 0.72, 95% CI 0.23 to 2.31), or between CAT versus treatment as usual (RR 1.30, 95% CI 0.56 to 2.97). Fifty-four out of 84 (64%) participants completed treatment. 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 relative risk (RR) was not significantly in favour of either therapy (RR 1.20, 95% CI 0.69 to 2.11). Data on mean BMI at 12 months were not significantly in favour of CAT (SMD -0.41, 95%CI -1.13 to 0.32) and data on average Morgan and Russell scores at 12 months follow-up were also not significantly in favour of CAT (SMD -0.32, 95% CI-1.04 to 0.40). Ten participants (33%) did not complete treatment. There were no differences in the numbers of participants not completing treatment (RR 0.86, 95%CI 0.53 to 1.45). The outcome was categorised as 'poor' in 11 participants (37%).

2. A 'Control' Psychotherapy versus IPT, CAT or CBT

Dare 2001also compared CAT to an individual focal psychotherapy. The only data that could be extracted was recovery on Morgan and Russell categories. The relative risk (RR) was not significantly in favour of either treatment (RR 1.09, 95% CI 0.73 to 1.62). There were no differences in the number of participants not completing treatment (RR 0.96, 95% CI 0.47 tto 1.93.

Channon 1989 found no differences in the number of participants not completing treatment between CBT and "eclectic" therapy (RR 0.20, 95% CI 0.01 to 3.61). In addition, there were no differences in the numbers of participants not completing treatment between CBT and BT alone (RR 0.33, 95% CI 0.016 to 7.14). Only three patients did not complete therapy. Data could not be extracted for other outcomes.

McIntosh 2005 found that CBT was associated with a greater number of people rated as significantly improved (1 or 2 on their global scale) than those in the IPT group (RR 0.76, 95% CI 0.54 to 1.06), and EDE Restraint subscale scores (SMD -0.74, 95% CI-1.38 to -0.09) also favoured CBT, but differences were not significant for weight, Global Assessment of Function (GAF) scores or Hamilton Depression Rating Scale (HDRS) scores. In addition, CBT was not associated with a greater number of people rated as significantly improved (1 or 2 on their global scale) than those in the NSCM group, or with lower EDE Restraint subscale scores, greater weight, greater GAF or lower HDRS scores. NSCM was ssignificantlyfavoured over IPT for improved global outcome, EDE Restraint scores and GAF scores, but not for weight or HDRS scores. There were no significant differences in the number of

people not completing treatment in the three arms (7/19 in the CBT arm, 9/21 in the IPT arm and 5/16 in the NSCM arm respectively).

3. Dietary advice versus Individual time-limited psychotherapies and/or IPT, CAT or CBT

In the trial by Serfaty 1999 the only data that could be extracted was mean BMI at end of treatment. A higher mean BMI in those who received CBT versus dietary advice just failed to reach significance (SMD 0.71, 95%CI -0.05 to 1.46). However, not all participants who received dietary advice completed treatment (RR 0.08, 95% CI 0.02 to 0.30). The mean BMI in those receiving CBT at end of treatment was not yet in a normal range (being <18). Two of the 25 participants allocated to CBT did not complete therapy.

4. A Waiting List condition versus IPT, CAT or CBT

There were no studies done of these comparisons.

There were no studies identified comparing CBT to specific time-limited individual psychodynamic therapies, CBT to IPT, CBT to CAT, individual psychotherapy to a pharmacological therapy, and combination of pharmacological therapy and individual psychotherapy to drug therapy or psychotherapy alone.

Miscellaneous studies

Data that could be extracted from the Bachar 1999 trial were the number of participants with a good outcome (BMI>17.5 and return of menstruation). The relative risk was significantly in favour of SPT versus COT (5 of 6 versus none of 2 participants; RR 0.29, 95% CI 0.09 to 0.92). There were no differences in the number of participants not completing treatment (RR 0.21, 95% CI 0.03 to 1.43). Five of 13 participants did not complete treatment.

In the trial by Bergh 2002, ten of 11 patients in the treatment group were in remission after a median of 14.4 months of treatment, and none of the eight patients in the delayed treatment control group went into remission during 21.6 month observation period (RR 15.75, 95%CI 1.06 to 234.88).

DISCUSSION

Notwithstanding that the present review excluded trials that compared individual psychotherapies to family therapy, the topic of another review (Treasure and colleagues, personal communication), only seven RCTs that specifically evaluated individual psychotherapies for the treatment of older adolescents and adults with anorexia nervosa were identified. These were of variable quality. The median size of trials was very small, namely 27 (range 13-84), thus power was a major problem for all trials. Bias was possible in the trials due to lack of blind outcome assessments (all but one trial), and unclear allocation concealment in three trials. Two trials (Bachar 1999, Bergh 2002) included children or adolescents, limiting their generalisability to older adolescents and adults with anorexia nervosa.

Strengths of the trials were that integrity of therapy was tested in three trials, using written or recorded materials. Follow-up was less frequent than desirable (in 3 trials only), but intention-to-treat analyses were done in all but one trial. Some of the trials reviewed did not describe the end-of-treatment of final outcomes clearly. One study (Treasure 1995) did not provide 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.

Because of the small number and size of trials and risk of bias, conclusions are necessarily cautious and severely limited. In addition, statistical power was probably insufficient to demonstrate significant differences in comparisons of individual psychotherapies. Overall, most trials reported that some subjects showed improvement after treatment but the numbers of those having a good outcome was both variably defined or not defined at all. In the largest trial (Dare 2001) over half of the participants had a poor outcome. Only one trial (Bergh 2002) had 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.

Specific psychotherapies, CAT or FPT, were favoured over treatment as usual or a similar therapy in two trials (Dare 2001,Treasure 1995). However, in Dare 2001only 11 of the 43 participants (26%) allocated to a specific therapy (FPT or CAT) met Morgan and Russell criteria for weight recovery and 18 of the 43 participants (42%) did not complete treatment. In one trial, a non-specific therapy, NSCM, (McIntosh 2005) was favoured over CBT and IPT. However, the advantage was greater for the clinician support versus IPT. In addition, clinician support was delivered by therapists with eating disorder expertise, and incorporated some CBT elements such as psycho-education and normalisation of eating. CBT also was favoured over IPT. The study was also relatively short, and one conclusion may be that a supportive approach, that focuses on nutritional counselling and weight restoration is most effective in the first months of treatment. Thirty-nine of the 56 participants (70%) were still not recovered at end of treatment, indicating treatment was incomplete for many.

In one study, CBT appeared more acceptable than dietary advice alone, the latter having a 100% non-completion rate (Serfaty 1999). There was little difference between cognitive behaviour therapy (CBT) and behavioural therapy (BT) in Channon 1989. However, subjects were reported to be more compliant with CBT, as they had missed significantly fewer treatment sessions. Bachar 1999 found self-psychology therapy (SPT) was associated with a significantly better outcome than cognitive-orientation therapy (COT), but there were only eight participants. 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 vicarious participant, therapist style and other effects. Lastly, studies with end-of-treatment and follow-up data reported that effects were maintained at 12 months (Bachar 1999 and Channon 1989).

The findings in this review are of concern. Anorexia nenervos is not a new disorder, and while not very common, it is not rare, and sufferers have severe morbidity and a relatively high mortality. A wide range of very different and new therapeutic approaches have been proposed for the treatment of anorexia nervosa, and empirical research is urgently needed to help guide the practicing clinician.

AUTHORS' CONCLUSIONS

Implications for practice

This review suggests that no treatment and treatment as usual or similar regimens may be less efficacious than a specific psychotherapy. With one exception, little difference was shown between specific psychotherapies. 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 treatment as usual performed less well than specific therapies or why dietary advice alone appeared so unacceptable, because the reasons for non-completion were not reported. Because of the risk of bais and severe limitations of studies, most notably small sample sizes and insufficient replication of findings, no specific approach can be recommended from this review.

Implications for research

The current findings were based on a small number of small trials, and aggregation of data was not possible. Larger trials are necessary to further test specific approaches such as IPT, CBT, CAT or psychodynamic therapies in comparison to each other and to control therapies. It is desirable that future trials apply consistent outcome assessments (eg the Morgan and Russell categories) and measure outcomes at similar time-points (namely end of treatment and at one year follow-up).

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* *Indicates the major publication for the study*

CHARACTERISTICS OF STUDIES

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

Bachar 1999

Methods	Randomized controlled trial (RCT), duration of treatment was for a year, followed by one year of follow-up. Treatment integrity was done by written or recorded sessions, blinding of outcome evaluation was unclear, ITT was not included
Participants	13 female patients with anorexia nervosa (DSM-IV) Mean age 18.1 years (SD 2.4). 5% of those screened were excluded
Interventions	Self psychological treatment vs cognitive orientation. Both groups had nutritional counselling
Outcomes	DSM Symptomatology Scare, Eating Attitudes Test (EAT 26), Global Severity Index (GSI) and Selves Questionnaire
Notes	Blinding of the outcome unclear, allocation of concealment not mentioned and specific outcome data was not avalable for anorexia nervosa participants Sequence Genereation: The bulimia group was divided into the control, self psychotherapy and cognitive orientation therapy groups, and the anorexia group was divided into the COT and SPT group such that both intervention groups had 17 people and the control group had 10 people: "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 sequence was adequately generated Incomplete Outcome Data: Specific outcome data was not made available for anorexia (only mentioned for bulimia). There was no explanation given as to why. Numbers were given for drop-outs, but no explanations: "Finally, one of the inherent problems with treatment studies is dropout. We know that the dropouts in the present study did not differ on any of the sociodemographic data or on the baseline of any of the outcome measures. But we do not know whether they have gone elsewhere for therapy or whether they differed on a crucial and yet unquantifiable measure of willingness to be cured. The dropout rate in our sample was 25%." - incomplete outcome data was not completely addressed Selective Outcome Reporting: Considerable attrition of data, no explanations given for drop-outs. There was also no ITT. Also, as mentioned previously, specific outcome data was omitted for anorexia.There was no reporting of potential conflicts of interest: "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." There was also bias in the selection stradegy in that subjects 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 subjects were selected. There were no inclusion and exclusion criteria for subjects detailed in this paper - the lack of ITT in particular is indicative of selective outcome reporting. Also, the attrition of anorexia data could be indicative of this Risk of bias - present

Risk of bias

Item	Authors' judgement	Description

Bachar 1999 (*Continued*)

Allocation concealment?	Unclear	B - Unclear

Bergh 2002

Methods	RCT of a treatment for 19 anorexia nervosa and 13 bulimia nervosa patients. Randomization by computer generation and allocations were kept in sealed envelopes. No comparative data of treatment outcome is presented for active and control groups in the published paper but this was supplied later by the authors. Cisapride was administered to seven anorexia nervosa patients. Four patients were treated as inpatients for between 8 and 30 days. It was unclear if outcome ratings were blind to group status
Participants	19 patients with anorexia nervosa (DSM-IV). Median age was 16 (range 10-33). 19 of 47 screened (40%) participated
Interventions	The treatment incorporated computer supported feedback to participants on satiety ratings. The approach was predomiantly nutritional and behavioural.Controls were placed on a wait-list of variable duration (7. 1-21.6 months)
Outcomes	Remission (defined as no longer meeting criteria for an eating disorder). Body weight, psychiatric profile and laboratory tests were normal. Patients had to state food and dieting were no longer problems and they were back in school or professional activites
Notes	Data as to the numbers of anorexia nervosa patients assigned to active treatment and control groups (10 and 8 respectively) was provided by the authors Sequence Generation: "We used a computer-generated randomization 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." - the allocation sequence was adequately generated Allocation concealment: "Treatment allocations were kept in numbered sealed envelopes." - allocation was adequately concealed Blinding: It was unclear if outcome ratings were blind to group status. - Treatment allocation was adequately blinded but it was unclear whether outcome ratings were blind to group status Incomplete Outcome Data: No comparative data of traetment outcome is 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 was not adequately addressed Selective Outcome Reporting: Authors did not give comprehensive details on the selection strategy of subjects (specifically the area from which they were picked). Inclusion criteria was given as a reference to the Diagnostic and Statistical Manual of Mental Disorders(DSM)-IV). No comparative data of traetment outcome is 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: - it is possible that there was selective outcome reporting Risk of bias - present

Risk of bias

Item	**Authors' judgement**	**Description**
Allocation concealment?	Yes	A - Adequate

Channon 1989

Methods	Randomized controlled trial (RCT), duration of treatment was 6 months and follow-up was one year. All treatment sessions were audiotaped, outcome evaluation was not blind, ITT by withdrawals followed up and included in analysis
Participants	24 female patients with anorexia nervosa (Russell's 1983 criteria) Mean age 23.84 years. 29% of those screened were excluded
Interventions	Cognitive behavioural therapy vs behavioural therapy vs specialist eclectic therapy
Outcomes	BMI, Morgan and Russell interview and Self report measures of Eating Disorders Inventory (EDI), Beck Depression Inventory (BDI), Maudsley Obsessive- Compulsive Inventory and preferred weight
Notes	Sequence allocation: "Restricted randomisation was made in blocks of six, so that equal numbers of Ss were entered into each group after every six referrals." The sequence allocation was not adequately described Blinding: Outcome evaluation was not blind. No mention of any other blinding Incomplete Outcome Data: "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 drop-out. ITT by withdrawals followed up and included in analysis (information given by authors on request). Incomplete outcome data was adequately addressed Selective Outcome Reporting: Authors gave sufficient detail on where patients came from and the inclusion criteria for subjects in this study which reducing the risk of selective outcome reporting. "The Ss were a series of female outpatients from the Eating Disorders Clinic of the Maudsley Hospital, London, who were referred for the trial during the 15month intake period, and who met Russell's (1983) diagnostic criteria for anorexia nervosa. Patients with 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. Thirty-four patients were referred for an initial assessment, and 24 of these met the admission criteria for the trial." Transparency about sources of support (reduces risk of bias). "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." There is a very small risk of selective outcome reporting in this study Risk of bias - present

Risk of bias

Item	**Authors' judgement**	**Description**
Allocation concealment?	Unclear	B - Unclear

Dare 2001

Methods	Randomized controlled trial (RCT), duration of treatment was for a year, no follow-up reported beyond this, treatment was closely supervised but integrity not formally assessed, outcome evaluation was not blind, ITT by estimation of outcome
Participants	84 (two men) with anorexia nervosa (DSM-IV) Mean age 26.3 years and all >18 years

Dare 2001 (*Continued*)

Interventions	Focal psychoanalytic psychotherapy (1 year) vs cognitive analytic therapy (7 months) vs Family therapy (1 year) vs routine treatment (1 year). 'Routine treatment' was a low-contact management, the usual practice of an eating disorder service in which specialist treatments are not used. Therapist were mid-level trainee psychiatrists who changed rotations each 6 months. Sessions were 30 minutes with weekly supervision over one year. Therapy included psycho-education, supportive encouragement towards a more healthy diet, and regular monitoring of weight and physical state
Outcomes	Morgan and Russell interview and BMI
Notes	The CAT was not 'purely' individual in that it included some contact between parents and/or the partner of the patient, and their relationship to the therapy and patient was a topic of treatment Sequence generation: "A stratified randomization 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: no method of allocation concealment mentioned Blinding: Subjects were blinded to which treatment group they would join, but at follow up the patients experiences of therapy were explored at the end of the interview, so they were no longer blinded (outcome evaluation not blind).: "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 patient's experiences Incomplete outcome data: All outcomes were followed up for 1 year, but only 73% of patients at the beginning were followed-up after one year (with telephone follow up for a further 11%). Researchers were transparent in their reporting of data, especially drop-outs, but did not give explanations for drop-outs. ITT reported by estimation of outcome. - Outcome follow up was incomplete in spite of best efforts Selective outcome reporting: Authors were transparent about numbers but not explanations on drop-outs. There were no reports of potential conflicts of interest. Authors were transparent about power of the study and were also transparent about inclusion and exclusion criteria for subjects (reducing potential for bias: this is written in the "Patients" subheading in the study). The area the patients came from was mentioned ("psychiatric teaching hospital, the Maudsley) - It is possible but unlikely that there was selective outcome reporting Risk of bias - present

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Yes	A - Adequate

McIntosh 2005

Methods	Randomized controlled trial (RCT), duration of treatment was 20 sessions over a minumum of 20 weeks. Treatment integrity was done and sessions were recorded, blinding of outcome evaluation was done, ITT was included (by carrying forward the last observation). Randomisation was computer generated and sealed envelopes were used for allocation concealment. Follow-up is ongoing at 3,6,9,12 months and 2, 3,5 years post-treatment
Participants	56 female patients with anorexia nervosa (DSM-IV criteria) of EDNOS AN (lenient weight BMI 17.5-19, DSM-IV criteria) without amenorrheoa criteria being imposed. Age 17-40 years. 42% of those screened were excluded
Interventions	Cognitive behaviour therapy vs interpersonal psychotherapy vs nonspecific clinical management
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: self-report EDI-2, height, weight, %body fat, EDE subscale scores, GAF (DSM-IV), Hamilton Depression Rating Scale
Notes	Moderately high exclusion rate: 400 inquiries, 135 individuals interviewed, 78 deemed eligible. Treatment relatively short. Nonspecific therapy incorporated CBT elements such as psychoeducation and had focus on nromalising eating. Authors provided further information on design of study Sequence Generation: randomization was computer generated (wrote to author to find out). - allocation sequnce was adequate Allocation concealment: envelopes were used for allocation concealment (wrote to author to find this out) . - Allocation concealment was sufficient Blinding: Blinding of outcome evaluation was done (found out from author). - Knowledge of the allocated interventions were adequately prevented during the study Incomplete outcome data: Outcome data was complete for all subjects who completed the study. There were many few drop-outs, but these all well explained and well accounted for, and ITT analysis was performed by carrying last observation forward. - Incomplete outcome data was properly addressed with ITT and through accountability Selective outcome reporting: 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.) Furthermore there was a considerably high exclusion rate of subjects, suggesting that there is the possibility of selecting subjects with biased judgement. Authors were quite transparent about selection stradegy for patients: "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 (body mass index, <17.5), which was considered to be a strict definition of anorexia nervosa, andthose diagnosed according to a lenient weight criterion (body mass index, 17.5-19.0) (20). Individuals with a body mass index below 14.5 were considered unsuitable for outpatient psychotherapy and were referred for assessment at an inpatient unit. In light of debate as to the necessity of amenorrhea in diagnosing anorexia nervosa (21), amenorrhea 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 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 study received ethical approval from the Southern Regional Ethics Committee, and written informed consent was obtained."

McIntosh 2005 (*Continued*)

	The area where the subjects came from was not mentioned Risk of bias - low

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Yes	A - Adequate

Serfaty 1999

Methods	Randomized controlled trial (RCT), duration of treatment was six months (20 weekly sessions) and no further follow-up was reported, treatment integrity was assessed using audiotaped sessions, outcome evaluation was not blind, ITT by estimation of outcome
Participants	35 (two men) with anorexia nervosa (DSM III-R) over 16 years of age. None of those screened were excluded. Seven participants had a BMI of between 17.5 and 19 thus technically not meeting diagnostic criteria
Interventions	Cognitive therapy vs dietary advice.
Outcomes	BMI, EDI, Dysfunctional Attitudes Scale(DAS), Locus of Control of Behaviour (LCB) and BDI
Notes	Sixth month data reported as "follow-up" is presumed to be end of treatment data. Authors responded to inquiries Sequence Generation: "Using cards randomly placed into sealed envelopes, patients were allocated to one of two groups; dietician control (D) or cognitive therapy (CT)." - Allocation sequence was sufficiently generated Allocation Concealment: Cards which allocated subjects to their random group were placed in envelopes (wrote to authors to get this information. - Allocation was adequately concealed Blinding: Outcome evaluation was not blind, but 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: In the dietary counselling group, all subjects 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 drop-outs: "All the patients 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." - Incomplete outcome data were not sufficiently addressed (could have been followed up by a phone call rather than ITT estimation analysis) Selective Outcome Reporting: Authors were transparent about their selection of subjects strategy suggesting limited bias in outcome reporting:"Participants were drawn from a consecutive group of new patient general practitioner referrals to a new Eating Disorders Service at the Royal Hallamshire Hospital serving a catchment area of approximately 500,000. Although it is possible that a very small number of patients were referred to therapists in the private sector, this practice is extremely rare and there were no other NHS disposal routes for referrals." Inclusion criteria was mentioned: "All patients were eligible for the study, providing they were 16 years old or more and had a DSM-III-R (American Psychiatric Association, 1987) diagnosis of anorexia nervosa."

Serfaty 1999 (*Continued*)

	No follow up reported after the 6 months of treatment. Authors were transparent about numbers and explanations of drop-outs (mentioned in incomplete outcome data). No report of potential conflicts of interest (potential source of bias). - It is possible but unlikely that there has been selective outcome reporting Risk of bias - present

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Yes	A - Adequate

Treasure 1995

Methods	Randomized controlled trial (RCT), duration of treatment was 5 months with one year follow-up, treatment integrity was not done, outcome of evaluation was not blind, ITT by withdrawals followed up and included in analysis
Participants	30 (one man) with anorexia nervosa (ICD-10) All over 18 years in age. 21% of those screened were excluded
Interventions	Educational Behavioural therapy (EDT) vs cognitive analytic therapy (CAT)
Outcomes	Morgan and Russell interview and BMI
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 Sequence Generation: Subjects were randomly number allocated to different treatment groups, but this was matched: "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: No mention of strategies of allocation concealment Blinding: Outcome evaluation was not blind. Apart from this, there was no other mention of the blinding stradegies - Unclear as to blinding to personnel and participants was sufficient but outcome evaluation was not blinded Incomplete outcome data: Authors were transparent about drop-out numbers and explanantions, 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 was properly explained, but unclear if it was accounted for (e.g. through ITT) Selective Outcome Data: Transparency about short comings 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 the selection strategy of subjects 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

Treasure 1995 (*Continued*)

	18 years in age. Patients with a mixed diagnosis of anorexia nervosa and bulimia nervosa were included (see Table 1 for details of how many binged or used the various weight control measures). 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."- It is possible that the has been selective outcome reporting with the lack of detail given on drop-outs (mentioned in the incomplete outcome data section) Risk of bias - present

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Unclear	B - Unclear

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

Study	Reason for exclusion
Andrewes 1996	RCT of computerised psychoeducation, which was not pertinent to the questions in this review
Attia 1998	RCT of fluoxetine treatment, which was not pertinent to the questions in this review
Ball 2004	An RCT of individual CBT versus family therapy, thereby not pertinent to his review but to the review of family therapy. (No differences between groups in this study were found however.)
Bhanji 1980	This is a typology study comparing different types of anorexia, not an intervention study
Biederman 1985	RCT of amitriptyline versus placebo-controlled study, which was not pertinent to the questions in this review
Birmingham 1994	RCT of zinc treatment, which was not pertinent to the questions in this review
Brambilla 2007	RCT of olanzapine therapy + cognitive behaviour therapy vs placebo + cognitive behavior therapy, which was not pertinent to the questions in this review
Brambilla 1995 a	RCT of combined cognitive-behavioural versus antidepressant drugs versus nutritional therapy, which was not pertinent to the questions in this review
Brambilla 1995 b	RCT of combined cognitive-behavioural versus antidepressant drugs versus nutritional therapy, which was not pertinent to the questions in this review
Casper 1987	RCT of clonidine treatment, which was not pertinent to the questions in this review
Crisp 1987	RCT of clomipramine treatment, which was not pertinent to the questions in this review

(*Continued*)

Crisp 1991	RCT of individual and group (both including family therapy) versus inpatient treatment vs 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
Eisler 2000	RCT of two forms of family therapy, which was not pertinent to the questions in this review
Freeman 1992	RCT of day patient programme, which was not pertinent to the questions in this review
Garfinkel 1977	A review used to identify studies. Not an RCT.
Geist 2000	RCT of family therapy versus family group psychoeducation therapy, which was not pertinent to the questions in this review
Goldberg 1979	RCT of cyproheptadine treatment, which was not pertinent to the questions in this review
Goldberg 1980	RCT of cyproheptadine treatment , which was not pertinent to the questions in this review
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
Grinspoon 1996	RCT of human insulin-like growth factor on bone turnover in osteopenic women with aneroxia nervosa, which was not pertinent to the questions this review
Gross 1981	RCT of lithium carbonate treatment, which was not pertinent to the questions in this review
Gross 1983	RCT of tetrahydrocannabinol 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 1975	A trial investigating the effects of behaviour therapy; it did not meet the cirteria for this review because it was not an RCT and it did not compare behaviour therapy to any other interventions investigated in this review
Halmi 1982	RCT of cyproheptadine treatment versus amitriptyline treatment, which was not pertinent to the questions in this review
Halmi 1986	RCT of cyproheptadine treatment versus amitriptyline treatment, which was not pertinent to the questions in this review
Halmi 1998	RCT comparing drug therapy (fluoxetine) to cognitive-behavioural therapy, which is not a comparison pertinent in this review

(*Continued*)

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 60mg) group vs CBT vs combined treatment
Hill 2000	RCT. Pilot study of recombinant human growth hormone treatment, which was not pertinent to the questions in this review
Kaye 2001	RCT Fluoxetine treatment, which was not pertinent to the questions in this review
Kehrer 1975	Not an RCT. Did not compare behaviour therapy to any other form of psychotherapy. Only 8 participants
Klibanski 1995	RCT of estrogen therapy on trabecular bone loss in young women with aneroxia nervosa, which was not pertinent to the questions in 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
Lacey 1980	RCT of clomipramine treatment, which was not pertinent to the questions in this review
Le Grange 1992	RCT of conjoint family therapy versus family therapy, which was not pertinent to the questions in this review
Marazzi 1995	RCT of naltrexone treatment, which was not pertinent to the questions in this review
Munford 1984	Single case study of chemotherapy and behavioural therapy, which was not pertinent to the questions in this review
Pike 2003	An interesting study of cognitive behaviour therapy following hospitalisation and weight gain to within 90% of ideal body weight., but thereby not pertinant 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
Redmond 1976	A letter detailing suggestions for future research into anorexia nervosa. Not an RCT
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 therby not pertinent to the questions in this review
Schmidt 1997	This paper describes the current state of the different psychotherapies and their application and suggests reasons why proper evaluations as to the gold standard treatment have not been made. Not an RCT
Silbert 1971	RCT of periactin treatment, which was not relevant to the questions in this review
Stacher 1993	RCT of Cisapride treatment, which was not relevant to the questions in this review

(*Continued*)

Szmukler 1985	RCT of parental expressed emotion and dropping out treatment, which was not relevant to the questions in this review
Thien 2000	RCT. Pilot study of a graded exercise program, which was not pertinent to the questions in this review
Vandereycken 1977	RCT of CBT vs behavioural family therapy. It was excluded because this review focuses on individual psychotherapy, not family therapy
Vandereycken 1982	RCT of pimozide combined with behavioural therapy, which was not pertinent to the questions in this review
Vandereycken 1984	RCT of neuroleptics treatment, which was not pertinent to the questions in this review
Weizman 1985	A trial (not randomized) investigating the efficacy of pimozide compared to behaviour therapy. Drug therapy was not a intervention investigated in this review; also, RCT were required for this review
Wulliemier 1975	A trial (not randomized) investigating isolation, appetite stimulating drugs and psychotherapy against psychotherpay. It was not included because it is not RCT and one of the interventions included in this study was not of relevance for the review
Wulliemier 1982	This is a retrospective comparative study comparing the "classic" approach (strict isolation, medication and psychotherapy) against the then contemporary method of conditioning and avoidance learning. Neither of these interventions were relevant to this review, and this trial was not randomised, therefore it was excluded
Zhang 1994	Not an RCT. SImply examines the effects of just one type of psychotherapy (cognitive behaviour therapy) and does not compare psychotherapies

DATA AND ANALYSES

Comparison 1. CAT versus individual focal psychotherapy (FPT: Dare et al., 2001).

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
2 N not meeting Morgan & Russell "recovered" or "significantly improved" outcome criteria at 12 months (Rx end).	1	43	Risk Ratio (M-H, Random, 95% CI)	1.09 [0.73, 1.62]
3 N participants not completing treatment for any reason	1	43	Risk Ratio (M-H, Random, 95% CI)	0.95 [0.47, 1.93]

Comparison 2. FPT versus treatment as usual (Dare et al., 2001)

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 N of participants not meeting Morgan and Russell's criteria for "recovered" or "significantly improved".	1	40	Risk Ratio (M-H, Random, 95% CI)	0.70 [0.51, 0.97]
2 N participants not completing the treatment for any reason	1	40	Risk Ratio (M-H, Random, 95% CI)	0.72 [0.23, 2.31]

Comparison 3. CAT versus treatment as usual (Dare et al., 2001)

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 N participants in Morgan & Russell in 'poor' or 'intermediate' categories at 12-months	1	41	Risk Ratio (M-H, Random, 95% CI)	0.77 [0.58, 1.01]
2 N participants not completing the trial for any reason	1	41	Risk Ratio (M-H, Random, 95% CI)	1.30 [0.56, 2.97]

Comparison 4. Dietary advice versus cognitive therapy (Serfaty et al., 1999)

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 N participants not completing treatment for any reason	1	35	Risk Ratio (M-H, Random, 95% CI)	0.10 [0.03, 0.33]
2 Mean BMI at end of treatment	1	35	Std. Mean Difference (IV, Random, 95% CI)	0.71 [-0.05, 1.46]

Comparison 5. Karolinski Institute (Bergh et al., 2002) outpatient treatment versus wait-list control

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Remission defined by normal: body weight, psychology, test results, eating behaviour & social activities.	1	19	Risk Ratio (M-H, Random, 95% CI)	15.75 [1.06, 234.87]

Comparison 6. Educational psychotherapy versus CAT (Treasure et al., 1995)

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 N participants not completing treatment for any reason	1	30	Risk Ratio (M-H, Random, 95% CI)	0.88 [0.53, 1.45]
2 Morgan and Russell 'poor or intermediate' outcomes at one year follow-up.	1	30	Risk Ratio (M-H, Random, 95% CI)	1.20 [0.69, 2.11]
3 Mean BMI at 12 months follow-up	1	30	Std. Mean Difference (IV, Random, 95% CI)	-0.41 [-1.13, 0.32]
4 Average Morgan & Russell scores at 12 months follow-up	1	30	Std. Mean Difference (IV, Random, 95% CI)	-0.32 [-1.04, 0.40]

Comparison 7. Self-psychology versus cognitive orientation therapy (both with nutritional counselling; Bachar et al., 1999)

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 N participants not having a good outcome (BMI > 17.5 and return of menstruation)	1	13	Risk Ratio (M-H, Random, 95% CI)	0.34 [0.12, 0.96]
2 N participants not completing therapy for any reason	1	13	Risk Ratio (M-H, Random, 95% CI)	0.21 [0.03, 1.43]

Comparison 8. Cognitive-behavioural therapy (Channon et al., 1989 & Garner & Bemis, 1982, 1985) versus Behaviour therapy

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 N participants not completing treatment	1	16	Risk Ratio (M-H, Random, 95% CI)	0.33 [0.02, 7.14]

Comparison 9. CBT versus eclectic specialist therapy ("treatment as usual"; Channon et al., 1999)

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 N of participants not completing treatment	1	16	Risk Ratio (M-H, Random, 95% CI)	0.2 [0.01, 3.61]

Comparison 10. CBT versus IPT (McIntosh et al., 2005)

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Global treatment outcome - number rated 3 or 4	1	40	Risk Ratio (M-H, Random, 95% CI)	0.76 [0.54, 1.06]
2 BMI	1	40	Std. Mean Difference (IV, Fixed, 95% CI)	Not estimable
3 EDE restraint	1	40	Std. Mean Difference (IV, Fixed, 95% CI)	-0.74 [-1.38, -0.09]
4 Global ssessment of function (GAF-DSM-IV)	1	40	Std. Mean Difference (IV, Fixed, 95% CI)	0.25 [-0.38, 0.87]
5 Hamilton depression rating scale (HDRS)	1	40	Std. Mean Difference (IV, Fixed, 95% CI)	-0.39 [-1.02, 0.24]

Comparison 11. CBT versus nonspecific clinician support (McIntosh et al., 2005)

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Global treatment outcome-number rated 3 or 4 (poor)	1	35	Risk Ratio (M-H, Random, 95% CI)	1.56 [0.83, 2.95]
2 BMI	1	35	Std. Mean Difference (IV, Fixed, 95% CI)	-0.34 [-1.01, 0.33]
3 EDE restraint	1	35	Std. Mean Difference (IV, Fixed, 95% CI)	0.40 [-0.27, 1.07]
4 GAF	1	35	Std. Mean Difference (IV, Fixed, 95% CI)	-0.63 [-1.31, 0.06]
5 HDRS	1	35	Std. Mean Difference (IV, Fixed, 95% CI)	0.01 [-0.65, 0.68]

Comparison 12. IPT versus nonspecific clinician support (McIntosh et al., 2005)

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Global treatment outcome - number rated 3 or 4	1	37	Risk Ratio (M-H, Random, 95% CI)	2.07 [1.17, 3.67]
2 BMI	1	37	Std. Mean Difference (IV, Fixed, 95% CI)	-0.25 [-0.91, 0.40]
3 EDE restraint	1	37	Std. Mean Difference (IV, Fixed, 95% CI)	1.17 [0.46, 1.88]
4 GAF	1	37	Std. Mean Difference (IV, Fixed, 95% CI)	-0.89 [-1.57, -0.20]
5 HDRS	1	37	Std. Mean Difference (IV, Fixed, 95% CI)	0.42 [-0.24, 1.08]

Analysis 1.2. Comparison 1 CAT versus individual focal psychotherapy (FPT: Dare et al., 2001)., Outcome 2 N not meeting Morgan & Russell "recovered" or "significantly improved" outcome criteria at 12 months (Rx end)..

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 1 CAT versus individual focal psychotherapy (FPT: Dare et al., 2001).

Outcome: 2 N not meeting Morgan % Russell "recovered" or "significantly improved" outcome criteria at 12 months (Rx end).

Study or subgroup	CAT n/N	Focal psychotherapy n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Dare 2001	16/22	14/21		100.0 %	1.09 [0.73, 1.62]
Total (95% CI)	**22**	**21**		**100.0 %**	**1.09 [0.73, 1.62]**

Total events: 16 (CAT), 14 (Focal psychotherapy)

Heterogeneity: not applicable

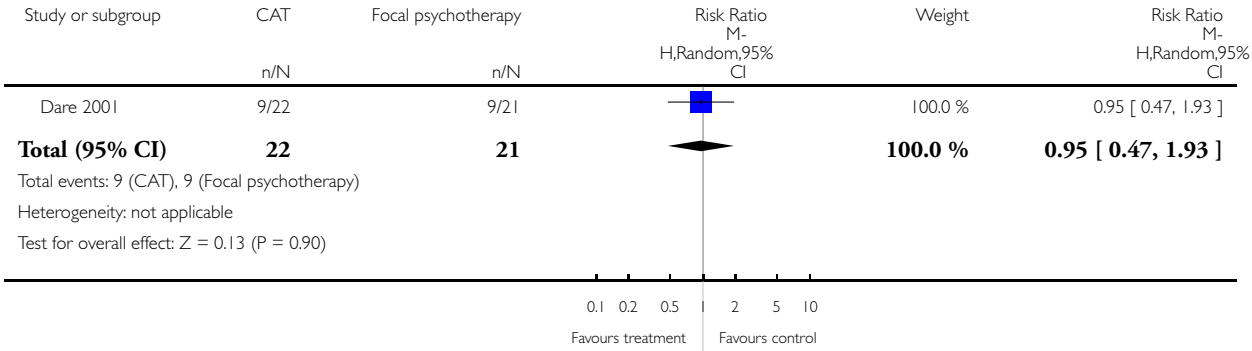
Test for overall effect: Z = 0.43 (P = 0.67)

Analysis 1.3. Comparison 1 CAT versus individual focal psychotherapy (FPT: Dare et al., 2001)., Outcome 3 N participants not completing treatment for any reason.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 1 CAT versus individual focal psychotherapy (FPT: Dare et al., 2001).

Outcome: 3 N participants not completing treatment for any reason

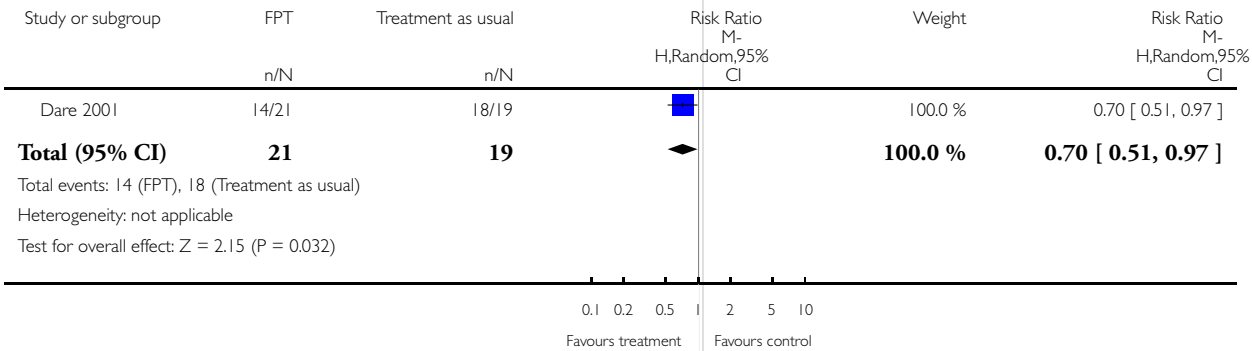


Analysis 2.1. Comparison 2 FPT versus treatment as usual (Dare et al., 2001), Outcome 1 N of participants not meeting Morgan and Russell's criteria for "recovered" or "significantly improved"..

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 2 FPT versus treatment as usual (Dare et al., 2001)

Outcome: 1 N of participants not meeting Morgan and Russell's criteria for "recovered" or "significantly improved".

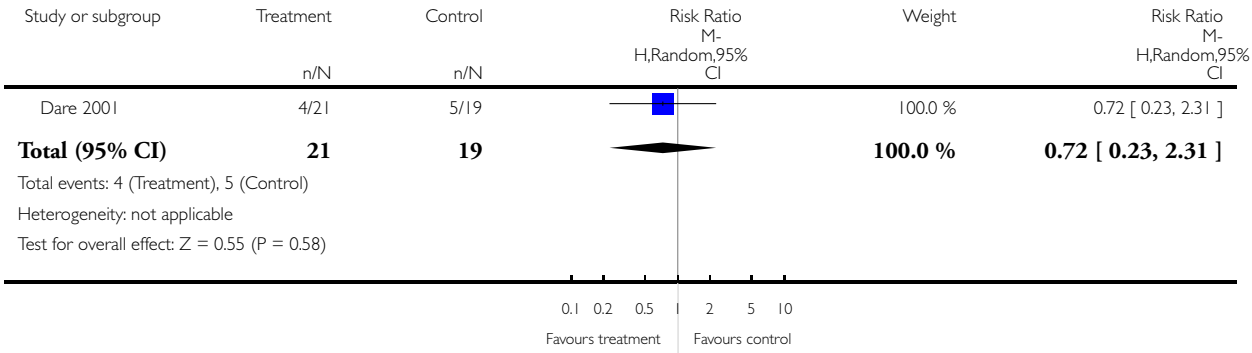


Analysis 2.2. Comparison 2 FPT versus treatment as usual (Dare et al., 2001), Outcome 2 N participants not completing the treatment for any reason.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 2 FPT versus treatment as usual (Dare et al., 2001)

Outcome: 2 N participants not completing the treatment for any reason

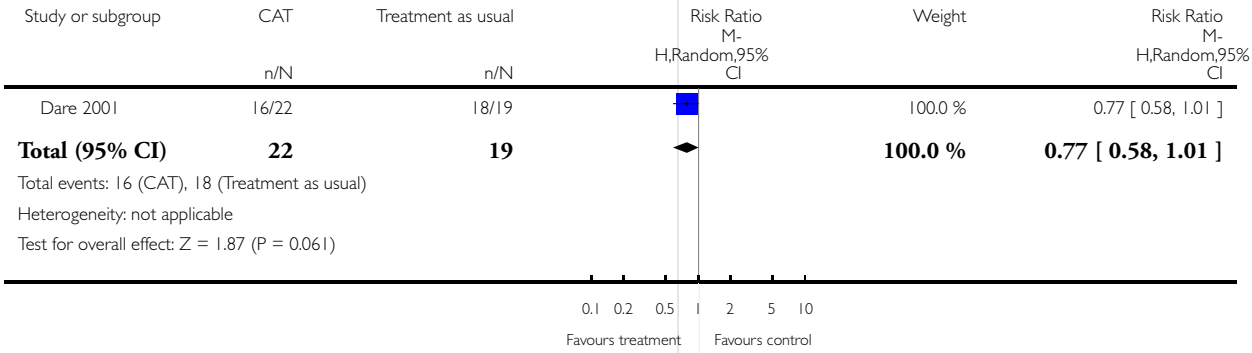


Analysis 3.1. Comparison 3 CAT versus treatment as usual (Dare et al., 2001), Outcome 1 N participants in Morgan & Russell in 'poor' or 'intermediate' categories at 12-months.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 3 CAT versus treatment as usual (Dare et al., 2001)

Outcome: 1 N participants in Morgan % Russell in 'poor' or 'intermediate' categories at 12-months



Analysis 3.2. Comparison 3 CAT versus treatment as usual (Dare et al., 2001), Outcome 2 N participants not completing the trial for any reason.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 3 CAT versus treatment as usual (Dare et al., 2001)

Outcome: 2 N participants not completing the trial for any reason

Study or subgroup	Treatment n/N	Control n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Dare 2001	9/22	6/19		100.0 %	1.30 [0.56, 2.97]
Total (95% CI)	**22**	**19**		**100.0 %**	**1.30 [0.56, 2.97]**
Total events: 9 (Treatment), 6 (Control)					
Heterogeneity: not applicable					
Test for overall effect: Z = 0.61 (P = 0.54)					

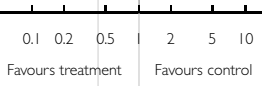
Analysis 4.1. Comparison 4 Dietary advice versus cognitive therapy (Serfaty et al., 1999), Outcome 1 N participants not completing treatment for any reason.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 4 Dietary advice versus cognitive therapy (Serfaty et al., 1999)

Outcome: 1 N participants not completing treatment for any reason

Study or subgroup	Cognitive therapy n/N	Dietary advice n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Serfaty 1999	2/25	10/10		100.0 %	0.10 [0.03, 0.33]
Total (95% CI)	**25**	**10**		**100.0 %**	**0.10 [0.03, 0.33]**
Total events: 2 (Cognitive therapy), 10 (Dietary advice)					
Heterogeneity: not applicable					
Test for overall effect: Z = 3.79 (P = 0.00015)					



Analysis 4.2. Comparison 4 Dietary advice versus cognitive therapy (Serfaty et al., 1999), Outcome 2 Mean BMI at end of treatment.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

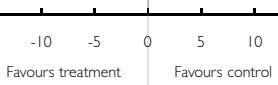
Comparison: 4 Dietary advice versus cognitive therapy (Serfaty et al., 1999)

Outcome: 2 Mean BMI at end of treatment

Study or subgroup	Cognitive therapy N	Mean(SD)	Dietary advice N	Mean(SD)	Std. Mean Difference IV,Random,95% CI	Weight	Std. Mean Difference IV,Random,95% CI
Serfaty 1999	25	17.7 (2.4)	10	15.9 (2.7)		100.0 %	0.71 [-0.05, 1.46]
Total (95% CI)	**25**		**10**			**100.0 %**	**0.71 [-0.05, 1.46]**

Heterogeneity: not applicable

Test for overall effect: Z = 1.84 (P = 0.066)



Analysis 5.1. Comparison 5 Karolinski Institute (Bergh et al., 2002) outpatient treatment versus wait-list control, Outcome 1 Remission defined by normal: body weight, psychology, test results, eating behaviour & social activities..

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 5 Karolinski Institute (Bergh et al., 2002) outpatient treatment versus wait-list control

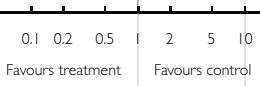
Outcome: 1 Remission defined by normal: body weight, psychology, test results, eating behaviour % social activities.

Study or subgroup	Active treatment n/N	Wait-list control n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Bergh 2002	10/11	0/8		100.0 %	15.75 [1.06, 234.87]
Total (95% CI)	**11**	**8**		**100.0 %**	**15.75 [1.06, 234.87]**

Total events: 10 (Active treatment), 0 (Wait-list control)

Heterogeneity: not applicable

Test for overall effect: Z = 2.00 (P = 0.046)

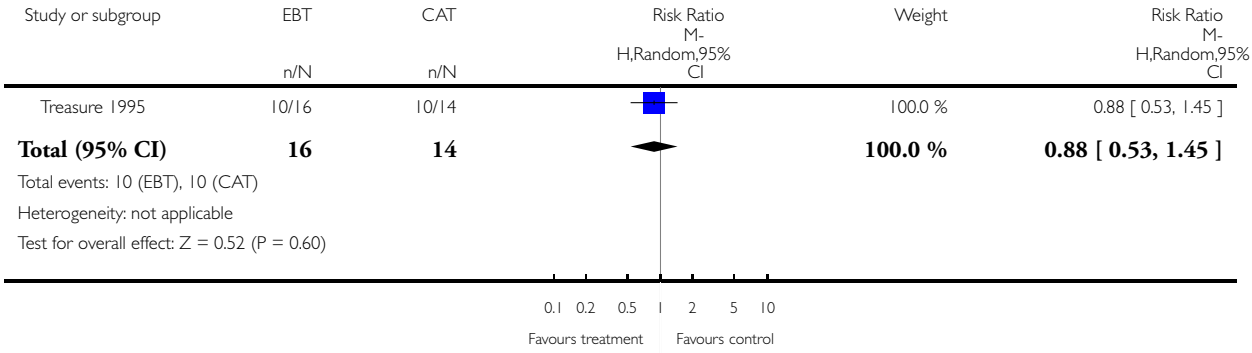


Analysis 6.1. Comparison 6 Educational psychotherapy versus CAT (Treasure et al., 1995), Outcome 1 N participants not completing treatment for any reason.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 6 Educational psychotherapy versus CAT (Treasure et al., 1995)

Outcome: 1 N participants not completing treatment for any reason

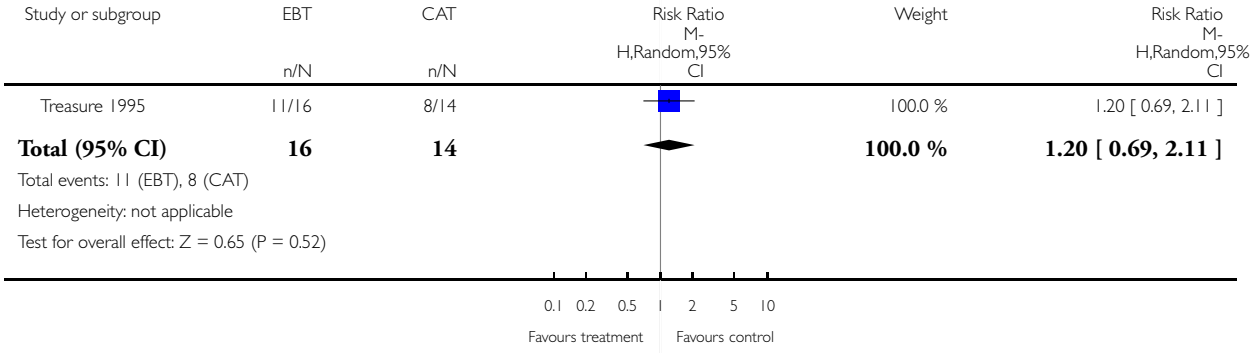


Analysis 6.2. Comparison 6 Educational psychotherapy versus CAT (Treasure et al., 1995), Outcome 2 Morgan and Russell 'poor or intermediate' outcomes at one year follow-up..

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 6 Educational psychotherapy versus CAT (Treasure et al., 1995)

Outcome: 2 Morgan and Russell 'poor or intermediate' outcomes at one year follow-up.



Analysis 6.3. Comparison 6 Educational psychotherapy versus CAT (Treasure et al., 1995), Outcome 3 Mean BMI at 12 months follow-up.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 6 Educational psychotherapy versus CAT (Treasure et al., 1995)

Outcome: 3 Mean BMI at 12 months follow-up

Study or subgroup	EBT N	Mean(SD)	CAT N	Mean(SD)	Std. Mean Difference IV,Random,95% CI	Weight	Std. Mean Difference IV,Random,95% CI
Treasure 1995	16	17.4 (3)	14	18.5 (2.1)		100.0 %	-0.41 [-1.13, 0.32]
Total (95% CI)	**16**		**14**			**100.0 %**	**-0.41 [-1.13, 0.32]**

Heterogeneity: not applicable

Test for overall effect: Z = 1.10 (P = 0.27)

Analysis 6.4. Comparison 6 Educational psychotherapy versus CAT (Treasure et al., 1995), Outcome 4 Average Morgan & Russell scores at 12 months follow-up.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 6 Educational psychotherapy versus CAT (Treasure et al., 1995)

Outcome: 4 Average Morgan % Russell scores at 12 months follow-up

Study or subgroup	EBT N	Mean(SD)	CAT N	Mean(SD)	Std. Mean Difference IV,Random,95% CI	Weight	Std. Mean Difference IV,Random,95% CI
Treasure 1995	16	6.4 (2.8)	14	7.3 (2.7)		100.0 %	-0.32 [-1.04, 0.40]
Total (95% CI)	**16**		**14**			**100.0 %**	**-0.32 [-1.04, 0.40]**

Heterogeneity: not applicable

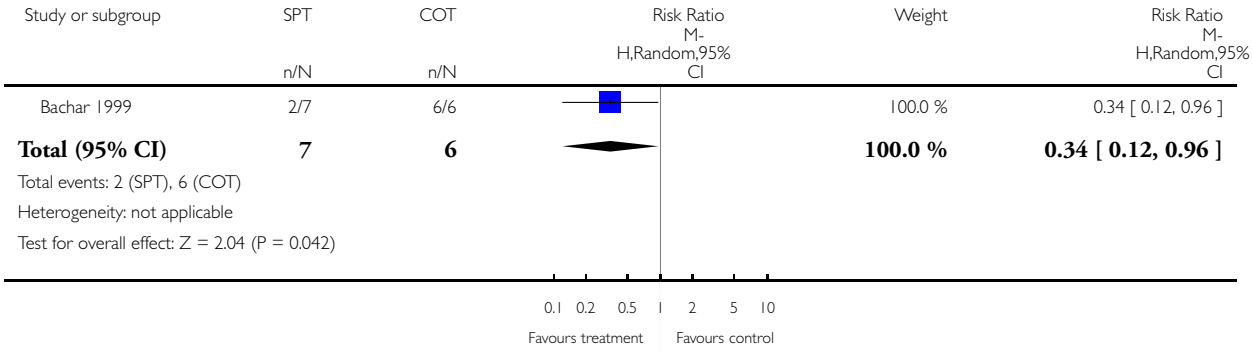
Test for overall effect: Z = 0.86 (P = 0.39)

Analysis 7.1. Comparison 7 Self-psychology versus cognitive orientation therapy (both with nutritional counselling; Bachar et al., 1999), Outcome 1 N participants not having a good outcome (BMI > 17.5 and return of menstruation).

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 7 Self-psychology versus cognitive orientation therapy (both with nutritional counselling; Bachar et al., 1999)

Outcome: 1 N participants not having a good outcome (BMI > 17.5 and return of menstruation)

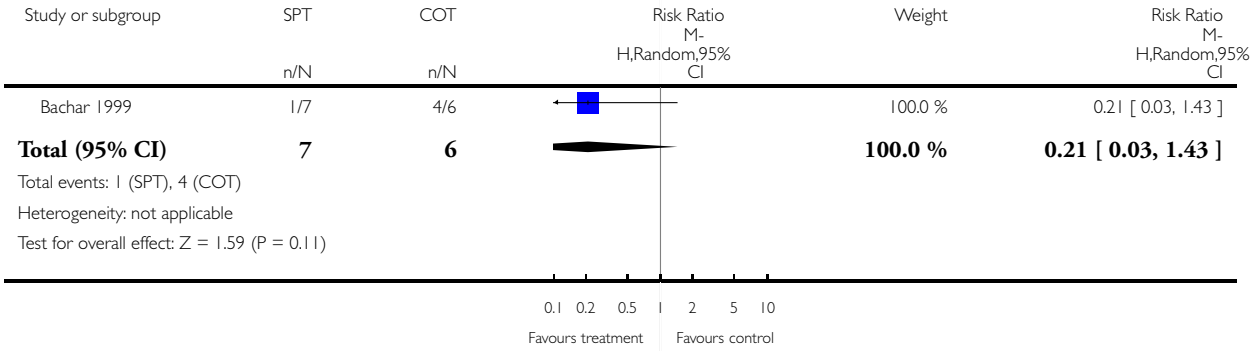


Analysis 7.2. Comparison 7 Self-psychology versus cognitive orientation therapy (both with nutritional counselling; Bachar et al., 1999), Outcome 2 N participants not completing therapy for any reason.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 7 Self-psychology versus cognitive orientation therapy (both with nutritional counselling; Bachar et al., 1999)

Outcome: 2 N participants not completing therapy for any reason

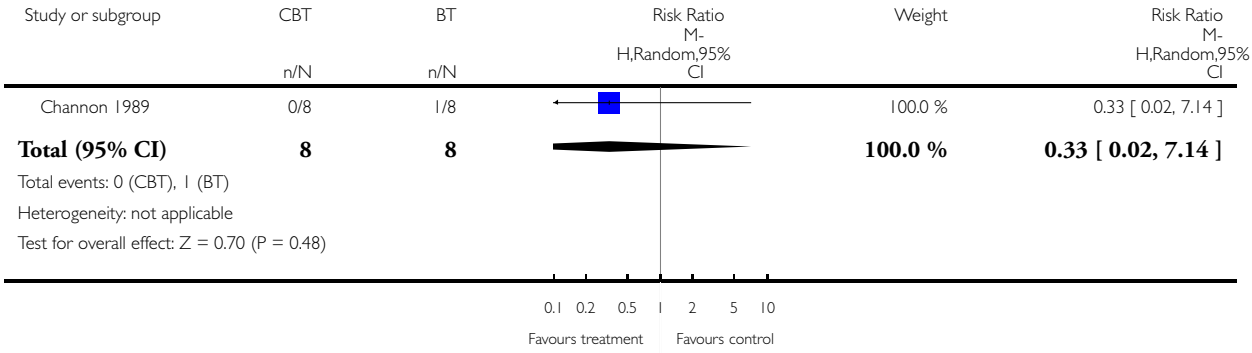


Analysis 8.1. Comparison 8 Cognitive-behavioural therapy (Channon et al., 1989 & Garner & Bemis, 1982, 1985) versus Behaviour therapy, Outcome 1 N participants not completing treatment.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 8 Cognitive-behavioural therapy (Channon et al., 1989 % Garner % Bemis, 1982, 1985) versus Behaviour therapy

Outcome: 1 N participants not completing treatment

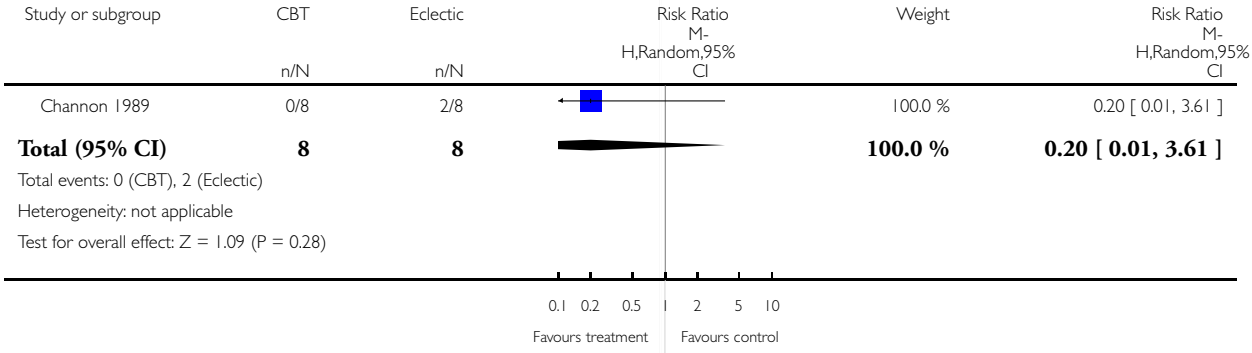


Analysis 9.1. Comparison 9 CBT versus eclectic specialist therapy ("treatment as usual"; Channon et al., 1999), Outcome 1 N of participants not completing treatment.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 9 CBT versus eclectic specialist therapy ("treatment as usual"; Channon et al., 1999)

Outcome: 1 N of participants not completing treatment



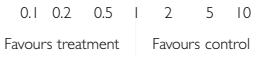
Analysis 10.1. Comparison 10 CBT versus IPT (McIntosh et al., 2005), Outcome 1 Global treatment outcome - number rated 3 or 4.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 10 CBT versus IPT (McIntosh et al., 2005)

Outcome: 1 Global treatment outcome - number rated 3 or 4

Study or subgroup	CBT n/N	IPT n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
McIntosh 2005	13/19	19/21		100.0 %	0.76 [0.54, 1.06]
Total (95% CI)	**19**	**21**		**100.0 %**	**0.76 [0.54, 1.06]**
Total events: 13 (CBT), 19 (IPT)					
Heterogeneity: not applicable					
Test for overall effect: Z = 1.63 (P = 0.10)					



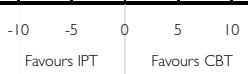
Analysis 10.2. Comparison 10 CBT versus IPT (McIntosh et al., 2005), Outcome 2 BMI.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 10 CBT versus IPT (McIntosh et al., 2005)

Outcome: 2 BMI

Study or subgroup	CBT N	Mean(SD)	IPT N	Mean(SD)	Std. Mean Difference IV,Fixed,95% CI	Weight	Std. Mean Difference IV,Fixed,95% CI
McIntosh 2005	19	18.1 (1.9)	21	18.1 (3.1)		100.0 %	0.0 [-0.62, 0.62]
Total (95% CI)	**19**		**21**			**100.0 %**	**0.0 [-0.62, 0.62]**
Heterogeneity: not applicable							
Test for overall effect: Z = 0.0 (P = 1.0)							
Test for subgroup differences: Not applicable							



Analysis 10.3. Comparison 10 CBT versus IPT (McIntosh et al., 2005), Outcome 3 EDE restraint.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 10 CBT versus IPT (McIntosh et al., 2005)

Outcome: 3 EDE restraint

Study or subgroup	CBT N	Mean(SD)	IPT N	Mean(SD)	Std. Mean Difference IV,Fixed,95% CI	Weight	Std. Mean Difference IV,Fixed,95% CI
McIntosh 2005	19	2.8 (1.7)	21	4 (1.5)		100.0 %	-0.74 [-1.38, -0.09]
Total (95% CI)	**19**		**21**			**100.0 %**	**-0.74 [-1.38, -0.09]**

Heterogeneity: not applicable

Test for overall effect: Z = 2.24 (P = 0.025)

Test for subgroup differences: Not applicable

Analysis 10.4. Comparison 10 CBT versus IPT (McIntosh et al., 2005), Outcome 4 Global ssessment of function (GAF-DSM-IV).

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 10 CBT versus IPT (McIntosh et al., 2005)

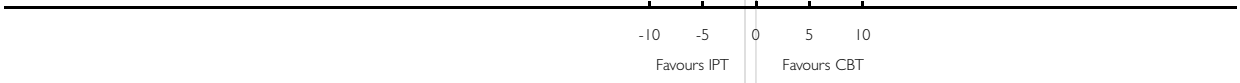
Outcome: 4 Global ssessment of function (GAF-DSM-IV)

Study or subgroup	CBT N	Mean(SD)	IPT N	Mean(SD)	Std. Mean Difference IV,Fixed,95% CI	Weight	Std. Mean Difference IV,Fixed,95% CI
McIntosh 2005	19	53.2 (9.5)	21	51.1 (7.2)		100.0 %	0.25 [-0.38, 0.87]
Total (95% CI)	**19**		**21**			**100.0 %**	**0.25 [-0.38, 0.87]**

Heterogeneity: not applicable

Test for overall effect: Z = 0.77 (P = 0.44)

Test for subgroup differences: Not applicable

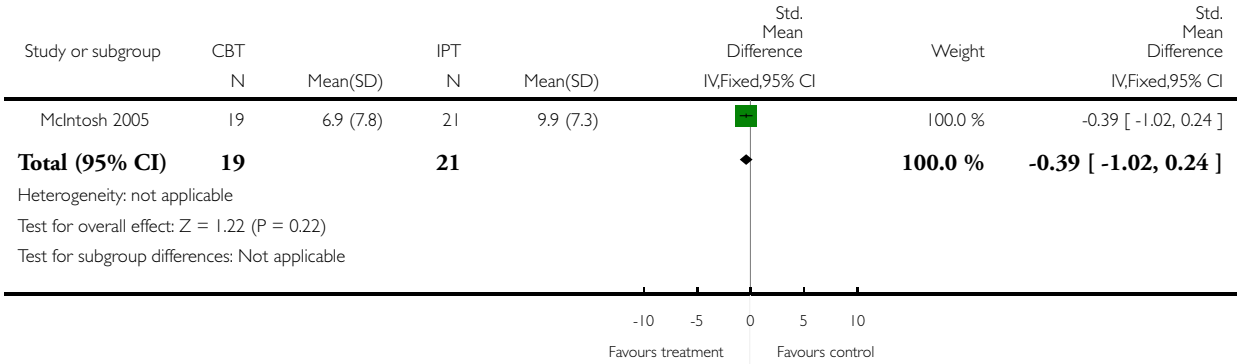


Analysis 10.5. Comparison 10 CBT versus IPT (McIntosh et al., 2005), Outcome 5 Hamilton depression rating scale (HDRS).

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 10 CBT versus IPT (McIntosh et al., 2005)

Outcome: 5 Hamilton depression rating scale (HDRS)

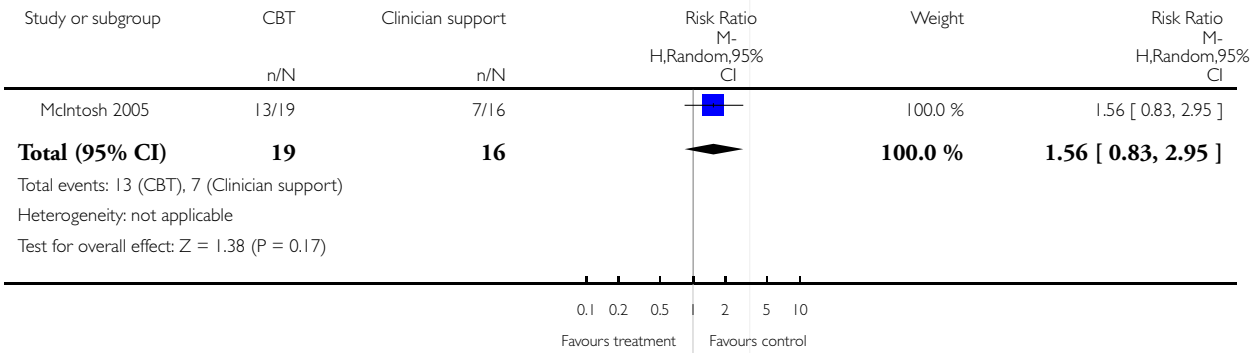


Analysis 11.1. Comparison 11 CBT versus nonspecific clinician support (McIntosh et al., 2005), Outcome 1 Global treatment outcome- number rated 3 or 4 (poor).

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 11 CBT versus nonspecific clinician support (McIntosh et al., 2005)

Outcome: 1 Global treatment outcome- number rated 3 or 4 (poor)



Analysis 11.2. Comparison 11 CBT versus nonspecific clinician support (McIntosh et al., 2005), Outcome 2 BMI.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 11 CBT versus nonspecific clinician support (McIntosh et al., 2005)

Outcome: 2 BMI

Study or subgroup	CBT N	Mean(SD)	Clinician support N	Mean(SD)	Std. Mean Difference IV,Fixed,95% CI	Weight	Std. Mean Difference IV,Fixed,95% CI
McIntosh 2005	19	18.1 (1.9)	16	18.8 (2.1)		100.0 %	-0.34 [-1.01, 0.33]
Total (95% CI)	**19**		**16**			**100.0 %**	**-0.34 [-1.01, 0.33]**

Heterogeneity: not applicable

Test for overall effect: Z = 1.00 (P = 0.32)

Test for subgroup differences: Not applicable

Analysis 11.3. Comparison 11 CBT versus nonspecific clinician support (McIntosh et al., 2005), Outcome 3 EDE restraint.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 11 CBT versus nonspecific clinician support (McIntosh et al., 2005)

Outcome: 3 EDE restraint

Study or subgroup	CBT N	Mean(SD)	Clinician support N	Mean(SD)	Std. Mean Difference IV,Fixed,95% CI	Weight	Std. Mean Difference IV,Fixed,95% CI
McIntosh 2005	19	2.8 (1.7)	16	2.1 (1.7)		100.0 %	0.40 [-0.27, 1.07]
Total (95% CI)	**19**		**16**			**100.0 %**	**0.40 [-0.27, 1.07]**

Heterogeneity: not applicable

Test for overall effect: Z = 1.17 (P = 0.24)

Test for subgroup differences: Not applicable

Analysis 11.4. Comparison 11 CBT versus nonspecific clinician support (McIntosh et al., 2005), Outcome 4 GAF.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 11 CBT versus nonspecific clinician support (McIntosh et al., 2005)

Outcome: 4 GAF

Study or subgroup	CBT N	Mean(SD)	Clinician support N	Mean(SD)	Std. Mean Difference IV,Fixed,95% CI	Weight	Std. Mean Difference IV,Fixed,95% CI
McIntosh 2005	19	53.2 (9.5)	16	60.7 (13.9)		100.0 %	-0.63 [-1.31, 0.06]
Total (95% CI)	**19**		**16**			**100.0 %**	**-0.63 [-1.31, 0.06]**

Heterogeneity: not applicable

Test for overall effect: Z = 1.80 (P = 0.072)

Test for subgroup differences: Not applicable

Analysis 11.5. Comparison 11 CBT versus nonspecific clinician support (McIntosh et al., 2005), Outcome 5 HDRS.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 11 CBT versus nonspecific clinician support (McIntosh et al., 2005)

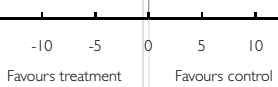
Outcome: 5 HDRS

Study or subgroup	CBT N	Mean(SD)	Clinician support N	Mean(SD)	Std. Mean Difference IV,Fixed,95% CI	Weight	Std. Mean Difference IV,Fixed,95% CI
McIntosh 2005	19	6.9 (7.8)	16	6.8 (7.1)		100.0 %	0.01 [-0.65, 0.68]
Total (95% CI)	**19**		**16**			**100.0 %**	**0.01 [-0.65, 0.68]**

Heterogeneity: not applicable

Test for overall effect: Z = 0.04 (P = 0.97)

Test for subgroup differences: Not applicable



Analysis 12.1. Comparison 12 IPT versus nonspecific clinician support (McIntosh et al., 2005), Outcome 1 Global treatment outcome - number rated 3 or 4.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 12 IPT versus nonspecific clinician support (McIntosh et al., 2005)

Outcome: 1 Global treatment outcome - number rated 3 or 4

Study or subgroup	IPT n/N	Clinician support n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
McIntosh 2005	19/21	7/16		100.0 %	2.07 [1.17, 3.67]
Total (95% CI)	**21**	**16**		**100.0 %**	**2.07 [1.17, 3.67]**
Total events: 19 (IPT), 7 (Clinician support)					
Heterogeneity: not applicable					
Test for overall effect: Z = 2.49 (P = 0.013)					

Analysis 12.2. Comparison 12 IPT versus nonspecific clinician support (McIntosh et al., 2005), Outcome 2 BMI.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 12 IPT versus nonspecific clinician support (McIntosh et al., 2005)

Outcome: 2 BMI

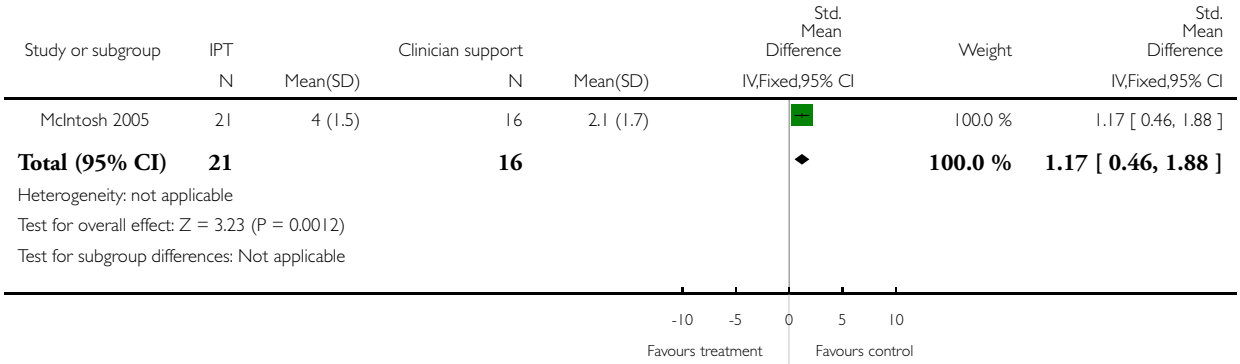
Study or subgroup	IPT N	Mean(SD)	Clinician support N	Mean(SD)	Std. Mean Difference IV,Fixed,95% CI	Weight	Std. Mean Difference IV,Fixed,95% CI
McIntosh 2005	21	18.1 (3.1)	16	18.8 (2.1)		100.0 %	-0.25 [-0.91, 0.40]
Total (95% CI)	**21**		**16**			**100.0 %**	**-0.25 [-0.91, 0.40]**
Heterogeneity: not applicable							
Test for overall effect: Z = 0.76 (P = 0.45)							
Test for subgroup differences: Not applicable							

Analysis 12.3. Comparison 12 IPT versus nonspecific clinician support (McIntosh et al., 2005), Outcome 3 EDE restraint.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 12 IPT versus nonspecific clinician support (McIntosh et al., 2005)

Outcome: 3 EDE restraint

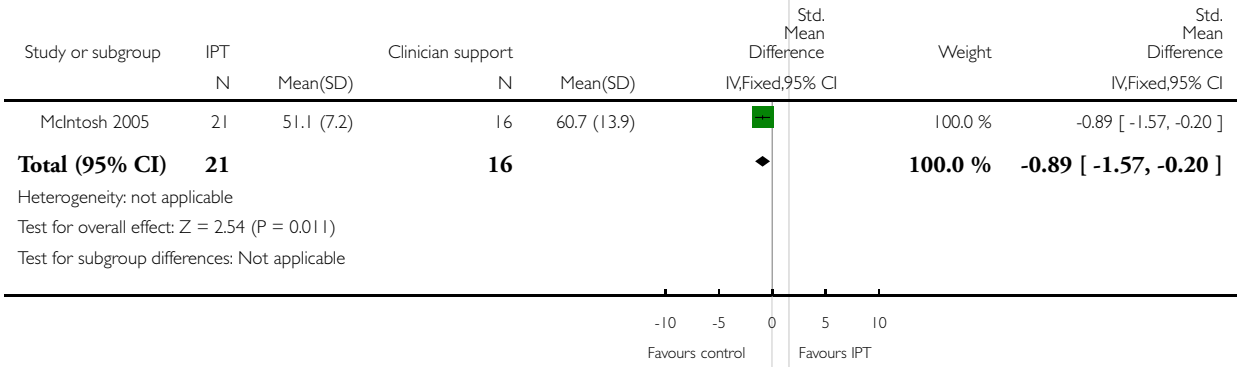


Analysis 12.4. Comparison 12 IPT versus nonspecific clinician support (McIntosh et al., 2005), Outcome 4 GAF.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 12 IPT versus nonspecific clinician support (McIntosh et al., 2005)

Outcome: 4 GAF

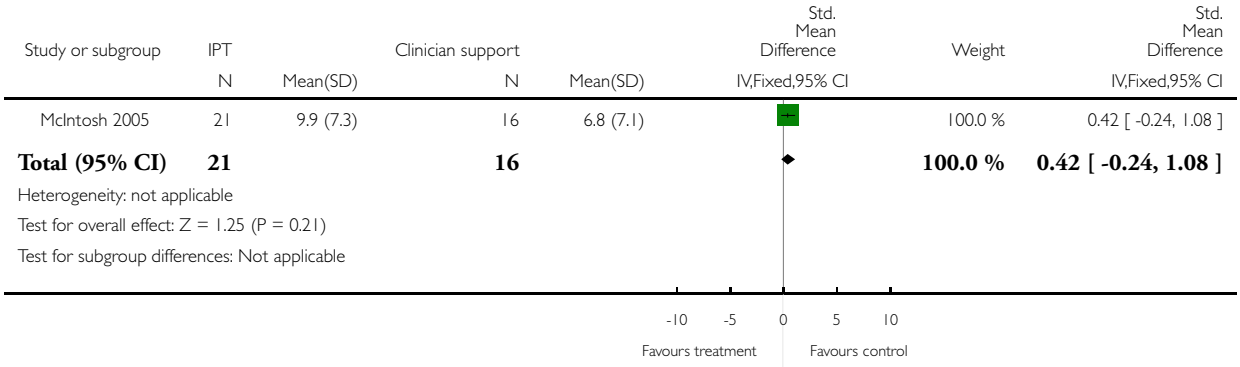


Analysis 12.5. Comparison 12 IPT versus nonspecific clinician support (McIntosh et al., 2005), Outcome 5 HDRS.

Review: Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa

Comparison: 12 IPT versus nonspecific clinician support (McIntosh et al., 2005)

Outcome: 5 HDRS



ADDITIONAL TABLES

Table 1. DSM-IV criteria for anorexia nervosa

DSM-IV criteria
a.Refusal to maintain body weight at or above a minimally normal weight for age and height, (eg. weight loss leading to maintenance of body weight less than 85% of that expected; or failure to make expected weight gain during period of growth, leading to body weight less than 85% below that expected)
b. Intense fear of gaining weight or becoming fat, even though underweight
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
d. In post-menarcheal females, amenorrhoea, ie. absence of at least three consecutive menstrual cycles (a woman is considered to have amenorrhoea if her periods occur only following hormone, eg. oestrogen, administration). 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, ie. 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, ie. self-induced vomiting or the misuse of laxatives, diuretics or enemas)

Table 2. Quality Rating Scale criteria

QRS criteria
Quality Rating Scale (QRS) criteria 1. Objectives and specification main outcomes a priori 0=unclear 1=objectives clear but main outcomes not specified a priori 2=objectives clear with a priori specification 2. Sample size per group 0=<50 1=50-100 2=>100 3. Planned duration of trial including follow-up 0=<3 months 1=>3 TO <6 months 2=> 6 months Also recorded are the duration of treatment (weeks) and duration of follow-up (months) 4. Power calculation 0=not reported 1=mentioned without details 2=details provided 5. Method of allocation 0=not randomised and likely to be biased 1=partial or quasi randomised with some bias possible 2=randomised 6. The concealment of randomization: 2. indicates adequate concealment 1. indicates uncertainty about whether allocation was adequately concealed - partial concealment only 0. indicates the allocation was definitely not adequately concealed NB. This refers to protecting details on how the allocation code from those involved in patient recruitment. This may be achieved by having allocation done by a central independent body, or protection of code by e.g. sealed opaque envelopes. 7. Clear description of treatment (including drug dosages and adjunctive treatment) 0=main treatments not clearly described 1=inadequate details of main or adjunctive treatments 2=full details 8. Blinding - the quality of blinding would be rated according to the following scale: 3. Done and integrity tested 2. Blinding of outcome assessor and the participant but no test of blinding. 1. Blinding of outcome assessor or participant only (single-blind).

Table 2. Quality Rating Scale criteria (*Continued*)

0. Blinding not done

NB Test of integrity of blind is normally done by asking participants to guess their allocated group. Results can be compared to those which would be expected by chance.

9. Source of subjects described and representative sample recruitment that meets the aims of the trial.
0 = source of subjects not described
1 = source of subjects described but is unrepresentative
2 = source of subjects described plus representative sample taken

10. Use of diagnostic criteria (or clear specification of inclusion criteria)
0 = None
1 = Diagnostic criteria or clear inclusion criteria
2 = Diagnostic criteria + specification of severity

11. Record of exclusion criteria and number of exclusions and refusals reported
0 = Criteria and number not reported
1 = criteria or number of exclusions & refusals not reported
2 = criteria and number of exclusions and refusal reported

12. Description of sample demographics
0 = Little/no info (only age/sex)
1 = Basic details (e.g. marital status/ethnicity)
2 = Full description (e.g. socio-economic status/clinical history)

13. Assessment of compliance with experimental treatments (including attendance for therapy)
0 = Not assessed
1 = Assessed for some experimental treatments
2 = Assessed for all experimental treatments

14. Details on side-effects
0 = Inadequate details
1 = Recorded by group but details inadequate
2 = Full side effect profiles by group

15. Record of number and reasons for withdrawal by group
0 = No info on withdrawals by group
1 = Withdrawals by group reported without reason
2 = Withdrawals and reason by group

16. Outcome measures described clearly or use of validated instruments
0 = outcomes not described clearly
1= some outcomes not clearly described
2= outcomes described or valid & reliable instruments used

17. Information on comparability and adjustment for differences in analysis
0= no info on comparability
0.5= some info on comparability without appropriate adjustment
1= some info on comparability with appropriate adjustment

Table 2. Quality Rating Scale criteria (*Continued*)

2= sufficient comparability info with appropriate adjustment
18. Inclusion of withdrawals in analysis 0 = Not included or not reported 1 = Withdrawals included in analysis by estimation of outcome 2 = Withdrawals followed up and included in analysis
19. Presentation of results with inclusion of data for re-analysis of main outcomes 0 = Inadequate presentation 1= Adequate 2 = Comprehensive
20. Appropriate statistical analysis (including correction for multiple tests where applicable) 0 = Inappropriate 1 = Mainly appropriate 2 = Appropriate and comprehensive
21. Conclusions justified 0 = No 1 = Partially 2 = Yes
22. Declaration of interests (e.g. source of funding) 0 = No 1 = Yes

WHAT'S NEW

Last assessed as up-to-date: 11 February 2008.

Date	Event	Description
1 November 2008	Amended	Converted to new review format.

HISTORY

Protocol first published: Issue 4, 2002

Review first published: Issue 4, 2003

Date	Event	Description
22 January 2006	New citation required and conclusions have changed	Substantive amendment

CONTRIBUTIONS OF AUTHORS

Professor Hay prepared the protocol for this review. Professor Hay was responsible for the intial data searches and together with Ms Poh Yee Yong and Dr Byrnes (2006 update) for quality checking of data extraction and entering. The review is written by Professor Hay and the co-reviewers provided statistical advice (JB) and commentary (all) on the findings and the conclusions. Mr Ekmejian and Professor Hay were responsible for the data searches, critical appraisal of newly identified trials and text of the 2008 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 Pharamaceuticals and Lundbeck and has been funded by Janssenn-Cilag to attend symposia. JB has received fees from Janssen-Cilag Farmaceutica.

RB has received sponsorship for attending symposia from Pfizer pharmaceuticals,Bristol-Myers Squibb & Eli Lily.

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Internal sources

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

External sources

- No sources of support supplied

INDEX TERMS

Medical Subject Headings (MeSH)

Adolescent; Anorexia Nervosa [psychology; *therapy]; Psychotherapy [*methods]; Randomized Controlled Trials as Topic

MeSH check words

Adult; Female; Humans