PSYCHOLOGICAL INTERVENTIONS TO REDUCE POSITIVE SYMPTOMS IN SCHIZOPHRENIA: SYSTEMATIC REVIEW AND NETWORK-META-ANALYSIS

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Corrado Barbui, Toshi Furukawa, Stefan Leucht

Supplementary appendix

to:

Bighelli I, Salanti G, Huhn M, Schneider-Thoma J, Krause M, Reitmeir C, Wallis S, Schwermann F, Pitschel-Walz G, Barbui C, Furukawa TA, Leucht S. Psychological interventions to reduce positive symptoms in schizophrenia: systematic review and network meta-analysis. World Psychiatry 2018;17:316-329, available at: https://onlinelibrary.wiley.com/doi/epdf/10.1002/wps.20577



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Content

1. Description of search strategy	3
2. Description of included treatments	24
3. Risk of Bias assessment	26
4. Network Plots for Secondary Outcomes	29
5. Results of Network and Pairwise Meta-analyses of Secondary Outcomes	35
6. Cumulative Ranking Curves (Rankograms) for All Outcomes	44
7. Evaluation of Heterogeneity and Inconsistency	55
7.1 Heterogeneity	55
7.2 Consistency	55
7.3 Split of direct and indirect evidence for primary outcome	56
8. Alternative Pooling Analysis	58
9. Subgroup Analyses	60
9.1 Main analysis for positive symptoms	61
9.2 Subgroup analysis by number of sessions	62
9.3 Subgroup analysis by study duration	63
9.4 Subgroup analysis by setting	64
9.5 Subgroup analysis by therapist's expertise	65
9.6 Subgroup analysis by baseline severity	66
10. Sensitivity Analyses	67
10.1 Excluding open label studies	68
10.2 Excluding studies that presented only completer analyses	69
10.3 Excluding high risk of bias studies	70
10.4 Excluding studies with high risk of bias in researchers' allegiance	72
10.5 Excluding studies focused on treatment resistant patients	73
10.6 Excluding studies with a non-active comparison group	74
11. Investigation of Small Study Effects and Publication Bias	75
12. Evaluating the confidence in NMA	78
12.1 Summary of study limitations of the included studies	78
12.2 Contribution of comparisons to each network estimate by RoB	79
12.3 Table of reasons for downgrading	82
References	84

1. Description of search strategy

Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) <1946 to Present> Searched 10th January 2018

- 1 exp Schizophrenia/ (104582)
- 2 exp Psychotic Disorders/ (51539)
- 3 schizo\$.mp. (166486)
- 4 or/1-3 (201032)
- 5 exp Psychotherapy/ or exp Behavior Therapy/ or exp Cognitive Therapy/ or exp Complementary Therapies/ or exp Psychoanalysis/ or exp Counseling/ or exp Hypnosis/ or Association learning/ (424755)
- (abreaction or "acceptance and commitment therapy" or acting out or adlerian or analytical psychotherap\$ or anger control or anger management or animal therap\$ or art therap\$ or assertive\$ training or attention training technique or autogenic training or autosuggestion or aversion therap\$ or balint group or befriending or behavio?r contracting or behavio?r modification or behavio?r regulation or behavio?r therap\$ or bibliotherap\$ or biofeedback or body psychotherap\$ or brief psychotherap\$ or caregiver support or cbt or client cent\$ or cognitive behavio?r\$ or cognitive intervention\$ or cognitive rehabilit\$ or cognitive remediation or cognitive technique\$ or cognitive therap\$ or cognitive treatment\$ or colo?r therap\$ or compassionate mind training or conjoint therap\$ or contingency management or conversational therap\$ or conversion therap\$ or coping skills or counsel?ing or countertransference or couples therap\$ or covert sensitization or crisis intervention or dance therap\$ or dialectic\$ or eclectic or emotion\$ focus\$ or emotional freedom technique or encounter group therap\$ or existential therap\$ or experiential psychotherap\$ or exposure therap\$ or expressive psychotherap\$ or eye movement desensiti?ation or family intervention\$ or family therap\$ or feminist therap\$ or free association or freudian or geriatric psychotherap\$ or gestalt therap\$ or griefwork or group intervention\$ or group psychotherap\$ or group therap\$ or guided image\$ or holistic psychotherap\$ or humanistic psychotherap\$ or hypnosis or hypnotherap\$ or hypnoti?zability or imagery or implosive therap\$ or individual psychotherap\$ or insight therap\$ or integrated psychological therapy or integrative psychotherap\$ or integrative therap\$ or interpersonal or jungian or kleinian or logotherap\$ or marathon group therap\$ or marital therap\$ or meditation or mental healing or metacognitive therap\$ or metacognitive training or milieu therap\$ or mindfulness or morita therap\$ or multimodal or music therap\$ or narrative therap\$ or nondirective therap\$ or object relations or person cent\$ therap\$ or personal construct therap\$ or persuasion therap\$ or pet therap\$ or play therap\$ or primal therap\$ or problem solving or psychoanaly\$ or psychodrama or psychodynamic or psychoeducat\$ or psychologic\$ or psychological therap\$ or psychosocial treatment or psychotherap\$ or psychotherapeutic counsel\$ or psychotherapeutic processes or psychotherapeutic training or psychotherapeutic treatment\$ or rational emotive or reality therap\$ or reciprocal inhibition or rehabilitat\$ or relationship therap\$ or relaxation or reminiscence therap\$ or rogerian or role play\$ or self analys\$ or self esteem or sensitivity training or sex therap\$ or sleep phase chronotherap\$ or social skills education or social skills training or socioenvironmental therap\$ or sociotherap\$ or solution focused or stress management or support group\$ or supportive therap\$ or systematic desensiti?ation or systemic therap\$ or therapeutic communit\$ or transactional analysis or transference or transtheoretical or validation therap\$ or (dream\$ adj3 analys\$) or (support adj3 psycho\$)).mp. (1197308)
- 7 or/5-6 (1380129)
- 8 exp clinical trial/ (888265)
- 9 exp randomized controlled trials/ (130594)
- 10 exp double-blind method/ (162383)
- 11 exp single-blind method/ (27740)
- 12 exp cross-over studies/ (46911)
- 13 randomized controlled trial.pt. (515252)
- 14 clinical trial.pt. (561480)
- 15 controlled clinical trial.pt. (101720)
- 16 (clinic\$ adj2 trial).mp. (737165)
- 17 (random\$ adj5 control\$ adj5 trial\$).mp. (706490)
- 18 (crossover or cross-over).mp. (92834)
- 19 ((singl\$ or double\$ or trebl\$ or tripl\$) adj (blind\$ or mask\$)).mp. (236226)
- 20 randomi\$.mp. (844744)
- 21 (random\$ adj5 (assign\$ or allocat\$ or assort\$ or reciev\$)).mp. (233688)
- 22 or/8-21 (1388053)
- 23 4 and 7 and 22 (3485)

Embase <1974 to 2018 Week 02> Searched 10-01-18

- 1 exp schizophrenia/ (168146)
- 2 exp psychosis/ (259209)
- 3 schizo\$.mp. (211911)
- 4 or/1-3 (298021)
- 5 exp Psychotherapy/ or exp Behavior Therapy/ or exp Cognitive Therapy/ or exp Psychoanalysis/ or exp Counseling/ or exp Hypnosis/ or Association/ (419285)
- (abreaction or "acceptance and commitment therapy" or acting out or adlerian or analytical psychotherap\$ or anger control or anger management or animal therap\$ or art therap\$ or assertive\$ training or attention training technique or autogenic training or autosuggestion or aversion therap\$ or balint group or befriending or behavio?r contracting or behavio?r modification or behavio?r regulation or behavio?r therap\$ or bibliotherap\$ or biofeedback or body psychotherap\$ or brief psychotherap\$ or caregiver support or cbt or client cent\$ or cognitive behavio?r\$ or cognitive intervention\$ or cognitive rehabilit\$ or cognitive remediation or cognitive technique\$ or cognitive therap\$ or cognitive treatment\$ or colo?r therap\$ or compassionate mind training or conjoint therap\$ or contingency management or conversational therap\$ or conversion therap\$ or coping skills or counsel?ing or countertransference or couples therap\$ or covert sensitization or crisis intervention or dance therap\$ or dialectic\$ or eclectic or emotion\$ focus\$ or emotional freedom technique or encounter group therap\$ or existential therap\$ or experiential psychotherap\$ or exposure therap\$ or expressive psychotherap\$ or eye movement desensiti?ation or family intervention\$ or family therap\$ or feminist therap\$ or free association or freudian or geriatric psychotherap\$ or gestalt therap\$ or griefwork or group intervention\$ or group psychotherap\$ or group therap\$ or guided image\$ or holistic psychotherap\$ or humanistic psychotherap\$ or hypnosis or hypnotherap\$ or hypnoti?zability or imagery or implosive therap\$ or individual psychotherap\$ or insight therap\$ or integrated psychological therapy or integrative psychotherap\$ or integrative therap\$ or interpersonal or jungian or kleinian or logotherap\$ or marathon group therap\$ or marital therap\$ or meditation or mental healing or metacognitive therap\$ or metacognitive training or milieu therap\$ or mindfulness or morita therap\$ or multimodal or music therap\$ or narrative therap\$ or nondirective therap\$ or object relations or person cent\$ therap\$ or personal construct therap\$ or persuasion therap\$ or pet therap\$ or play therap\$ or primal therap\$ or problem solving or psychoanaly\$ or psychodrama or psychodynamic or psychoeducat\$ or psychologic\$ or psychological therap\$ or psychosocial treatment or psychotherap\$ or psychotherapeutic counsel\$ or psychotherapeutic processes or psychotherapeutic training or psychotherapeutic treatment\$ or rational emotive or reality therap\$ or reciprocal inhibition or rehabilitat\$ or relationship therap\$ or relaxation or reminiscence therap\$ or rogerian or role play\$ or self analys\$ or self esteem or sensitivity training or sex therap\$ or sleep phase chronotherap\$ or social skills education or social skills training or socioenvironmental therap\$ or sociotherap\$ or solution focused or stress management or support group\$ or supportive therap\$ or systematic desensiti?ation or systemic therap\$ or therapeutic communit\$ or transactional analysis or transference or transtheoretical or validation therap\$ or (dream\$ adj3 analys\$) or (support adj3 psycho\$)).mp. (1816360)
- 7 or/5-6 (1846489)
- 8 (clin\$ adj2 trial).mp. (1407667)
- 9 ((singl\$ or doubl\$ or trebl\$ or tripl\$) adj (blind\$ or mask\$)).mp. (266326)
- 10 (random\$ adj5 (assign\$ or allocat\$)).mp. (159013)
- 11 randomi\$.mp. (1005968)
- 12 crossover.mp. (85226)
- 13 exp randomized-controlled-trial/ (481956)
- 14 exp double-blind-procedure/ (144978)
- 15 exp crossover-procedure/ (53823)
- 16 exp single-blind-procedure/ (30078)
- 17 exp randomization/ (76684)
- 18 or/8-17 (1980276)
- 19 4 and 7 and 18 (7787)
- 20 limit 19 to exclude medline journals (787)

PsycINFO <1806 to January Week 1 2018> Searched 10-01-18

- 1 exp Schizophrenia/ (83900)
- 2 exp psychosis/ (107318)
- 3 schizo\$.mp. (127877)
- 4 or/1-3 (146915)

- 5 exp psychotherapy/ or exp Behavior Therapy/ or exp Cognitive Therapy/ or exp PSYCHOANALYSIS/ or exp psychotherapeutic counseling/ or hypnosis/ or free association/ (218371)
- (abreaction or "acceptance and commitment therapy" or acting out or adlerian or analytical psychotherap\$ or anger control or anger management or animal therap\$ or art therap\$ or assertive\$ training or attention training technique or autogenic training or autosuggestion or aversion therap\$ or balint group or befriending or behavio?r contracting or behavio?r modification or behavio?r regulation or behavio?r therap\$ or bibliotherap\$ or biofeedback or body psychotherap\$ or brief psychotherap\$ or caregiver support or cbt or client cent\$ or cognitive behavio?r\$ or cognitive intervention\$ or cognitive rehabilit\$ or cognitive remediation or cognitive technique\$ or cognitive therap\$ or cognitive treatment\$ or colo?r therap\$ or compassionate mind training or conjoint therap\$ or contingency management or conversational therap\$ or conversion therap\$ or coping skills or counsel?ing or countertransference or couples therap\$ or covert sensitization or crisis intervention or dance therap\$ or dialectic\$ or eclectic or emotion\$ focus\$ or emotional freedom technique or encounter group therap\$ or existential therap\$ or experiential psychotherap\$ or exposure therap\$ or expressive psychotherap\$ or eye movement desensiti?ation or family intervention\$ or family therap\$ or feminist therap\$ or free association or freudian or geriatric psychotherap\$ or gestalt therap\$ or griefwork or group intervention\$ or group psychotherap\$ or group therap\$ or guided image\$ or holistic psychotherap\$ or humanistic psychotherap\$ or hypnosis or hypnotherap\$ or hypnoti?zability or imagery or implosive therap\$ or individual psychotherap\$ or insight therap\$ or integrated psychological therapy or integrative psychotherap\$ or integrative therap\$ or interpersonal or jungian or kleinian or logotherap\$ or marathon group therap\$ or marital therap\$ or meditation or mental healing or metacognitive therap\$ or metacognitive training or milieu therap\$ or mindfulness or morita therap\$ or multimodal or music therap\$ or narrative therap\$ or nondirective therap\$ or object relations or person cent\$ therap\$ or personal construct therap\$ or persuasion therap\$ or pet therap\$ or play therap\$ or primal therap\$ or problem solving or psychoanaly\$ or psychodrama or psychodynamic or psychoeducat\$ or psychologic\$ or psychological therap\$ or psychosocial treatment or psychotherap\$ or psychotherapeutic counsel\$ or psychotherapeutic processes or psychotherapeutic training or psychotherapeutic treatment\$ or rational emotive or reality therap\$ or reciprocal inhibition or rehabilitat\$ or relationship therap\$ or relaxation or reminiscence therap\$ or rogerian or role play\$ or self analys\$ or self esteem or sensitivity training or sex therap\$ or sleep phase chronotherap\$ or social skills education or social skills training or socioenvironmental therap\$ or sociotherap\$ or solution focused or stress management or support group\$ or supportive therap\$ or systematic desensiti?ation or systemic therap\$ or therapeutic communit\$ or transactional analysis or transference or transtheoretical or validation therap\$ or (dream\$ adj3 analys\$) or (support adj3 psycho\$)).mp. (1068413)
- 7 or/5-6 (1068614)
- 8 ((singl\$ or doubl\$ or trebl\$ or tripl\$) adj (blind\$ or mask\$)).mp. (23874)
- 9 (random\$ adj5 (assign\$ or allocat\$)).mp. (39290)
- 10 randomi\$.mp. (72094)
- 11 crossover.mp. (6680)
- 12 or/8-11 (114666)
- 13 4 and 7 and 12 (1873)

Cochrane Library Searched 10th January 2018

- #1 MeSH descriptor: [Schizophrenia] explode all trees [5749]
- #2 MeSH descriptor: [Psychotic Disorders] explode all trees [1902]
- #3 schizo*:ti,ab,kw (Word variations have been searched) [12880]
- #4 #1 or #2 or #3 [13755]
- #5 MeSH descriptor: [Psychotherapy] explode all trees [21548]
- #6 MeSH descriptor: [Behavior Therapy] explode all trees [14721]
- #7 MeSH descriptor: [Cognitive Therapy] explode all trees [7698]
- #8 MeSH descriptor: [Complementary Therapies] explode all trees [18611]
- #9 MeSH descriptor: [Psychoanalysis] explode all trees [16]
- #10 MeSH descriptor: [Counseling] explode all trees [4818]
- #11 MeSH descriptor: [Hypnosis] explode all trees [668]
- #12 MeSH descriptor: [Association] explode all trees [475]
- #13 MeSH descriptor: [Association Learning] explode all trees [345]

(abreaction or "acceptance and commitment therapy" or acting out or adlerian or analytical psychotherap* or anger control or anger management or animal therap* or art therap* or assertive* training or attention training technique or autogenic training or autosuggestion or aversion therap* or balint group or befriending or behavio?r contracting or behavio?r modification or behavio?r regulation or behavio?r therap* or bibliotherap* or biofeedback or body psychotherap* or brief psychotherap* or caregiver support or cbt or client cent* or cognitive behavio?r* or cognitive intervention* or cognitive rehabilit* or cognitive remediation or cognitive technique* or cognitive therap* or cognitive treatment* or colo?r therap* or compassionate mind training or conjoint therap* or contingency management or conversational therap* or conversion therap* or coping skills or counsel?ing or countertransference or couples therap* or covert sensitization or crisis intervention or dance therap* or dialectic* or eclectic or emotion* focus* or emotional freedom technique or encounter group therap* or existential therap* or experiential psychotherap* or exposure therap* or expressive psychotherap* or eye movement desensiti?ation or family intervention* or family therap* or feminist therap* or free association or freudian or geriatric psychotherap* or gestalt therap* or griefwork or group intervention* or group psychotherap* or group therap* or guided image* or holistic psychotherap* or humanistic psychotherap* or hypnosis or hypnotherap* or hypnoti?zability or imagery or implosive therap* or individual psychotherap* or insight therap* or integrated psychological therapy or integrative psychotherap* or integrative therap* or interpersonal or jungian or kleinian or logotherap* or marathon group therap* or marital therap* or meditation or mental healing or metacognitive therap* or metacognitive training or milieu therap* or mindfulness or morita therap* or multimodal or music therap* or narrative therap* or nondirective therap* or object relations or person cent* therap* or personal construct therap* or persuasion therap* or pet therap* or play therap* or primal therap* or problem solving or psychoanaly* or psychodrama or psychodynamic or psychoeducat* or psychologic* or psychological therap* or psychosocial treatment or psychotherap* or psychotherapeutic counsel* or psychotherapeutic processes or psychotherapeutic training or psychotherapeutic treatment* or rational emotive or reality therap* or reciprocal inhibition or rehabilitat* or relationship therap* or relaxation or reminiscence therap* or rogerian or role play* or self analys* or self esteem or sensitivity training or sex therap* or sleep phase chronotherap* or social skills education or social skills training or socioenvironmental therap* or sociotherap* or solution focused or stress management or support group* or supportive therap* or systematic desensiti?ation or systemic therap* or therapeutic communit* or transactional analysis or transference or transtheoretical or validation therap* or (dream* near/3 analys*) or (support near/3 psycho*)):ti,ab,kw (Word variations have been searched)[411716]

#15 #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 [419239]

#16 #4 and #15 in Trials [6420]

Biosis Searched 10th January 2018

13 **684** #12 AND #11 AND #10

Indexes=BCI Timespan=All years

403,516 TITLE: ((abreaction or "acceptance and commitment therapy" or "acting out" or adlerian or "analytical psychotherap*" or "anger control" or "anger management" or "animal therap*" or "art therap*" or "assertive* training" or "attention training technique" or "autogenic training" or autosuggestion or "aversion therap*" or "balint group" or befriending or "behavior contracting" or "behavior modification" or "behavior regulation" or "behavior therap*" or "behaviour contracting" or "behaviour modification" or "behaviour regulation" or "behaviour therap*" or bibliotherap* or biofeedback or "body psychotherap*" or "brief psychotherap*" or "caregiver support" or cbt or "client cent*" or "cognitive behavior*" or "cognitive behaviour*" or "cognitive intervention*" or "cognitive rehabilit*" or "cognitive remediation" or "cognitive technique*" or "cognitive therap*" or "cognitive treatment*" or "color therap*" or "colour therap*" or "compassionate mind training" or "conjoint therap*" or "contingency management" or "conversational therap*" or "conversion therap*" or "coping skills" or counseling or counselling or countertransference or "couples therap*" or "covert sensitization" or "covert sensitisation" or "crisis intervention" or "dance therap*" or dialectic* or eclectic or emotion* focus* or "emotional freedom technique" or "encounter group therap*" or "existential therap*" or "experiential psychotherap*" or "exposure therap*" or "expressive psychotherap*" or "eye movement desensitization" or "eye movement desensitisation" or "family intervention*" or "family therap*" or "feminist therap*" or "free association" or freudian or "geriatric psychotherap*" or "gestalt therap*" or griefwork or "group intervention*" or "group psychotherap*" or "group therap*" or "guided image*" or "holistic psychotherap*" or "humanistic psychotherap*" or hypnosis or hypnotherap* or hypnotizability or hypnotisability or imagery or "implosive therap*" or "individual psychotherap*" or "insight therap*" or "integrated psychological therapy" or "integrative psychotherap*" or "integrative therap*" or interpersonal or jungian or kleinian or logotherap* or "marathon group therap*" or "marital therap*" or meditation or "mental healing" or "metacognitive therap*" or "metacognitive training" or "milieu therap*" or mindfulness or "morita therap*" or multimodal or "music therap*" or "narrative therap*" or "nondirective therap*" or "object relations" or person cent* therap* or "personal construct therap*" or "persuasion therap*" or "pet therap*" or "play

therap*" or "primal therap*" or "problem solving" or psychoanaly* or psychodrama or psychodynamic or psychoeducat* or psychologic* or "psychological therap*" or "psychosocial treatment" or psychotherap* or "psychotherapeutic counsel*" or "psychotherapeutic processes" or "psychotherapeutic training" or "psychotherapeutic treatment*" or "rational emotive" or "reality therap*" or "reciprocal inhibition" or "psychotherapeutic treatment*" or "psycho rehabilitat* or "relationship therap*" or relaxation or "reminiscence therap*" or rogerian or "role play*" or "self analys*" or "self esteem" or "sensitivity training" or "sex therap*" or "sleep phase chronotherap*" or "social skills education" or "social skills training" or "socioenvironmental therap*" or sociotherap* or "solution focused" or "stress management" or "support group*" or "supportive therap*" or "systematic desensitization" or " "systematic desensitisation" or "systemic therap*" or "therapeutic communit*" or "transactional analysis" or transference or transtheoretical or "validation therap*" or (dream* Near/3 analys*) or (support Near/3 psycho*))) OR TOPIC: ((abreaction or "acceptance and commitment therapy" or "acting out" or adlerian or "analytical psychotherap*" or "anger control" or "anger management" or "animal therap*" or "art therap*" or "assertive* training" or "attention training technique" or "autogenic training" or autosuggestion or "aversion therap*" or "balint group" or befriending or "behavior contracting" or "behavior modification" or "behavior regulation" or "behavior therap*" or "behaviour contracting" or "behaviour modification" or "behaviour regulation" or "behaviour therap*" or bibliotherap* or biofeedback or "body psychotherap*" or "brief psychotherap*" or "caregiver support" or cbt or "client cent*" or "cognitive behavior*" or "cognitive behaviour*" or "cognitive intervention*" or "cognitive rehabilit*" or "cognitive remediation" or "cognitive technique*" or "cognitive therap*" or "cognitive treatment*" or "color therap*" or "colour therap*" or "compassionate mind training" or "conjoint therap*" or "contingency management" or "conversational therap*" or "conversion therap*" or "coping skills" or counseling or counselling or countertransference or "couples therap*" or "covert sensitization" or "covert sensitisation" or "crisis intervention" or "dance therap*" or dialectic* or eclectic or emotion* focus* or "emotional freedom technique" or "encounter group therap*" or "existential therap*" or "experiential psychotherap*" or "exposure therap*" or "expressive psychotherap*" or "eye movement desensitization" or "eye movement desensitisation" or "family intervention" or "family therap" or "feminist therap" or "free association" or "geriatric psychotherap" or "gestalt therap" or griefwork or "group intervention" or "group psychotherap" or "group therap" or "guided image" or "holistic psychotherap" or "humanistic psychotherap*" or hypnosis or hypnotherap* or hypnotizability or hypnotisability or imagery or "implosive therap*" or "individual psychotherap*" or "insight therap*" or "integrated psychological therapy" or "integrative psychotherap*" or "integrative therap*" or interpersonal or jungian or kleinian or logotherap* or "marathon group therap*" or "marital therap*" or meditation or "mental healing" or "metacognitive therap*" or "metacognitive training" or "milieu therap*" or mindfulness or "morita therap*" or multimodal or "music therap*" or "narrative therap*" or "nondirective therap*" or "object relations" or person cent* therap* or "personal construct therap*" or "persuasion therap*" or "pet therap*" or "play therap*" or "primal therap*" or "problem solving" or psychoanaly* or psychodrama or psychodynamic or psychoeducat* or psychologic* or "psychological therap*" or "psychosocial treatment" or psychotherap* or "psychotherapeutic counsel*" or "psychotherapeutic processes" or "psychotherapeutic training" or "psychotherapeutic treatment*" or "rational emotive" or "reality therap*" or "reciprocal inhibition" or rehabilitat* or "relationship therap*" or relaxation or "reminiscence therap*" or rogerian or "role play*" or "self analys*" or "self esteem" or "sensitivity training" or "sex therap*" or "sleep phase chronotherap*" or "social skills education" or "social skills training" or "socioenvironmental therap*" or sociotherap* or "solution focused" or "stress management" or "support group*" or "supportive therap*" or "systematic desensitization" or "systematic desensitisation" or "systemic therap*" or "therapeutic communit*" or "transactional analysis" or transference or transtheoretical or "validation therap*" or (dream* Near/3 analys*) or (support Near/3 psycho*)))

Indexes=BCI Timespan=All years

11 **152,007 TOPIC:** (schizo* or psychotic* or psychosis or psychoses) *OR* **TITLE:** (schizo* or psychotic* or psychoses)

Indexes=BCI Timespan=All years

10 **383,461** #9 OR #8 OR #7 OR #6 OR #3 OR #2

Indexes=BCI Timespan=All years

9 **39,824** TS=crossover* OR TI=crossover*

 $Indexes=BCI\ Timespan=All\ years$

8 467 TS=(randomi* Near/1 assign*) or TI=(randomi* Near/1 assign*)

 $Indexes=BCI\ Timespan=All\ years$

7 **80** TS=(randomi* Near/1 allocate*) or TI=(randomi* Near/1 allocate*)

Indexes=BCI Timespan=All years

6 **122,301** #5 AND #4

Indexes=BCI Timespan=All years

5 **225,151** TS=(mask* OR blind*) OR TI=(mask* OR blind*)

 $Indexes = BCI\ Timespan = All\ years$

4 **2,256,036** TS=(singl* OR Doubl* OR Tripl* OR Trebl*) OR TI=(singl* OR Doubl* OR Tripl* OR Tripl*)

Indexes=BCI Timespan=All years

3 **316,443** TI=(randomi*) OR TS=(randomi*)

Indexes=BCI Timespan=All years

2 **165,438** TS=(Randomized clinical trial*) OR TI=(Randomized clinical trial*)

Indexes=BCI Timespan=All years

1 **10,515,925** TA=(Hominidae)

Indexes=BCI Timespan=All years

Pubmed Searched 10th January 2018

#10 Search (#4 and #8 and #9) 6852

#9 Search (((randomized controlled trial[pt]) OR (controlled clinical trial[pt]) OR (randomized[tiab]) OR (placebo[tiab]) OR (drug therapy[sh]) OR (randomly[tiab]) OR (trial[tiab]) OR (groups[tiab])) NOT (animals[mh] NOT humans[mh])) 3607526

#8 Search (#6 or #7) 979810

(abreaction[Title/Abstract] OR "acceptance[Title/Abstract] AND commitment #7 therapy"[Title/Abstract] OR "acting out"[Title/Abstract] OR adlerian[Title/Abstract] OR "analytical psychotherapy"[Title/Abstract] OR "analytical psychotherapies"[Title/Abstract] "anger control"[Title/Abstract] OR "anger management"[Title/Abstract] OR "animal therapy"[Title/Abstract] OR "animal therapies" [Title/Abstract] OR "art therapy" [Title/Abstract] OR "art therapies" [Title/Abstract] OR "assertive training"[Title/Abstract] OR "assertiveness training"[Title/Abstract] OR "attention training technique"[Title/Abstract] OR "autogenic training"[Title/Abstract] OR autosuggestion[Title/Abstract] OR "aversion therapy" [Title/Abstract] OR "aversion therapies" [Title/Abstract] OR "balint group" [Title/Abstract] befriending[Title/Abstract] contracting"[Title/Abstract] OR OR "behavior "behavior modification"[Title/Abstract] OR "behavior regulation"[Title/Abstract] OR "behavior therapy"[Title/Abstract] "behavior therapies"[Title/Abstract] OR "behaviour contracting"[Title/Abstract] OR "behaviour regulation"[Title/Abstract] modification"[Title/Abstract] OR "behaviour "behaviour therapy"[Title/Abstract] OR "behaviour therapies"[Title/Abstract] OR bibliotherapy[Title/Abstract] OR bibliotherapies[Title/Abstract] OR biofeedback[Title/Abstract] OR "body psychotherapy"[Title/Abstract] OR psychotherapies"[Title/Abstract] OR "brief psychotherapy"[Title/Abstract] psychotherapies"[Title/Abstract] OR "caregiver support"[Title/Abstract] OR cbt[Title/Abstract] OR "client centre"[Title/Abstract] OR "client center"[Title/Abstract] OR "cognitive behavior"[Title/Abstract] OR "cognitive behaviorial"[Title/Abstract] OR "cognitive intervention"[Title/Abstract] OR "cognitive interventions"[Title/Abstract] OR "cognitive rehabilitation"[Title/Abstract] OR "cognitive remediation"[Title/Abstract] OR "cognitive technique"[Title/Abstract] OR "cognitive techniques"[Title/Abstract] OR "cognitive therapy"[Title/Abstract] OR "cognitive therapies"[Title/Abstract] "cognitive treatment"[Title/Abstract] OR "cognitive treatments"[Title/Abstract] OR therapy"[Title/Abstract] OR "color therapies"[Title/Abstract] OR "colour therapy"[Title/Abstract] OR "colour "conjoint therapies"[Title/Abstract] "compassionate mind training"[Title/Abstract] OR OR therapy"[Title/Abstract] OR "conjoint therapies"[Title/Abstract] "contingency OR "conversational therapy"[Title/Abstract] "conversational management"[Title/Abstract] OR OR therapies"[Title/Abstract] OR "conversion therapy"[Title/Abstract] OR "conversion therapies"[Title/Abstract] OR "coping skills" [Title/Abstract] OR counseling [Title/Abstract] OR counselling [Title/Abstract] OR therapy"[Title/Abstract] countertransference[Title/Abstract] OR "couples OR "couples therapies"[Title/Abstract] OR "covert sensitization"[Title/Abstract] OR "covert sensitisation"[Title/Abstract] intervention"[Title/Abstract] OR "dance therapy"[Title/Abstract] OR "dance therapies"[Title/Abstract] OR dialectic[Title/Abstract] OR dialectical[Title/Abstract] analysis"[Title/Abstract] OR eclectic[Title/Abstract] OR "emotion focused"[Title/Abstract] OR "emotionally focused"[Title/Abstract] OR "emotional freedom technique" [Title/Abstract] OR "encounter group group therapy"[Title/Abstract] OR "encounter therapies"[Title/Abstract] OR "existential therapy"[Title/Abstract] OR "existential therapies"[Title/Abstract] OR "experiential psychotherapy"[Title/Abstract] "experiential psychotherapies"[Title/Abstract] OR OR "exposure therapies"[Title/Abstract] therapy"[Title/Abstract] OR "exposure OR "expressive "expressive psychotherapies"[Title/Abstract] OR psychotherapy"[Title/Abstract] OR "eve movement desensitisation"[Title/Abstract] desensitization"[Title/Abstract] OR "eye movement "family intervention" [Title/Abstract] OR "family interventions" [Title/Abstract] OR "family therapy" [Title/Abstract] therapies"[Title/Abstract] "feminist therapy"[Title/Abstract] OR "feminist therapies"[Title/Abstract] OR "free association"[Title/Abstract] OR freudian[Title/Abstract] OR "geriatric psychotherapy"[Title/Abstract] OR "geriatric psychotherapies"[Title/Abstract] "gestalt

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^{#6} Search ("Psychotherapy"[Mesh] or "Behavior Therapy"[Mesh] or "Cognitive Therapy"[Mesh] or "Complementary Therapies"[Mesh] or "Psychoanalysis"[Mesh] or "Counseling"[Mesh] or "Hypnosis"[Mesh] or "Association"[Mesh] or "Association Learning"[Mesh])

391836

^{#4} Search (#1 or #2 or #3) 188523

#3Search (schizo*[Title/Abstract] OR psychotic*[Title/Abstract] OR psychosis[Title/Abstract] OR psychoses[Title/Abstract] OR psychoses[Title/Abstract] OR psychoses[Title/Abstract] OR psychoses[Title/Abstract] OR psychoses[Title/Abstract] OR psychosis[Title/Abstract] OR psychosis[T

Clinicaltrials.gov Searched 12/01/18

schizophrenia and random and psychotherapy = 89 schizophrenia and random and psychotherapies = 90 schizophrenia and random and "psychotherapeutic counsel" = 0 schizophrenia and random and "psychotherapeutic counseling" = 0 schizophrenia and random and "psychotherapeutic counselling" = 0 schizophrenia and random and "psychotherapeutic processes" = 0 schizophrenia and random and "psychotherapeutic training" = 0 schizophrenia and random and "psychotherapeutic treatment" = 1 schizophrenia and random and "psychotherapeutic treatments" = 1 schizophrenia and random and psychoanalyse = 0 schizophrenia and random and psychoanalysed = 0 schizophrenia and random and psychoanalysis = 0schizophrenia and random and psychoanalytic = 1 schizophrenia and random and psychodrama = 0 schizophrenia and random and psychodynamic = 2 schizophrenia and random and psychoeducate = 0 schizophrenia and random and psychoeducation = 104 schizophrenia and random and psychoeducating = 0 schizophrenia and random and psychologic =84 schizophrenia and random and psychological = 105 schizophrenia and random and psychologically = 2 schizophrenia and random and "psychological therapy" = 8 schizophrenia and random and "psychological therapies" = 8 schizophrenia and random and "psychosocial treatment" = 27 schizophrenia and random and "psychosocial treatments" = 27 schizophrenia and random and "behavior contracting" = 0 schizophrenia and random and "behavior modification" = 146 schizophrenia and random and "behavior regulation" = 0 schizophrenia and random and "behavior therapy" = 146 schizophrenia and random and "behavior therapies" = 146 schizophrenia and random and "behaviour contracting" = 1 schizophrenia and random and "behaviour modification" = 146 schizophrenia and random and "behaviour regulation" = 0 schizophrenia and random and "behaviour therapy" = 146 schizophrenia and random and "behaviour therapies" = 146 schizophrenia and random and cbt = 125schizophrenia and random and "cognitive behavior" = 29 schizophrenia and random and "cognitive behaviorial" = 0 schizophrenia and random and "cognitive intervention" = 8 schizophrenia and random and "cognitive interventions" = 8 schizophrenia and random and "cognitive rehabilitation" = 24 schizophrenia and random and "cognitive remediation" = 120 schizophrenia and random and "cognitive technique" = 0 schizophrenia and random and "cognitive techniques" = 0 schizophrenia and random and "cognitive therapy" = 114 schizophrenia and random and "cognitive therapies" = 114 schizophrenia and random and "cognitive treatment" = 7

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schizophrenia and random and "acting out" = 0
schizophrenia and random and adlerian = 0
schizophrenia and random and "anger control" = 0
schizophrenia and random and "anger management" = 1
schizophrenia and random and "animal therapy" = 0
schizophrenia and random and "animal therapies" = 0
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schizophrenia and random and "assertive training" = 0
schizophrenia and random and "assertiveness training" = 0
schizophrenia and random and "attention training technique" = 0
schizophrenia and random and "autogenic training" = 0
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schizophrenia and random and "balint group" = 0
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schizophrenia and random and bibliotherapy = 6
schizophrenia and random and bibliotherapies = 6
schizophrenia and random and biofeedback = 0
schizophrenia and random and "caregiver support" = 1
schizophrenia and random and "client centre" = 0
schizophrenia and random and "client center" = 0
schizophrenia and random and "color therapy" = 0
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schizophrenia and random and "conjoint therapy" = 0
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schizophrenia and random and "contingency management" = 9
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schizophrenia and random and "conversational therapies" = 0
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schizophrenia and random and "conversion therapies" = 0
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schizophrenia and random and "couples therapies" = 0
schizophrenia and random and "covert sensitization" = 0
schizophrenia and random and "covert sensitisation" = 0
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schizophrenia and random and "dance therapy" = 0
schizophrenia and random and "dance therapies" = 0
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schizophrenia and random and dialectical = 5
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schizophrenia and random and eclectic = 0
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schizophrenia and random and "insight therapies" = 0
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schizophrenia and random and kleinian = 0
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schizophrenia and random and "marital therapy" = 0
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schizophrenia and random and meditation = 8
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schizophrenia and random and "metacognitive therapy" = 4
schizophrenia and random and "metacognitive therapies" = 4
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schizophrenia and random and mindfulness = 31
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schizophrenia and random and "music therapy" = 2
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schizophrenia and random and "narrative therapy" = 0
schizophrenia and random and "narrative therapies" = 0
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schizophrenia and random and "nondirective therapies" = 0
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schizophrenia and random and "person centred therapy" = 0
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schizophrenia and random and "personal construct therapy" = 0
schizophrenia and random and "personal construct therapies" = 0
schizophrenia and random and "persuasion therapy" = 0
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schizophrenia and random and "self esteem" = 29
schizophrenia and random and "sensitivity training" = 0
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schizophrenia and random and transference = 0
schizophrenia and random and transtheoretical = 2
schizophrenia and random and "validation therapy" = 0
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Psychosis and random and "psychotherapeutic counselling" = 0
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Psychosis and random and "psychotherapeutic training" = 0
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Psychosis and random and "psychotherapeutic treatments" = 11
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Psychosis and random and psychoanalysed = 0
Psychosis and random and psychoanalysis = 2
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Psychosis and random and "assertive training" = 0

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Psychosis and random and "aversion therapies" = 0

Psychosis and random and "balint group" = 0

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Psychosis and random and bibliotherapy = 27

Psychosis and random and bibliotherapies = 27

Psychosis and random and biofeedback = 84

Psychosis and random and "caregiver support" = 15

Psychosis and random and "client centre" = 0

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Psychosis and random and "color therapies" = 0

Psychosis and random and "colour therapy" = 0

Psychosis and random and "colour therapies" = 0

Psychosis and random and "compassionate mind training" = 1

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Psychosis and random and "contingency management" = 173

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Psychosis and random and "conversion therapy" = 0

Psychosis and random and "conversion therapies" = 0

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Psychosis and random and counseling = 897

Psychosis and random and counselling = 897

Psychosis and random and countertransference = 0

Psychosis and random and "couples therapy" = 16

Psychosis and random and "couples therapies" = 16

Psychosis and random and "covert sensitization" = 0

Psychosis and random and "covert sensitisation" = 0

Psychosis and random and "crisis intervention" = 9

Psychosis and random and "dance therapy" = 0

Psychosis and random and "dance therapies" = 0

Psychosis and random and dialectic = 4

Psychosis and random and dialectical = 38

Psychosis and random and "dream analysis" = 0

Psychosis and random and eclectic = 7

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Psychosis and random and "emotionally focused" = 1

Psychosis and random and "emotional freedom technique" = 6

Psychosis and random and "encounter group therapy" = 0

Psychosis and random and "encounter group therapies" = 0

Psychosis and random and "existential therapy" = 0

Psychosis and random and "existential therapies" = 0

Psychosis and random and "exposure therapy" = 158

Psychosis and random and "exposure therapies" = 158

Psychosis and random and "eye movement desensitization" = 19

Psychosis and random and "eye movement desensitisation" = 19

Psychosis and random and "family intervention" = 32

Psychosis and random and "family interventions" = 32

Psychosis and random and "family therapy" = 67

Psychosis and random and "family therapies" = 67

Psychosis and random and "feminist therapy" = 0

Psychosis and random and "feminist therapies" = 0

Psychosis and random and "free association" = 1

Psychosis and random and freudian = 0

Psychosis and random and "gestalt therapy" = 2

Psychosis and random and "gestalt therapies" = 2

Psychosis and random and griefwork = 0

Psychosis and random and "group intervention" = 123

Psychosis and random and "group interventions" = 123

Psychosis and random and "group therapy" = 257

Psychosis and random and "group therapies" = 257

Psychosis and random and "guided imagery" = 30

Psychosis and random and hypnosis = 16

Psychosis and random and hypnotherapy = 16

Psychosis and random and hypnotherapies = 16

Psychosis and random and hypnotizability = 0

Psychosis and random and hypnotisability = 0

Psychosis and random and imagery = 103

Psychosis and random and "implosive therapy" = 2

Psychosis and random and "implosive therapies" = 2

Psychosis and random and "insight therapy" = 0

Psychosis and random and "insight therapies" = 0

Psychosis and random and "integrated psychological therapy" = 3

Psychosis and random and "integrative therapy" = 1

Psychosis and random and "integrative therapies" = 1

Psychosis and random and interpersonal = 248

Psychosis and random and jungian = 0

Psychosis and random and kleinian = 0

Psychosis and random and logotherapy = 1

Psychosis and random and logotherapies = 1

Psychosis and random and "marathon group therapy" = 0

Psychosis and random and "marathon group therapies" = 0

Psychosis and random and "marital therapy" = 2

Psychosis and random and "marital therapies" = 2

Psychosis and random and meditation = 140

Psychosis and random and "mental healing" = 0

Psychosis and random and "metacognitive therapy" = 16

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Psychosis and random and "metacognitive training" = 10

Psychosis and random and "milieu therapy" = 6

Psychosis and random and "milieu therapies" = 6

Psychosis and random and mindfulness = 246

Psychosis and random and "morita therapy" = 0

Psychosis and random and "morita therapies" = 0

Psychosis and random and multimodal = 81

Psychosis and random and "music therapy" = 31

Psychosis and random and "music therapies" = 31

Psychosis and random and "narrative therapy" = 2

Psychosis and random and "narrative therapies" = 2

Psychosis and random and "nondirective therapy" = 13

Psychosis and random and "nondirective therapies" = 13

Psychosis and random and "object relations" = 2

Psychosis and random and "person centred therapy" = 0

Psychosis and random and "person centred therapies" = 0

Psychosis and random and "person centered therapy" = 0

Psychosis and random and "person centered therapies" = 0

Psychosis and random and "personal construct the rapy" $=1\,$

Psychosis and random and "personal construct therapies" = 1

Psychosis and random and "persuasion therapy" = 0

Psychosis and random and "persuasion therapies" = 0

Psychosis and random and "pet therapy" = 6

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WHO ICTRP Trial registry Searched 26th June 2017

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psycho* and random* and systemic therap* = 2
psycho* and random* and therapeutic communit* = 4
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WHO ICTRP Trial registry 26th June to present

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schizo* and random* = 38
psycho* and random* = 174
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2. Description of included treatments

Acceptance and commitment therapy (ACT)	A manualized third generation behavioural therapy that incorporates acceptance and mindfulness-based strategies to help patients in overcoming negative thoughts and feelings.
AVATAR therapy (AVATAR)	People who hear voices create a computerised representation of the entity that they believed was the source of their main voice, and have then a dialogue with this digital representation (avatar) of their presumed persecutor. The avatar is voiced by the therapist, so that it responds by becoming less hostile and concedes power over the course of therapy.
Befriending* (Inactive Control)	Befriending involves engaging in conversation about everyday topics, whilst overtly avoiding discussion of symptoms and problems. The therapist aims to be empathic and nondirective, and psychotic or affective symptoms are not directly tackled in any way. The sessions focus on neutral topics, such as hobbies, sports, and current affairs.
Cognitive behavioral therapy (CBT)	Cognitive behavioural therapy for psychosis is usually based on an individualized case formulation and the establishment of collaborative goals with the patient. Therapy components include the improvement of existing coping strategies, the development and practice of new ones, the modification of delusional beliefs and beliefs about hallucinations and the challenge of dysfunctional schemas. Adaptive views of self are strengthened, including the re-evaluation of negative beliefs about the self.
Cognitive remediation*	A behavioural intervention aiming to improve cognitive processes. It used the 'Cognitive Remediation in Psychiatry Program' developed by 'HAPPYneuron', covering four cognitive domains (working memory, processing speed, verbal learning, reasoning and problem-solving). Modules are administered individually and accessible online.
Experience Focused Counselling (EFC)	EFC denotes aims at making sense of the voice-hearing experience within the person's life context and supporting the patient in learning to better deal with the experience as part of a recovery process. The intervention attempts to answer who and what problems the voices represent, also by uncovering traumatic life connections to voices.
Family intervention* (FI)	An intervention involving the relatives of the patient that may have a number of different aims. These include construction of an alliance with relatives who care for the person with schizophrenia, reduction of adverse family atmosphere, enhancement of the capacity of relatives to anticipate and solve problems, maintenance of reasonable expectations for patient performance, attainment of desirable change in relatives' behaviour and belief systems.
Hallucination Focused Integrative Treatment (HFIT)	This treatment integrates motivational interventions, training in coping skills, CBT, operant conditioning and single-family therapy with medication, psychoeducation, and rehabilitation.
Inactive Control* (IC)	Under this node we considered comparators conditions intended to control for non-specific aspects of the treatment, for example the time spent with the therapist (befriending, recreation and support, social activity therapy, supportive counselling)
Metacognitive Training (MT)	A group intervention whose aim is to make patients aware of their cognitive biases by helping them to reflect on various cognitive biases and their role in the formation and maintenance of psychopathology. Then patients are encouraged to discuss these biases and their implications with the help of real life examples and practical exercises. It is presumed that when the patients gain insight into their biases and relationship with psychopathology, they will challenge their beliefs and, thus, avoid the automatic cognitive traps.
Mindfulness (MF)	The intervention consists in guided meditation followed by reflective group discussion aimed at facilitating understanding, or metacognitive insight. During meditation, participants bring full awareness to difficult voices, feelings, thoughts and images, and also become aware of habitual coping reactions, safety behaviours and their effects. In meditation they practise letting go of these reactions and learn to allow and observe psychotic experiences come and go without reacting. Meditation and discussion lead to insight that struggling, judging and ruminating on psychotic experience creates distress, while mindful observation and acceptance of psychotic experience is empowering and calming.
Psychoeducation*	Psychoeducation may be defined as the education of a person with psychiatric disorder in subject areas that serve the goals of treatment and rehabilitation. With schizophrenic patients it covers the following topics: symptoms of psychosis, models of psychosis, effects and side-effects of medication, maintenance medication, early symptoms of relapse, relapse prevention.
Recreation and support* (Inactive Control)	The patients receive matched hours of therapist input providing structured activities and informal support. This consists mainly of flexible and low key leisure and social activities, ranging from the availability of a quiet room to listen to music, to outings and social groups.
Social activity therapy* (Inactive Control)	It consists in a program aimed at helping participants to identify activities they enjoyed and helping them to carry these out.
Social skills training* (SST)	Social skills training is an intervention for acquiring skills necessary to live in the community. It includes teaching skills such as symptom management and relapse prevention, involving role-plays, problem solving, in vivo exercises and home assignments. The therapists are instructed to model appropriate interaction styles and behaviors, and to teach clients how to effectively use the skills by using repetition and encouragements.
Supportive counselling* (Inactive Control)	This treatment is matched in terms of therapy time to the experimental arm. It aims to control for non-specific aspects of therapy by delivering basic assessment, psychoeducation and counselling in a supportive, warm, genuine, empathic and unstructured style. General counselling skills are used to maximise the non-specific effects of intervention.
Supportive Therapy* (ST)	A group active intervention, aimed at the provision of a safe and supportive atmosphere in which to raise issues of emotional importance to the patients, with an emphasis on the non-specific factors of warmth, empathy and genuineness. Patients have the opportunity to describe the narrative of their lives, including the impact of the illness, so that they can be helped to make sense of the timing of the illness and its nature and content with reference to strong and 'unbearable' affect regarding past aspects of personal history.
Treatment as usual (TAU)	Patients continue to receive standard psychiatric care. This can vary in the different settings according to national and local service protocols and guidelines, but usually includes regular psychiatric consultations, maintenance antipsychotic medication, out-patient and community follow-up, and access to community-based rehabilitative activities such as day centres and drop-in centres.

Waitlist	Patients assigned to the waiting list group usually continue to receive treatment as directed by the referring
(WL)	practitioner. At the conclusion of the trial, the control group is offered the possibility to undertake the same
	intervention as the experimental group.
	By signing an informed consent to the trial, the patients know which the treatments arms are. As a result, when
	they do not start a new treatment, they know they have been assigned to the waiting list group; they know an
	intervention likely to be effective exist, and will be provided to them in the future. This condition is known to
	be associated with nocebo effect (patients might get worse).

^{*}not a treatment of interest for this review. Was used in included studies as comparator for an experimental intervention that we include

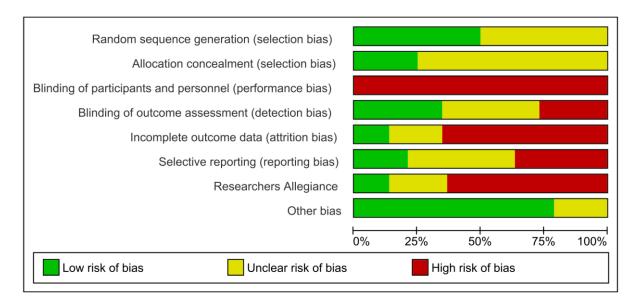
3. Risk of Bias assessment

eFigure 1: Risk of bias summary. Review authors' judgements about each risk of bias item for each included study

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Researchers Allegiance	Other bias
ACTRN12616000976482	•	?	•	?	?	?	?	+
Bach 2002	?	?	•			?		•
Barrowclough 2006	•	•	•	+		•	?	•
Bechdolf 2004	•	?		+	•		+	•
Birchwood 2014	•	•		+	+			?
Briki 2014	?	?		?			+	+
Chadwick 2009	?	•			•	?	•	+
Chadwick 2016	?	•	•	•	?	•		?
Craig 2018	•	•	•	•	•	•		•
Drury 1996	?	?				?	?	•
Durham 2003	•	•	•	+		-	?	?
England 2007	•	?		?	?	?		•
Favrod 2014	?	?		+		?		•
Foster 2010	?	?				?	?	•
Freeman 2014	•	?	•	+	?	•		•
Freeman 2015a	•	?	•	+		•	•	•
Freeman 2015b	•	?	•	+	•	•	•	•
Garety 2008	•	•	•	+		•		•
Gottlieb 2017	?	?		?		•		•

Habib 2015	•	?	•	?	•	•	•	•
Haddock 1999	?	?	-	?	-	?	•	•
Haddock 2009	•	?	•	•	•	?	?	•
Jenner 2004	•	•	•	•	•	?	•	•
Krakvik 2013	?	?	•	•	+	•	•	?
Kuipers 1997	?	?	•	•	•	•	•	?
Kumar 2010	•	?	•	•	-	•	•	•
Lecomte 2008	?	?	•	?	?	•	•	•
Lee 2012	?	?	•	?	-	?	?	•
Lee 2013 PT	?	?	•	?	•	?	?	•
Levine 1998	?	?	•	•	•	?	•	•
Li 2015	•	•	-	?	?	•	•	•
McLeod 2007	?	?	•	•	?	•	•	?
Morrison 2014	•	•	•	•	+	•	•	•
Penn 2009	•	?	-	•	?	?	-	•
Pinninti 2010	•	?	-	?	•	?	•	•
Pot-Kolder 2016	•	•	•	•	•	?	?	•
Rector 2003	?	?	-	•	•	•	•	?
Schnackenberg 2017	?	?	-	•	•	?	?	•
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Shawyer 2016	•	•	-	•	•	•	•	•
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Trower 2004	•	?	•	?	•	•	•	•
Turkington 2000	?	?	•	?	•	?	•	•
Valmaggia 2005	•	?	•	?	•	?	•	?
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van Oosterhout 2014	•	•	•	?	•	•	•	•
Velligan 2015	•	?	•	?	•	•	•	?
Wahass 1997	?	?	•		?	?	?	•
Wittorf 2010	?	?	•	?	•	•	•	?
Wykes 2005	?	?	•	-	-	?	•	•

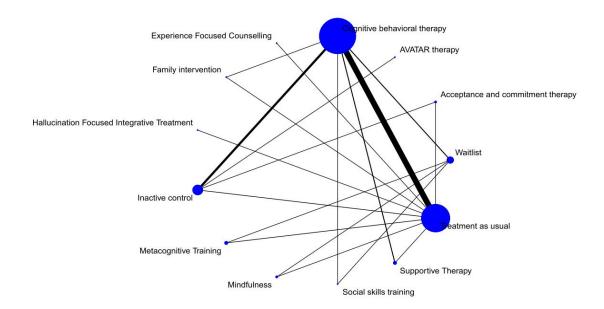
eFigure 2: Risk of bias graph. Review authors' judgements about each bias item as percentages across all included studies



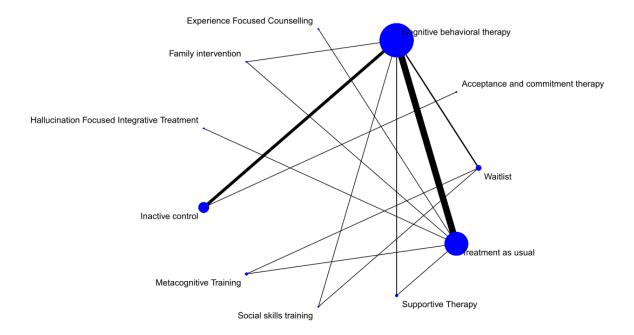
4. Network Plots for Secondary Outcomes

The network plots show the eligible comparisons for each outcome. Nodes represent the available treatments and edges represent the available comparisons. Both nodes and edges are weighted according to the number of studies involved in each treatment or comparison respectively. For outcomes in which the network was not connected, separate networks and comparisons are presented (in this case network plots were produced with STATA 14). Very less data were reported on the outcomes Relapse, Adverse events and Mortality due to specific reasons, so it was not meaningful to conduct any kind of analysis.

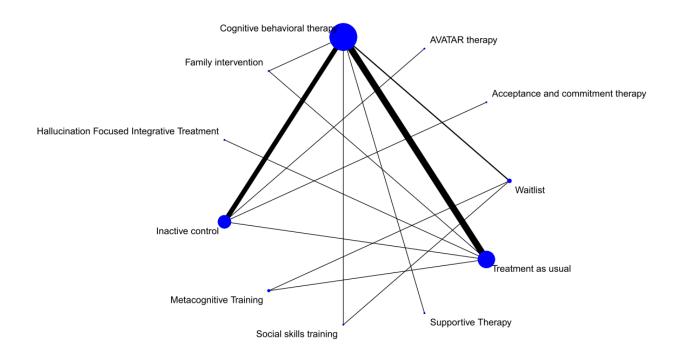
eFigure 3. Network plot for the secondary outcome Dropout



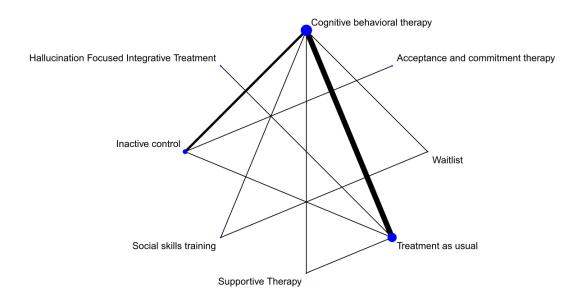
eFigure 4. Network plot for the secondary outcome Overall symptoms



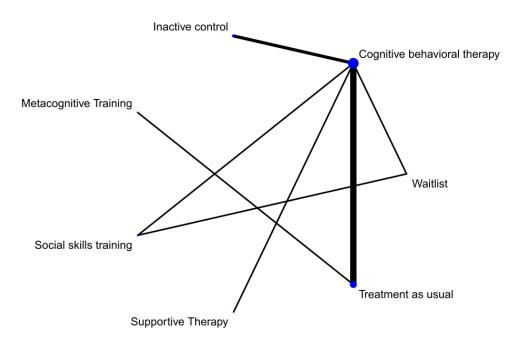
eFigure 5. Network plot for the secondary outcome Negative symptoms



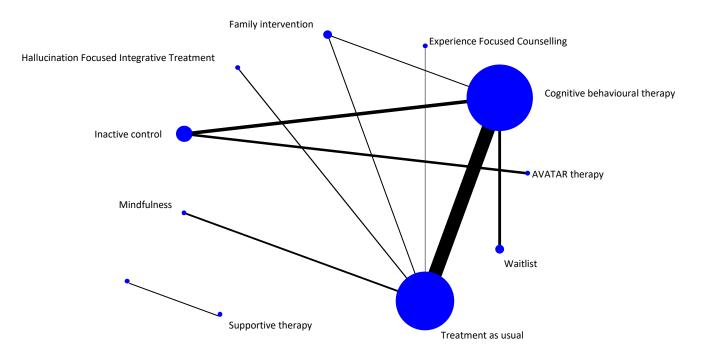
eFigure 6. Network plot for the secondary outcome Response



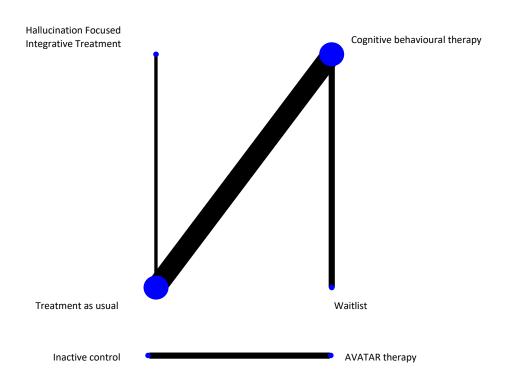
eFigure 7. Network plot for the secondary outcome Adherence



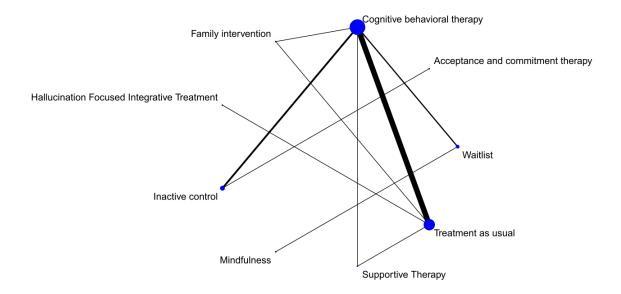
eFigure 8. Network plot for the secondary outcome Depression



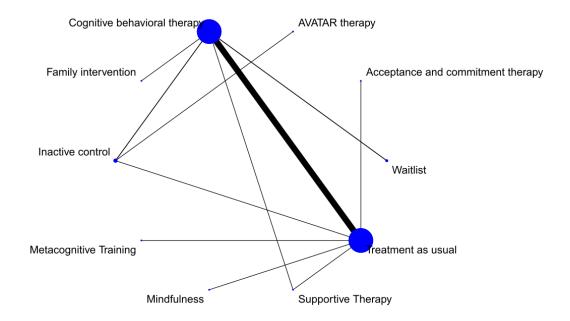
eFigure 9. Network plot for the secondary outcome Quality of Life



eFigure 10. Network plot for the secondary outcome Functioning



eFigure 11. Network plot for the secondary outcome Mortality for any reason



5. Results of Network and Pairwise Meta-analyses of Secondary Outcomes

We present here for each outcome league tables with network evidence in the lower triangle, and direct (pairwise) evidence in the upper triangle. Treatments are ranked by the surface under the cumulative ranking probabilities (eAppendix 6). Significant results are represented in bold. Data are SMDs (95% CIs) (for continuous outcomes) and RRs (95% CIs) (for dichotomous outcomes) in the column defining treatment compared with the row defining treatment. SMDs lower than 0 and RRs lower than 1 favour the column defining treatment. According to Cohen's guideline for magnitude of effect (1) SMDs of -0.2 can be considered small, -0.5 medium, and -0.8 large. To obtain SMDs for comparisons in the opposite direction, negative values should be converted into positive values, and vice versa. To obtain RRs for comparisons in the opposite direction, reciprocals should be taken.

Very less data were reported on the outcomes Relapse, Adverse events and Mortality due to specific reasons, so it was not meaningful to conduct any kind of analysis.

Abbreviations:

ACT = Acceptance and commitment therapy

AVATAR = AVATAR therapy

CBT = Cognitive behavioral therapy

EFC = Experience Focused Counselling

FI = Family intervention

HFIT = Hallucination Focused Integrative Treatment

IC = Inactive control

MT = Metacognitive Training

MF = Mindfulness

SST = Social skills training

ST = Supportive Therapy

TAU = Treatment as usual

WL = Waitlist

eTable 1. Dropout

HFIT					0.40 [0.08; 1.94] (1 study, 78 patients)							·
0.60 [0.10; 3.58]	MF				0.67 [0.25; 1.74] (1 study, 108 patients)	0.67 [0.14; 3.24] (1 study, 22 patients)						
0.53 [0.09; 3.01]	0.88 [0.30; 2.61]	MT			0.78 [0.34; 1.78] (2 studies, 206 patients)	0.68 [0.17; 2.71] (1 study, 44 patients)						
0.48 [0.08; 2.97]	0.80 [0.23; 2.79]	0.91 [0.28; 2.93]	EFC		0.83 [0.33; 2.08] (1 study, 22 patients)	·						
0.48 [0.07; 3.20]	0.80 [0.21; 3.09]	0.91 [0.25; 3.27]	1.00 [0.25; 4.03]	FI	0.80 [0.24; 2.67] (1 study, 56 patients)				0.64 [0.20; 2.03] (1 study, 55 patients)			·
0.40 [0.08; 1.94]	0.67 [0.29; 1.56]	0.76 [0.36; 1.58]	0.83 [0.33; 2.08]	0.84 [0.29; 2.41]	TAU			1.00 [0.31; 3.19]	0.76 [0.58; 0.98] (19 studies, 1534 patients)	0.49 [0.27; 0.91] (2 studies, 137 patients)	0.44 [0.09; 2.02] (1 study, 44 patients)	·
0.39 [0.07; 2.29]	0.66 [0.24; 1.79]	0.75 [0.30; 1.85]	0.82 [0.25; 2.72]	0.82 [0.22; 3.02]	0.98 [0.45; 2.14]	WL			0.73 [0.27; 1.95] (4 studies, 170 patients)			0.38 [0.15; 1.00] (1 study, 81 patients)
0.32 [0.06; 1.88]	0.54 [0.17; 1.70]	0.61 [0.21; 1.78]	0.67 [0.20; 2.24]	0.67 [0.18; 2.46]	0.80 [0.37; 1.77]	0.82 [0.28; 2.41]	AVATAR			0.86 [0.43; 1.73]		
0.31 [0.05; 1.82]	0.51 [0.16; 1.67]	0.58 [0.19; 1.75]	0.64 [0.19; 2.19]	0.64 [0.17; 2.43]	0.77 [0.34; 1.75]	0.78 [0.25; 2.39]	0.95 [0.32; 2.81]	ACT		1.15 [0.38; 3.52]		
0.30 [0.06; 1.47]	0.50 [0.21; 1.19]	0.56 [0.26; 1.20]	0.62 [0.24; 1.59]	0.62 [0.22; 1.78]	0.74 [0.58; 0.95]	0.75 [0.35; 1.63]	0.92 [0.43; 1.97]	0.97 [0.42; 2.22]	СВТ	0.94 [0.69; 1.27] (7 studies, 787 patients)	0.92 [0.58; 1.47] (3 studies, 195 patients)	0.32 [0.14; 0.73] (1 study, 102 patients)
0.28 [0.05; 1.39]	0.46 [0.19; 1.15]	0.52 [0.23; 1.17]	0.57 [0.22; 1.53]	0.58 [0.19; 1.72]	0.69 [0.48; 0.99]	0.70 [0.31; 1.59]	0.86 [0.43; 1.73]	0.90 [0.39; 2.05]	0.93 [0.69; 1.25]	IC		
0.27 [0.05; 1.40]	0.45 [0.17; 1.19]	0.51 [0.21; 1.23]	0.56 [0.20; 1.58]	0.56 [0.18; 1.76]	0.67 [0.40; 1.11]	0.68 [0.28; 1.66]	0.83 [0.34; 2.02]	0.87 [0.34; 2.24]	0.90 [0.57; 1.42]	0.97 [0.57; 1.66]	ST	
0.11 [0.02; 0.66]	0.19 [0.07; 0.56]	0.22 [0.08; 0.58]	0.24 [0.07; 0.78]	0.24 [0.07; 0.86]	0.29 [0.13; 0.62]	0.29 [0.13; 0.65]	0.36 [0.12; 1.03]	0.37 [0.12; 1.13]	0.39 [0.18; 0.81]	0.42 [0.19; 0.92]	0.43 [0.18; 1.02]	SST

eTable 2. Overall symptoms

HFIT									-0.64 [-1.33; 0.06] (1 study, 69 patients)	
-0.26 [-0.98; 0.46]	СВТ		-0.08 [-0.71; 0.55] (1 study, 102 patients)	-0.17 [-0.46; 0.11] (7 studies, 492 patients)	-0.23 [-1.01; 0.54] (1 study, 45 patients)		-0.28 [-0.85; 0.29] (2 studies, 78 patients)	-0.50 [-0.96; -0.05] (3 studies, 147 patients)	-0.36 [-0.54; -0.17] (15 studies, 1208 patients)	
-0.10 [-1.55; 1.36]	0.16 [-1.13; 1.45]	EFC							-0.54 [-1.82; 0.74] (1 study, 12 patients)	
-0.42 [-1.35; 0.51]	-0.16 [-0.75; 0.43]	-0.32 [-1.74; 1.10]	SST					-0.10 [-0.78; 0.58] (1 study, 81 patients)		·
-0.43 [-1.21; 0.34]	-0.17 [-0.46; 0.11]	-0.34 [-1.66; 0.99]	-0.02 [-0.67; 0.64]	IC		-0.16 [-0.80; 0.48] (1 study, 96 patients)				
-0.54 [-1.50; 0.43]	-0.28 [-0.94; 0.39]	-0.44 [-1.88; 1.00]	-0.12 [-1.01; 0.77]	-0.10 [-0.83; 0.62]	FI				-0.06 [-0.82; 0.70] (1 study, 56 patients)	
-0.59 [-1.60; 0.41]	-0.33 [-1.03; 0.37]	-0.49 [-1.96; 0.98]	-0.17 [-1.09; 0.74]	-0.16 [-0.80; 0.48]	-0.06 [-1.02; 0.91]	ACT				
-0.59 [-1.47; 0.29]	-0.33 [-0.86; 0.20]	-0.49 [-1.88; 0.90]	-0.17 [-0.96; 0.62]	-0.16 [-0.76; 0.45]	-0.05 [-0.90; 0.79]	0.00 [-0.88; 0.88]	ST	·	0.05 [-0.76; 0.86] (1 study, 38 patients)	
-0.62 [-1.46; 0.21]	-0.36 [-0.80; 0.07]	-0.53 [-1.89; 0.83]	-0.20 [-0.81; 0.40]	-0.19 [-0.71; 0.33]	-0.09 [-0.88; 0.70]	-0.03 [-0.86; 0.79]	-0.03 [-0.72; 0.65]	WL		-0.69 [-1.61; 0.22] (1 study, 28 patients)
-0.64 [-1.33; 0.06]	-0.38 [-0.56; -0.20]	-0.54 [-1.82; 0.74]	-0.22 [-0.83; 0.40]	-0.20 [-0.54; 0.13]	-0.10 [-0.77; 0.56]	-0.05 [-0.77; 0.68]	-0.05 [-0.59; 0.50]	-0.01 [-0.48; 0.45]	TAU	0.77 [-0.37; 1.92] (1 study, 16 patients)
-0.75 [-1.79; 0.29]	-0.49 [-1.26; 0.28]	-0.65 [-2.14; 0.84]	-0.33 [-1.24; 0.58]	-0.32 [-1.13; 0.50]	-0.21 [-1.22; 0.79]	-0.16 [-1.20; 0.88]	-0.16 [-1.09; 0.77]	-0.13 [-0.86; 0.61]	-0.11 [-0.88; 0.66]	MT

eTable 3. Negative symptoms

СВТ	·	0.08 [-0.32; 0.48] (1 study, 102 patients)	0.00 [-0.65; 0.65] (1 study, 37 patients)	·	-0.09 [-0.26; 0.08] (8 studies, 558 patients)	-0.15 [-0.53; 0.22] (2 studies, 120 patients)	·	·	-0.19 [-0.78; 0.41] (1 study, 45 patients)	-0.15 [-0.29; -0.02] (11 studies, 916 patients)
0.05 [-0.40; 0.49]	ACT				-0.14 [-0.55; 0.28] (1 study, 96 patients)					
0.01 [-0.37; 0.39]	-0.04 [-0.63; 0.55]	SST				0.00 [-0.47; 0.47] (1 study, 81 patients)				
-0.00 [-0.65; 0.65]	-0.05 [-0.84; 0.74]	-0.01 [-0.77; 0.75]	ST							
-0.09 [-0.59; 0.41]	-0.14 [-0.81; 0.53]	-0.10 [-0.73; 0.53]	-0.09 [-0.91; 0.73]	HFIT						-0.07 [-0.55; 0.41] (1 study, 69 patients)
-0.09 [-0.26; 0.08]	-0.14 [-0.55; 0.28]	-0.10 [-0.52; 0.32]	-0.09 [-0.76; 0.59]	0.00 [-0.52; 0.53]	IC			-0.06 [-0.42; 0.31] (1 study, 124 patients)		-0.12 [-0.70; 0.47] (1 study, 47 patients)
-0.12 [-0.48; 0.24]	-0.16 [-0.74; 0.41]	-0.13 [-0.55; 0.30]	-0.12 [-0.86; 0.63]	-0.02 [-0.64; 0.59]	-0.03 [-0.43; 0.37]	WL	-0.19 [-0.94; 0.55] (1 study, 28 patients)			
-0.16 [-0.80; 0.48]	-0.21 [-0.99; 0.57]	-0.17 [-0.88; 0.54]	-0.16 [-1.08; 0.75]	-0.07 [-0.87; 0.74]	-0.07 [-0.74; 0.59]	-0.04 [-0.66; 0.57]	MT			-0.26 [-1.25; 0.73] (1 study, 16 patients)
-0.14 [-0.55; 0.26]	-0.19 [-0.74; 0.36]	-0.16 [-0.71; 0.40]	-0.14 [-0.91; 0.62]	-0.05 [-0.69; 0.59]	-0.06 [-0.42; 0.31]	-0.03 [-0.57; 0.51]	0.02 [-0.74; 0.77]	AVATAR		
-0.18 [-0.69; 0.33]	-0.23 [-0.91; 0.44]	-0.19 [-0.83; 0.44]	-0.18 [-1.01; 0.64]	-0.09 [-0.79; 0.61]	-0.10 [-0.63; 0.44]	-0.07 [-0.69; 0.55]	-0.02 [-0.84; 0.79]	-0.04 [-0.69; 0.61]	FI	0.02 [-0.56; 0.60] (1 study, 47 patients)
-0.16 [-0.29; -0.03]	-0.21 [-0.67; 0.26]	-0.17 [-0.57; 0.23]	-0.16 [-0.82; 0.51]	-0.07 [-0.55; 0.41]	-0.07 [-0.28; 0.14]	-0.04 [-0.42; 0.34]	0.00 [-0.64; 0.65]	-0.01 [-0.44; 0.41]	0.03 [-0.48; 0.53]	TAU

eTable 4. Response

HFIT			·				3.20 [1.30; 7.88] (1 study, 78 patients)
1.39 [0.53; 3.64]	СВТ	1.12 [0.56; 2.26] (1 study, 102 patients)	1.04 [0.02; 50.43] (1 study, 45 patients)		1.61 [1.18; 2.20] (3 studies, 221 patients)	2.25 [0.70; 7.28]	2.31 [1.65; 3.24] (7 studies, 525 patients)
1.56 [0.48; 5.14]	1.12 [0.56; 2.26]	SST				2.00 [0.62; 6.49] (1 study, 81 patients)	
2.25 [0.07; 73.21]	1.62 [0.06; 46.75]	1.44 [0.05; 44.66]	ST				0.91 [0.02; 44.13] (1 study, 44 patients)
2.11 [0.60; 7.46]	1.52 [0.67; 3.44]	1.35 [0.46; 3.96]	0.94 [0.03; 29.80]	ACT	1.06 [0.49; 2.25] (1 study, 96 patients)		
2.23 [0.81; 6.11]	1.60 [1.17; 2.19]	1.42 [0.66; 3.06]	0.99 [0.03; 28.91]	1.06 [0.49; 2.25]	IC		1.44 [0.35; 5.81] (1 study, 54 patients)
3.13 [0.69; 14.27]	2.25 [0.70; 7.28]	2.00 [0.62; 6.49]	1.39 [0.04; 48.85]	1.48 [0.35; 6.20]	1.40 [0.42; 4.73]	WL	
3.20 [1.30; 7.88]	2.30 [1.64; 3.22]	2.05 [0.94; 4.44]	1.42 [0.05; 40.94]	1.52 [0.63; 3.66]	1.44 [0.91; 2.26]	1.02 [0.30; 3.47]	TAU

eTable 5. Adherence and insight

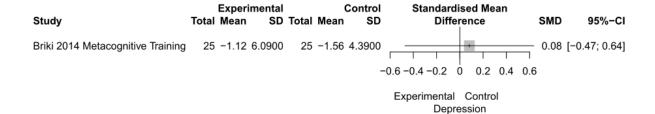
МТ			-0.33 [-0.70; 0.05] (1 study, 111 patients)			
-0.16 [-0.75; 0.43]	SST	-0.14 [-0.53; 0.24] (1 study, 102 patients)		-0.19 [-0.66; 0.27] (1 study, 81 patients)		
-0.30 [-0.75; 0.14]	-0.14 [-0.53; 0.24]	СВТ	-0.02 [-0.26; 0.21] (4 studies, 274 patients)	-0.05 [-0.52; 0.42] (1 study, 75 patients)	-0.20 [-0.45; 0.04] (2 studies, 257 patients)	-0.75 [-1.42; -0.08] (1 study, 37 patients)
-0.33 [-0.70; 0.05]	-0.17 [-0.62; 0.29]	-0.02 [-0.26; 0.21]	TAU			•
-0.35 [-1.00; 0.30]	-0.19 [-0.66; 0.27]	-0.05 [-0.52; 0.42]	-0.03 [-0.55; 0.50]	WL		
-0.51 [-1.01; 0.00]	-0.35 [-0.81; 0.11]	-0.20 [-0.45; 0.04]	-0.18 [-0.52; 0.16]	-0.16 [-0.69; 0.37]	IC	•
-1.06 [-1.86; -0.25]	-0.90 [-1.67; -0.12]	-0.75 [-1.42; -0.08]	-0.73 [-1.44; -0.02]	-0.71 [-1.53; 0.11]	-0.55 [-1.26; 0.16]	ST

eTable 6. Depression

Network meta-analysis results, excluding the disconnected comparison of Briki 2014 – see below.

						-0.45 [-0.98;		
HFIT						0.08] (1 study, 69		
						patients)		
-0.07 [-0.78;	MF					-0.38 [-0.85; 0.09]		
0.64]	WII	•	•	•	•	(1 study, 93 patients)	•	•
-0.11 [-0.89; 0.66]	-0.04 [-0.78; 0.70]	AVATAR					-0.39 [-0.81; 0.03] (1 study, 123 patients)	
-0.06 [-1.36; 1.24]	0.01 [-1.26; 1.29]	0.05 [-1.26; 1.37]	EFC			-0.39 [-1.58; 0.79] (1 study, 12 patients)		
-0.31 [-0.86; 0.25]	-0.23 [-0.73; 0.27]	-0.19 [-0.73; 0.35]	-0.25 [-1.45; 0.95]	СВТ	-0.05 [-0.43; 0.33] (2 studies, 143 patients)	-0.14 [-0.32; 0.03] (11 studies, 697 patients)	-0.20 [-0.53; 0.14] (3 studies, 183 patients)	-0.16 [-0.80; 0.48] (1 study, 43 patients)
-0.36 [-1.03; 0.32]	-0.28 [-0.91; 0.34]	-0.24 [-0.90; 0.41]	-0.30 [-1.56; 0.96]	-0.05 [-0.43; 0.33]	WL		·	
-0.45 [-0.98; 0.08]	-0.38 [-0.85; 0.09]	-0.34 [-0.91; 0.23]	-0.39 [-1.58; 0.79]	-0.14 [-0.32; 0.03]	-0.09 [-0.51; 0.32]	TAU		-0.67 [-1.32; -0.02] (1 study, 44 patients)
-0.50 [-1.15; 0.15]	-0.43 [-1.03; 0.17]	-0.39 [-0.81; 0.03]	-0.45 [-1.69; 0.80]	-0.20 [-0.53; 0.14]	-0.15 [-0.65; 0.36]	-0.05 [-0.43; 0.32]	IC	
-0.79 [-1.56; -0.01]	-0.72 [-1.45; 0.02]	-0.68 [-1.45; 0.10]	-0.73 [-2.04; 0.58]	-0.48 [-1.04; 0.08]	-0.43 [-1.11; 0.25]	-0.34 [-0.90; 0.22]	-0.28 [-0.94; 0.37]	FI

Pairwise analysis – Briki 2014

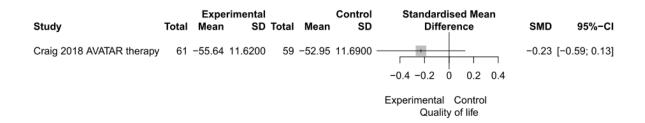


eTable 7. Quality of Life

Network meta-analysis results, excluding the disconnected comparison of Craig 2018 – see below.

СВТ	0.00 [-0.70; 0.70] (1 study, 116 patients)		-0.42 [-0.78; -0.06] (5 studies, 401 patients)
-0.00 [-0.70; 0.70]	WL	-	-
-0.09 [-0.94; 0.77]	-0.09 [-1.19; 1.02]	HFIT	-0.33 [-1.11; 0.45] (1 study, 63 patients)
-0.42 [-0.78; -0.06]	-0.42 [-1.21; 0.37]	-0.33 [-1.11; 0.45]	TAU

Pairwise analysis - Craig 2018



eTable 8. Functioning

HFIT						-0.58 [-1.26; 0.10] (1 study, 63 patients)		
-0.04 [-1.39; 1.32]	MF				-0.53 [-1.58; 0.52] (1 study, 18 patients)			
-0.33 [-1.05; 0.39]	-0.29 [-1.44; 0.85]	СВТ	0.08 [-0.71; 0.87] (1 study, 38 patients)	-0.37 [-1.12; 0.37] (1 study, 45 patients)	-0.24 [-0.70; 0.22] (2 studies, 161 patients)	-0.25 [-0.48; -0.03] (9 studies, 734 patients)		-0.34 [-0.70; 0.02] (3 studies, 315 patients)
-0.46 [-1.44; 0.52]	-0.42 [-1.77; 0.92]	-0.13 [-0.83; 0.57]	ST			0.11 [-0.70; 0.91] (1 study, 35 patients)		
-0.56 [-1.50; 0.38]	-0.52 [-1.84; 0.80]	-0.23 [-0.87; 0.42]	-0.10 [-1.04; 0.84]	FI		-0.16 [-0.90; 0.57] (1 study, 47 patients)		
-0.57 [-1.42; 0.29]	-0.53 [-1.58; 0.52]	-0.24 [-0.70; 0.22]	-0.11 [-0.95; 0.73]	-0.01 [-0.80; 0.79]	WL			
-0.58 [-1.26; 0.10]	-0.55 [-1.71; 0.62]	-0.25 [-0.48; -0.03]	-0.13 [-0.83; 0.58]	-0.03 [-0.67; 0.62]	-0.02 [-0.53; 0.50]	TAU		
-0.71 [-1.72; 0.29]	-0.68 [-2.02; 0.67]	-0.39 [-1.09; 0.32]	-0.26 [-1.25; 0.74]	-0.16 [-1.12; 0.80]	-0.15 [-0.99; 0.70]	-0.13 [-0.87; 0.61]	ACT	0.05 [-0.56; 0.66] (1 study, 96 patients)
-0.66 [-1.47; 0.14]	-0.63 [-1.83; 0.57]	-0.34 [-0.70; 0.02]	-0.21 [-1.00; 0.58]	-0.11 [-0.85; 0.63]	-0.10 [-0.68; 0.49]	-0.08 [-0.50; 0.34]	0.05 [-0.56; 0.66]	IC

eTable 9. Mortality for any reason

СВТ	1.00 [0.06; 15.54] (2 studies, 146 patients)	1.04 [0.02; 50.42] (1 study, 55 patients)	0.87 [0.36; 2.13] (15 studies, 1172 patients)				·	0.88 [0.16; 4.88] (2 studies, 140 patients)	0.35 [0.01; 8.11] (1 study, 45 patients)
1.00 [0.06; 15.54]	WL								
1.04 [0.02; 50.42]	1.04 [0.01; 120.47]	FI							
0.88 [0.36; 2.15]	0.88 [0.05; 15.76]	0.85 [0.02; 45.75]	TAU	1.00 [0.06; 15.44] (1 study, 80 patients)	1.00 [0.06; 15.58] (1 study, 108 patients)	0.95 [0.02; 47.26] (1 study, 154 patients)		0.31 [0.01; 7.28] (1 study, 54 patients)	0.36 [0.02; 8.47] (1 study, 44 patients)
0.88 [0.05; 15.67]	0.88 [0.02; 46.97]	0.85 [0.01; 106.97]	1.00 [0.06; 15.44]	ACT					
0.88 [0.05; 15.80]	0.88 [0.02; 47.26]	0.85 [0.01; 107.52]	1.00 [0.06; 15.58]	1.00 [0.02; 48.28]	MF				
0.84 [0.02; 46.03]	0.84 [0.01; 107.58]	0.81 [0.00; 214.30]	0.95 [0.02; 47.26]	0.95 [0.01; 112.04]	0.95 [0.01; 112.63]	MT			
0.74 [0.01; 51.23]	0.74 [0.00; 115.12]	0.71 [0.00; 223.74]	0.84 [0.01; 61.98]	0.84 [0.01; 137.41]	0.84 [0.01; 138.08]	0.88 [0.00; 294.96]	AVATAR	1.00 [0.02; 49.75] (1 study, 150 patients)	
0.74 [0.14; 3.85]	0.74 [0.03; 18.12]	0.71 [0.01; 48.44]	0.84 [0.14; 5.11]	0.84 [0.03; 22.26]	0.84 [0.03; 22.42]	0.88 [0.01; 65.29]	1.00 [0.02; 49.75]	IC	
0.33 [0.03; 4.15]	0.33 [0.01; 13.86]	0.32 [0.00; 33.08]	0.38 [0.03; 4.72]	0.38 [0.01; 15.66]	0.38 [0.01; 15.77]	0.40 [0.00; 41.76]	0.45 [0.00; 62.35]	0.45 [0.02; 9.07]	ST

6. Cumulative Ranking Curves (Rankograms) for All Outcomes

We present here the surface under the cumulative ranking curve (SUCRA) for each outcome and tables with the corresponding probability values. However, we did not interpret the resulting hierarchies, because of the small number of studies for most of the comparisons, and therefore the low power of the analyses. This limitation would make the interpretation of the hierarchies not recommendable. Rankograms were produced with STATA 14.

Abbreviations:

ACT = Acceptance and commitment therapy

AVATAR = AVATAR therapy

CBT = Cognitive behavioral therapy

EFC = Experience Focused Counselling

FI = Family intervention

HFIT = Hallucination Focused Integrative Treatment

IC = Inactive control

MT = Metacognitive Training

MF = Mindfulness

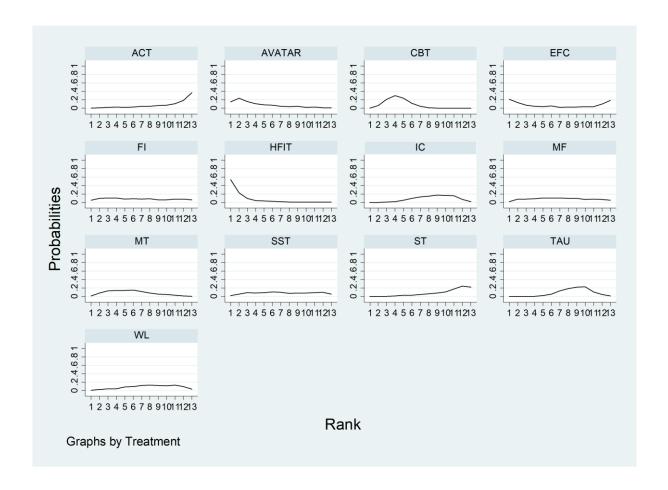
SST = Social skills training

ST = Supportive Therapy

TAU = Treatment as usual

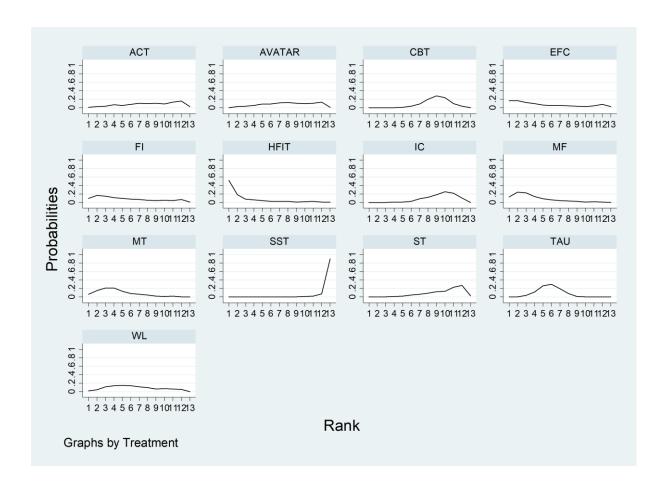
WL = Waitlist

eFigure 12: SUCRA Plots for the primary outcome Positive Symptoms



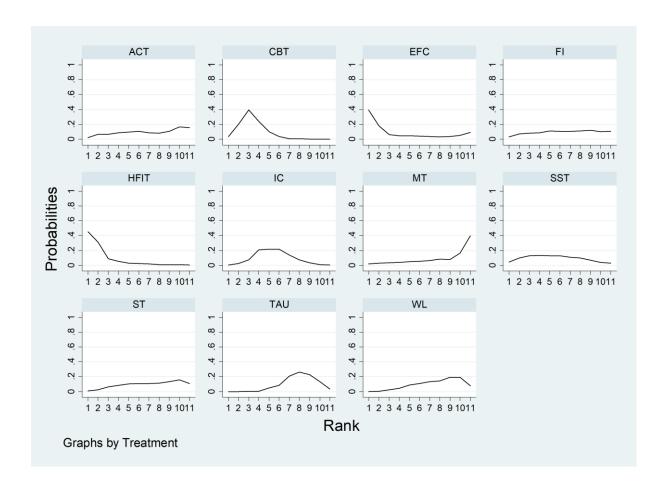
	Positive symptoms								
Treatment	SUCRA	Probability of being the best	MeanRank						
TAU	34.1	0	8.9						
ACT	20.1	0.2	10.6						
AVATAR	73.5	14.6	4.2						
CBT	72.5	0.5	4.3						
EFC	54.8	21.4	6.4						
FI	52.5	4.8	6.7						
HFIT	89.8	53.7	2.2						
IC	35.4	0	8.8						
MF	49.4	1.6	7.1						
MT	61.6	1.2	5.6						
SST	46.5	1.8	7.4						
ST	19.5	0	10.7						
WL	40.3	0.2	8.2						

eFigure 13: SUCRA Plots for the secondary outcome Dropout



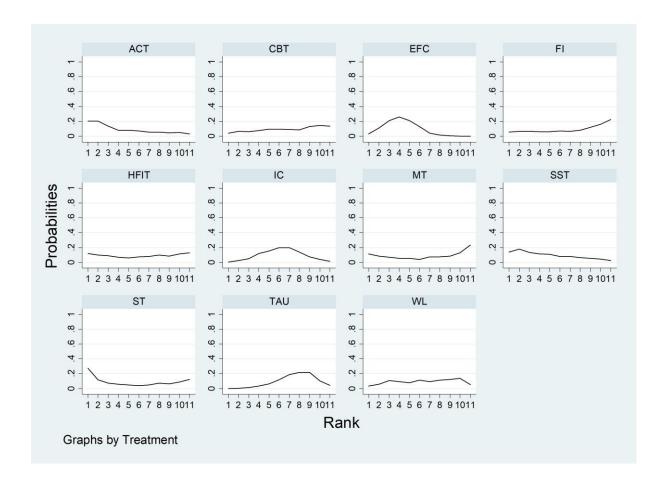
Dropout total								
Treatment	SUCRA	Probability of being the best	MeanRank					
TAU	60.2	0.2	5.8					
ACT	38.8	0.8	8.3					
AVATAR	41.4	0.6	8					
СВТ	33.2	0	9					
EFC	65.7	17.2	5.1					
FI	64.4	9	5.3					
HFIT	86	51.7	2.7					
IC	28.5	0	9.6					
MF	77.4	12.4	3.7					
MT	72.9	6.4	4.3					
SST	1.3	0	12.8					
ST	24.7	0	10					
WL	55.6	1.7	6.3					

eFigure 14: SUCRA Plots for the secondary outcome Overall symptoms



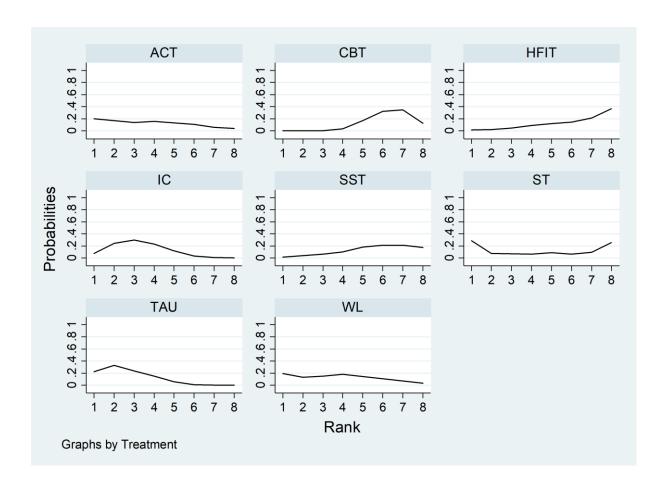
	Overall symptoms								
Treatment	SUCRA	Probability of being the best	MeanRank						
TAU	29.4	0	8.1						
ACT	38.2	1.8	7.2						
CBT	77.1	3.3	3.3						
EFC	71.5	39.5	3.9						
FI	43.3	2.9	6.7						
HFIT	88.1	45.3	2.2						
IC	55.3	0.3	5.5						
MT	23.1	1.7	8.7						
SST	55.8	4.2	5.4						
ST	37.2	1	7.3						
WL	31.1	0	7.9						

eFigure 15: SUCRA Plots for the secondary outcome Negative symptoms



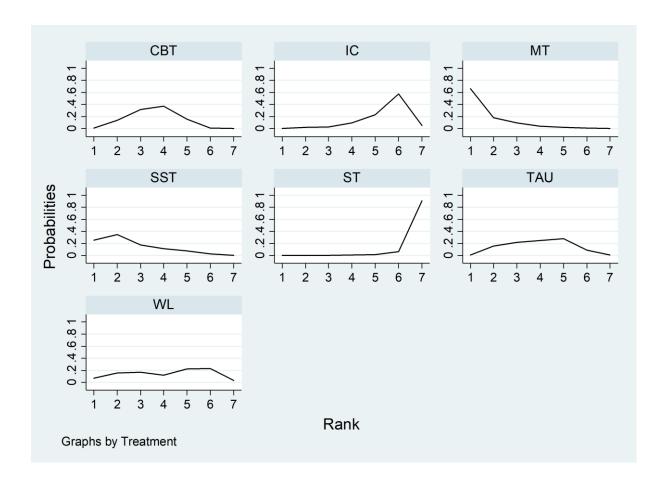
	Negative symptoms								
Treatment	SUCRA	Probability of being the best	MeanRank						
TAU	32.8	0	7.7						
ACT	68.3	20.5	4.2						
CBT	39.7	3.9	7						
EFC	68.6	3.1	4.1						
FI	35.7	5.2	7.4						
HFIT	48.1	11.6	6.2						
IC	47.4	0.3	6.3						
MT	41.1	11.2	6.9						
SST	65	13.6	4.5						
ST	58.7	27.1	5.1						
WL	44.6	3.5	6.5						

eFigure 16: SUCRA Plots for the secondary outcome Response



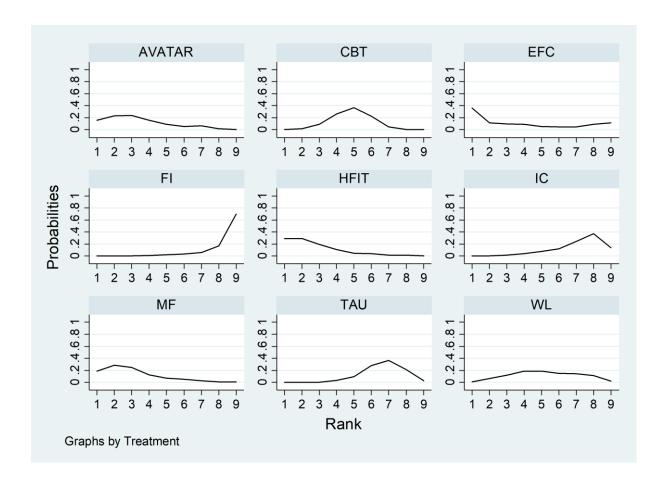
	Response									
Treatment	SUCRA	Probability of being the best	MeanRank							
TAU	78.4	22.2	2.5							
ACT	62.6	19.9	3.6							
CBT	23.7	0	6.3							
HFIT	23.3	1.3	6.4							
IC	68.2	7.5	3.2							
SST	32.2	1.7	5.7							
ST	50.4	28.2	4.5							
WL	61.3	19.2	3.7							

eFigure 17: SUCRA Plots for the secondary outcome Adherence and insight



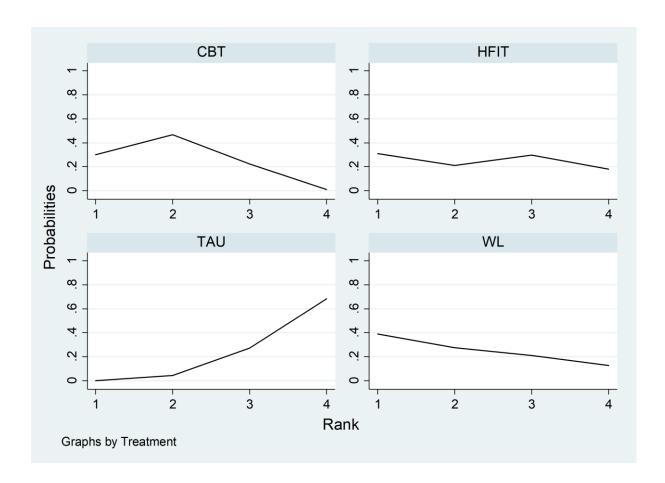
	Adherence and insight									
Treatment	SUCRA	Probability of being the best	MeanRank							
TAU	51.1	0.6	3.9							
CBT	57.5	0.8	3.6							
IC	25.6	0.1	5.5							
MT	89.9	65.8	1.6							
SST	74.8	25.6	2.5							
ST	2.8	0.1	6.8							
WL	48.3	7	4.1							

eFigure 18: SUCRA Plots for the secondary outcome Depression



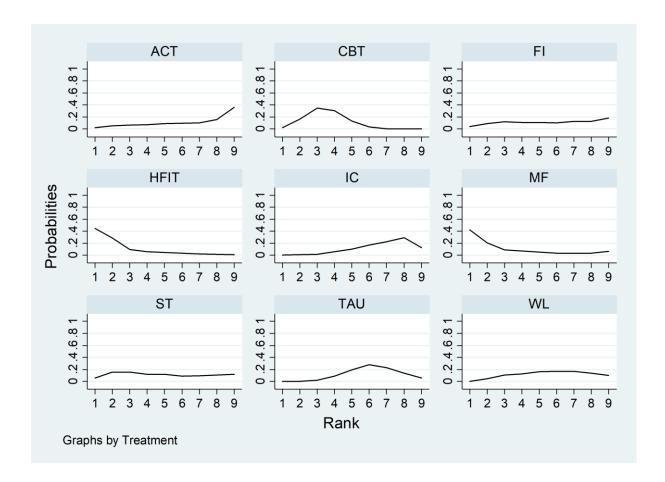
Depression									
Treatment	SUCRA	Probability of being the best	MeanRank						
TAU	28.7	0	6.7						
AVATAR	71.3	15.4	3.3						
СВТ	51.9	0	4.8						
EFC	64.9	36.2	3.8						
FI	7.1	0	8.4						
HFIT	80.2	28.9	2.6						
IC	22.8	0	7.2						
MF	75.7	18.6	2.9						
WL	47.3	0.9	5.2						

eFigure 19: SUCRA Plots for the secondary outcome Quality of Life



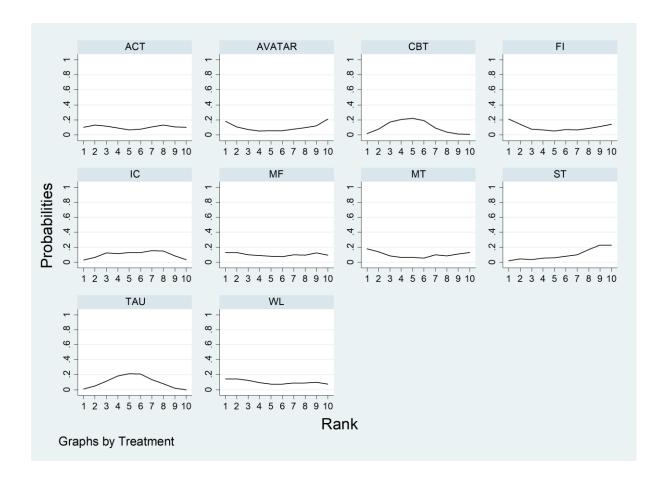
Quality of Life										
Treatment	SUCRA	Probability of being the best	MeanRank							
TAU	12.2	0.2	3.6							
СВТ	68.6	30	1.9							
HFIT	55	30.9	2.4							
WL	64.2	38.9	2.1							

eFigure 20: SUCRA Plots for the secondary outcome Functioning



	Functioning									
Treatment	SUCRA	Probability of being the best	MeanRank							
TAU	34.6	0	6.2							
ACT	27.8	2	6.8							
CBT	69.3	2.2	3.5							
FI	41.5	3.8	5.7							
HFIT	84.1	44.2	2.3							
IC	26.4	0	6.9							
MF	76.1	42.2	2.9							
ST	50.6	5.5	5							
WL	39.6	0.1	5.8							

eFigure 21: SUCRA Plots for the secondary outcome Mortality for any reason



	Mortality									
Treatment	SUCRA	Probability of being the best	MeanRank							
TAU	53.5	0.6	5.2							
ACT	50.3	10	5.5							
AVATAR	47.1	17.9	5.8							
CBT	58.7	1.5	4.7							
FI	54.3	20.7	5.1							
IC	47.5	2.6	5.7							
MF	51.8	12.6	5.3							
MT	52.8	17.8	5.3							
ST	27.8	1.9	7.5							
WL	56.2	14.4	4.9							

7. Evaluation of Heterogeneity and Inconsistency

7.1 Heterogeneity

We inferred the magnitude of heterogeneity by comparing the estimated tau² to empirical distributions of heterogeneity typically found in meta-analyses (2). Heterogeneity can be considered low when the estimated tau² is less than the 25% quantile of the empirical distribution, moderate for tau² between 25% and 50% quantile and high for tau² larger than the 50% quantile.

Outcome	Between study variance (tau²)	Heterogeneity assessment
Positive symptoms	0.0512	low to moderate
Dropout	0	0
Overall symptoms	0.0649	low to moderate
Negative symptoms	0.0024	low
Response	0	0
Relapse	(no NMA)	-
Adherence-insight	0	0
Depression	0	0
Quality of life	(no NMA)	-
Functioning	0.0547	low to moderate
Adverse events	(no NMA)	-
Death	0	0

7.2 Consistency

We evaluated global consistency under the assumption of a full design-by-treatment interaction model, using the *decompose design* function in R package netmeta.

Outcome	Q	df	P value
Positive symptoms	9.96	9	0.3536
Dropout	6.15	9	0.7247
Overall symptoms	5.94	5	0.3125
Negative symptoms	2.65	5	0.7537
Response	0.50	3	0.9199
Relapse	(no NMA)		-
Adherence-insight	0	0	-
Depression	4.30	1	0.0381
Quality of life	(no NMA)		-
Functioning	1.77	2	0.4128
Adverse events	(no NMA)		=
Death	0.58	3	0.9015

df= degree of freedom

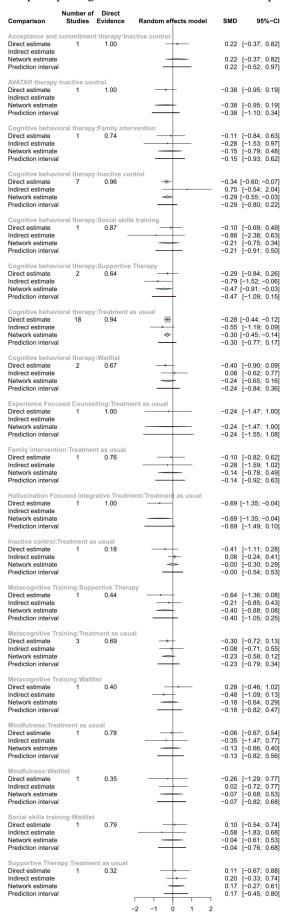
7.3 Split of direct and indirect evidence for primary outcome

As a test for local consistency, we used the *netsplit* function in R package netmeta, which evaluates the agreement between direct and indirect evidence for each comparison. We detected no significant inconsistency for any comparison (P > 0.10 for all comparisons). However only few studies were available per comparison, leading to a low power to detect inconsistency.

eTable 10. Difference between direct and indirect evidence by comparison

Comparison	Number of studies providin g direct evidence	Direct evidence proportion	nma [95%-CI]	direct [95%-CI]	indir. [95%-CI]	Diff [95%-CI]	z	p-value
CBT:FI	1	0.74	-0.15 [-0.79; 0.48]	-0.11 [-0.84; 0.63]	-0.28 [-1.53; 0.97]	0.18 [-1.27; 1.63]	0.24	0.8114
CBT:IC	7	0.96	-0.29 [-0.55; -0.03]	-0.34 [-0.60; -0.07]	0.75 [-0.54; 2.04]	-1.08 [-2.40; 0.23]	-1.61	0.1071
CBT:SST	1	0.87	-0.21 [-0.75; 0.34]	-0.10 [-0.69; 0.49]	-0.88 [-2.38; 0.63]	0.78 [-0.84; 2.39]	0.94	0.3461
CBT:ST	2	0.64	-0.47 [-0.91; -0.03]	-0.29 [-0.84; 0.26]	-0.79 [-1.52; -0.06]	0.50 [-0.41; 1.41]	1.08	0.2805
CBT:TAU	18	0.94	-0.30 [-0.45; -0.14]	-0.28 [-0.44; -0.12]	-0.55 [-1.19; 0.09]	0.27 [-0.39; 0.93]	0.80	0.4227
CBT:WL	2	0.67	-0.24 [-0.65; 0.16]	-0.40 [-0.90; 0.09]	0.08 [-0.62; 0.77]	-0.48 [-1.33; 0.38]	-1.09	0.2736
FI:TAU	1	0.76	-0.14 [-0.78; 0.49]	-0.10 [-0.82; 0.62]	-0.28 [-1.59; 1.02]	0.18 [-1.31; 1.67]	0.24	0.8114
IC:TAU	1	0.18	-0.00 [-0.30; 0.29]	-0.41 [-1.11; 0.28]	0.08 [-0.24; 0.41]	-0.50 [-1.27; 0.27]	-1.27	0.2051
MT:ST	1	0.44	-0.40 [-0.88; 0.08]	-0.64 [-1.36; 0.08]	-0.21 [-0.85; 0.43]	-0.43 [-1.40; 0.54]	-0.87	0.3827
MT:TAU	3	0.69	-0.23 [-0.58; 0.12]	-0.30 [-0.72; 0.13]	-0.08 [-0.71; 0.55]	-0.22 [-0.98; 0.55]	-0.55	0.5802
MT:WL	1	0.40	-0.18 [-0.64; 0.29]	0.28 [-0.46; 1.02]	-0.48 [-1.09; 0.13]	0.76 [-0.20; 1.72]	1.56	0.1187
MF:TAU	1	0.78	-0.13 [-0.66; 0.40]	-0.06 [-0.67; 0.54]	-0.35 [-1.47; 0.77]	0.29 [-0.98; 1.56]	0.44	0.6572
MF:WL	1	0.35	-0.07 [-0.68; 0.53]	-0.26 [-1.29; 0.77]	0.02 [-0.72; 0.77]	-0.29 [-1.56; 0.98]	-0.44	0.6572
SST:WL	1	0.79	-0.04 [-0.61; 0.53]	0.10 [-0.54; 0.74]	-0.58 [-1.83; 0.68]	0.68 [-0.73; 2.09]	0.94	0.3461
ST:TAU	1	0.32	0.17 [-0.27; 0.61]	0.11 [-0.67; 0.88]	0.20 [-0.33; 0.74]	-0.10 [-1.04; 0.85]	-0.20	0.8406

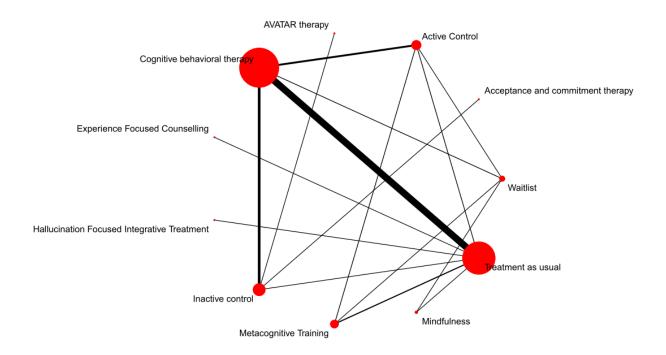
eFigure 22. Forest plot splitting direct and indirect evidence for positive symptoms



8. Alternative Pooling Analysis

In this analysis the active comparators that were not an intervention of interest for this review were pooled under the label Active control ("Cognitive remediation", "Psychoeducation", "Family intervention", "Supportive Therapy", "Social skills training"). The results do not substantially differ from the main analysis; only CBT shows a benefit in comparison to Active control, and the ranking of the treatments remains unchanged.

eFigure 23. Positive symptoms



eTable 11. Positive symptoms

HFIT									-0.69 [-1.33; -0.05]	•
-0.32 [-1.20; 0.57]	AVATAR							-0.38 [-0.92; 0.17]		
-0.41 [-1.06; 0.25]	-0.09 [-0.69; 0.51]	СВТ				-0.40 [-0.88; 0.08]	-0.14 [-0.44; 0.16]	-0.33 [-0.58; -0.07]	-0.28 [-0.44; -0.12]	
-0.41 [-1.12; 0.30]	-0.09 [-0.78; 0.59]	-0.00 [-0.33; 0.33]	MT			0.28 [-0.44; 1.01]	-0.51 [-1.00; -0.03]		-0.28 [-0.70; 0.13]	
-0.46 [-1.84; 0.93]	-0.14 [-1.51; 1.23]	-0.05 [-1.28; 1.19]	-0.05 [-1.31; 1.22]	EFC					-0.24 [-1.46; 0.99]	٠
-0.57 [-1.39; 0.25]	-0.25 [-1.05; 0.54]	-0.16 [-0.69; 0.37]	-0.16 [-0.75; 0.43]	-0.11 [-1.44; 1.22]	MF	-0.26 [-1.28; 0.75]			-0.06 [-0.64; 0.52]	
-0.65 [-1.40; 0.10]	-0.33 [-1.04; 0.38]	-0.24 [-0.62; 0.14]	-0.24 [-0.67; 0.19]	-0.19 [-1.48; 1.10]	-0.08 [-0.66; 0.51]	WL	-0.10 [-0.72; 0.52]			
-0.68 [-1.38; 0.01]	-0.37 [-1.02; 0.29]	-0.28 [-0.54; -0.01]	-0.28 [-0.61; 0.06]	-0.23 [-1.48; 1.03]	-0.11 [-0.68; 0.46]	-0.04 [-0.44; 0.37]	AC		-0.00 [-0.52; 0.51]	
-0.69 [-1.39; 0.01]	-0.38 [-0.92; 0.17]	-0.28 [-0.54; -0.03]	-0.28 [-0.69; 0.13]	-0.24 [-1.49; 1.02]	-0.12 [-0.70; 0.46]	-0.05 [-0.50; 0.41]	-0.01 [-0.37; 0.35]	IC	-0.41 [-1.09; 0.27]	-0.22 [-0.80; 0.35]
-0.69 [-1.33; -0.05]	-0.38 [-0.99; 0.24]	-0.29 [-0.44; -0.14]	-0.29 [-0.60; 0.03]	-0.24 [-1.46; 0.99]	-0.12 [-0.64; 0.39]	-0.05 [-0.44; 0.34]	-0.01 [-0.29; 0.27]	-0.00 [-0.29; 0.28]	TAU	•
-0.92 [-1.82; -0.01]	-0.60 [-1.40; 0.19]	-0.51 [-1.14; 0.12]	-0.51 [-1.22; 0.20]	-0.46 [-1.84; 0.92]	-0.35 [-1.17; 0.47]	-0.27 [-1.00; 0.47]	-0.23 [-0.91; 0.45]	-0.22 [-0.80; 0.35]	-0.22 [-0.87; 0.42]	ACT

AC = Active control, ACT = Acceptance and commitment therapy, AVATAR = AVATAR therapy, CBT = Cognitive behavioral therapy, EFC = Experience Focused Counselling, HFIT = Hallucination Focused Integrative Treatment, IC = Inactive control, MT = Metacognitive Training, MF = Mindfulness, TAU = Treatment as usual, WL = Waitlist

9. Subgroup Analyses

We present here for each outcome league tables with network evidence in the lower triangle, and direct (pairwise) evidence in the upper triangle. Treatments are ranked by the surface under the cumulative ranking probabilities (eAppendix 6). Significant results are represented in bold. Data are SMDs (95% CIs) (for continuous outcomes) and RRs (95% CIs) (for dichotomous outcomes) in the column defining treatment compared with the row defining treatment. SMDs lower than 0 and RRs lower than 1 favour the column defining treatment. According to Cohen's guideline for magnitude of effect (1) SMDs of -0.2 can be considered small, -0.5 medium, and -0.8 large. To obtain SMDs for comparisons in the opposite direction, negative values should be converted into positive values, and vice versa. To obtain RRs for comparisons in the opposite direction, reciprocals should be taken.

Abbreviations:

ACT = Acceptance and commitment therapy

AVATAR = AVATAR therapy

CBT = Cognitive behavioral therapy

EFC = Experience Focused Counselling

FI = Family intervention

HFIT = Hallucination Focused Integrative Treatment

IC = Inactive control

MT = Metacognitive Training

MF = Mindfulness

SST = Social skills training

ST = Supportive Therapy

TAU = Treatment as usual

WL = Waitlist

9.1 Main analysis for positive symptoms

eTable 12. Head to head comparisons for positive symptoms

HFIT										-0.69 [-1.35; -0.04]		
-0.31 [-1.23; 0.61]	AVATAR								-0.38 [-0.95; 0.19]			
-0.40 [-1.07; 0.28]	-0.09 [-0.71; 0.54]	СВТ			-0.11 [-0.84; 0.63]		-0.10 [-0.69; 0.49]	-0.40 [-0.90; 0.09]	-0.34 [-0.60; -0.07]	-0.28 [-0.44; -0.12]		-0.29 [-0.84; 0.26]
-0.47 [-1.21; 0.28]	-0.15 [-0.88; 0.57]	-0.07 [-0.44; 0.30]	MT					0.28 [-0.46; 1.02]		-0.30 [-0.72; 0.13]		-0.64 [-1.36; 0.08]
-0.46 [-1.86; 0.94]	-0.15 [-1.54; 1.25]	-0.06 [-1.31; 1.19]	0.01 [-1.28; 1.29]	EFC						-0.24 [-1.47; 1.00]		
-0.55 [-1.46; 0.36]	-0.24 [-1.13; 0.65]	-0.15 [-0.79; 0.48]	-0.09 [-0.81; 0.64]	-0.09 [-1.48; 1.29]	FI					-0.10 [-0.82; 0.62]		
-0.57 [-1.41; 0.28]	-0.25 [-1.08; 0.57]	-0.17 [-0.71; 0.38]	-0.10 [-0.72; 0.52]	-0.11 [-1.45; 1.24]	-0.02 [-0.84; 0.81]	MF		-0.26 [-1.29; 0.77]		-0.06 [-0.67; 0.54]		
-0.60 [-1.47; 0.27]	-0.29 [-1.12; 0.54]	-0.21 [-0.75; 0.34]	-0.14 [-0.77; 0.50]	-0.15 [-1.50; 1.21]	-0.05 [-0.89; 0.78]	-0.04 [-0.78; 0.71]	SST	0.10 [-0.54; 0.74]				
-0.64 [-1.42; 0.14]	-0.33 [-1.07; 0.41]	-0.24 [-0.65; 0.16]	-0.18 [-0.64; 0.29]	-0.18 [-1.49; 1.12]	-0.09 [-0.84; 0.66]	-0.07 [-0.68; 0.53]	-0.04 [-0.61; 0.53]	WL				
-0.69 [-1.41; 0.03]	-0.38 [-0.95; 0.19]	-0.29 [-0.55; -0.03]	-0.22 [-0.67; 0.22]	-0.23 [-1.50; 1.04]	-0.14 [-0.82; 0.54]	-0.12 [-0.72; 0.48]	-0.09 [-0.69; 0.52]	-0.05 [-0.53; 0.43]	IC	-0.41 [-1.11; 0.28]	-0.22 [-0.82; 0.37]	
-0.69 [-1.35; -0.04]	-0.38 [-1.02; 0.26]	-0.30 [-0.45; -0.14]	-0.23 [-0.58; 0.12]	-0.24 [-1.47; 1.00]	-0.14 [-0.78; 0.49]	-0.13 [-0.66; 0.40]	-0.09 [-0.66; 0.47]	-0.05 [-0.47; 0.36]	-0.00 [-0.30; 0.29]	TAU		-0.11 [-0.88; 0.67]
-0.91 [-1.85; 0.02]	-0.60 [-1.43; 0.22]	-0.52 [-1.17; 0.14]	-0.45 [-1.19; 0.30]	-0.46 [-1.86; 0.95]	-0.36 [-1.27; 0.55]	-0.35 [-1.19; 0.50]	-0.31 [-1.16; 0.54]	-0.27 [-1.04; 0.49]	-0.22 [-0.82; 0.37]	-0.22 [-0.89; 0.45]	ACT	
-0.87 [-1.66; -0.07]	-0.55 [-1.32; 0.21]	-0.47 [-0.91; -0.03]	-0.40 [-0.88; 0.08]	-0.41 [-1.72; 0.90]	-0.32 [-1.08; 0.45]	-0.30 [-0.98; 0.38]	-0.26 [-0.96; 0.43]	-0.23 [-0.80; 0.35]	-0.18 [-0.68; 0.33]	-0.17 [-0.61; 0.27]	0.05 [-0.74; 0.83]	ST

9.2 Subgroup analysis by number of sessions

The median number of sessions (12) was used as a cut-off for this analysis.

eTable 13. High number of sessions (higher or equal to 12). The pairwise meta – analysis results on the primary outcome positive symptoms suggested that Cognitive Behavioural Therapy was more efficacious than Treatment as usual when a high number of sessions was administered.

СВТ	-0.11 [-0.88; 0.66]	-0.18 [-0.52; 0.16]			-0.10 [-0.73; 0.53]	-0.29 [-0.86; 0.29]	-0.33 [-0.53; -0.13]	-0.41 [-0.93; 0.11]
-0.17 [-0.84; 0.50]	FI						-0.10 [-0.86; 0.66]	
-0.13 [-0.46; 0.20]	0.04 [-0.70; 0.78]	IC					-0.41 [-1.15; 0.32]	
0.28 [-0.65; 1.21]	0.45 [-0.69; 1.59]	0.41 [-0.57; 1.39]	MT			-0.64 [-1.40; 0.12]		
-0.27 [-0.94; 0.41]	-0.10 [-1.03; 0.83]	-0.14 [-0.88; 0.61]	-0.55 [-1.69; 0.59]	MF			-0.06 [-0.71; 0.58]	
-0.28 [-0.88; 0.32]	-0.11 [-1.01; 0.79]	-0.15 [-0.84; 0.54]	-0.56 [-1.67; 0.55]	-0.01 [-0.92; 0.89]	SST			0.10 [-0.58; 0.78]
-0.36 [-0.89; 0.18]	-0.19 [-1.04; 0.66]	-0.23 [-0.85; 0.40]	-0.64 [-1.40; 0.12]	-0.09 [-0.94; 0.76]	-0.08 [-0.89; 0.73]	ST	0.11 [-0.70; 0.92]	
-0.33 [-0.53; -0.13]	-0.16 [-0.83; 0.51]	-0.20 [-0.57; 0.17]	-0.61 [-1.55; 0.32]	-0.06 [-0.71; 0.58]	-0.05 [-0.68; 0.58]	0.03 [-0.52; 0.58]	TAU	
-0.41 [-0.93; 0.11]	-0.24 [-1.09; 0.61]	-0.28 [-0.90; 0.33]	-0.69 [-1.76; 0.37]	-0.14 [-0.99; 0.71]	-0.13 [-0.76; 0.50]	-0.05 [-0.80; 0.70]	-0.08 [-0.64; 0.48]	WL

eTable 14. Low number of sessions (lower than 12). The network meta – analysis results of positive symptoms suggested that Hallucination Focused Integrative Treatment was more efficacious than Inactive Control when a low number of sessions was administered.

MF		-0.26 [-1.40; 0.87]							-
-0.21 [-1.94; 1.52]	HFIT						-0.69 [-1.51; 0.12]		
-0.26 [-1.40; 0.87]	-0.05 [-1.36; 1.26]	WL	-0.28 [-1.16; 0.60]		٠				٠
-0.54 [-1.98; 0.89]	-0.33 [-1.30; 0.63]	-0.28 [-1.16; 0.60]	MT	•	٠		-0.36 [-0.88; 0.16]		
-0.67 [-2.69; 1.35]	-0.46 [-2.01; 1.10]	-0.41 [-2.08; 1.27]	-0.13 [-1.55; 1.30]	EFC	٠		-0.24 [-1.56; 1.09]		٠
-0.73 [-2.29; 0.83]	-0.51 [-1.38; 0.36]	-0.46 [-1.53; 0.60]	-0.18 [-0.79; 0.42]	-0.06 [-1.42; 1.30]	СВТ		-0.18 [-0.49; 0.13]	-0.62 [-1.34; 0.10]	
-0.97 [-2.84; 0.90]	-0.76 [-2.11; 0.59]	-0.71 [-2.19; 0.78]	-0.43 [-1.62; 0.77]	-0.30 [-2.01; 1.41]	-0.24 [-1.28; 0.79]	AVATAR		-0.38 [-1.12; 0.36]	
-0.91 [-2.43; 0.62]	-0.69 [-1.51; 0.12]	-0.64 [-1.67; 0.38]	-0.36 [-0.88; 0.16]	-0.24 [-1.56; 1.09]	-0.18 [-0.49; 0.13]	0.06 [-1.01; 1.14]	TAU		٠
-1.35 [-3.06; 0.37]	-1.13 [-2.26; -0.01]	-1.08 [-2.37; 0.20]	-0.80 [-1.74; 0.14]	-0.68 [-2.22; 0.86]	-0.62 [-1.34; 0.10]	-0.38 [-1.12; 0.36]	-0.44 [-1.22; 0.34]	IC	-0.22 [-0.99; 0.54]
-1.57 [-3.45; 0.31]	-1.36 [-2.72; 0.00]	-1.31 [-2.81; 0.19]	-1.03 [-2.24; 0.18]	-0.90 [-2.62; 0.82]	-0.84 [-1.89; 0.20]	-0.60 [-1.67; 0.46]	-0.66 [-1.76; 0.43]	-0.22 [-0.99; 0.54]	ACT

9.3 Subgroup analysis by study duration

The median duration (13 weeks) was used as a cut-off for this analysis.

eTable 15. Duration higher or equal to 13 weeks. For studies longer than 13 weeks the pairwise meta – analysis results of the primary outcome positive symptoms suggested a benefit for HFIT and CBT in comparison with TAU, and the network meta – analysis showed a benefit for HFIT in comparison with Waitlist.

HFIT								-0.69 [-1.24; -0.15]		
-0.43 [-1.00; 0.14]	СВТ	-0.09 [-0.36; 0.19]		-0.11 [-0.74; 0.53]		-0.09 [-0.75; 0.58]	-0.10 [-0.56; 0.36]	-0.26 [-0.42; -0.10]		-0.37 [-0.79; 0.04]
-0.52 [-1.15; 0.11]	-0.09 [-0.36; 0.19]	IC							-0.22 [-0.69; 0.25]	
-0.46 [-1.76; 0.84]	-0.03 [-1.22; 1.16]	0.06 [-1.16; 1.28]	EFC					-0.24 [-1.42; 0.94]		
-0.57 [-1.34; 0.20]	-0.14 [-0.68; 0.41]	-0.05 [-0.66; 0.56]	-0.11 [-1.41; 1.19]	FI				-0.10 [-0.72; 0.52]		
-0.63 [-1.35; 0.09]	-0.20 [-0.70; 0.30]	-0.11 [-0.69; 0.46]	-0.17 [-1.45; 1.10]	-0.06 [-0.79; 0.66]	MF			-0.06 [-0.54; 0.41]		
-0.65 [-1.46; 0.15]	-0.22 [-0.81; 0.37]	-0.14 [-0.79; 0.52]	-0.19 [-1.51; 1.12]	-0.09 [-0.88; 0.71]	-0.02 [-0.78; 0.74]	ST		0.11 [-0.57; 0.79]		
-0.68 [-1.39; 0.04]	-0.25 [-0.69; 0.19]	-0.16 [-0.68; 0.36]	-0.22 [-1.49; 1.05]	-0.11 [-0.81; 0.59]	-0.04 [-0.71; 0.62]	-0.02 [-0.76; 0.71]	SST		•	0.10 [-0.42; 0.62]
-0.69 [-1.24; -0.15]	-0.26 [-0.42; -0.10]	-0.18 [-0.50; 0.14]	-0.24 [-1.42; 0.94]	-0.13 [-0.67; 0.42]	-0.06 [-0.54; 0.41]	-0.04 [-0.63; 0.55]	-0.02 [-0.49; 0.45]	TAU		
-0.74 [-1.53; 0.05]	-0.31 [-0.86; 0.23]	-0.22 [-0.69; 0.25]	-0.28 [-1.59; 1.03]	-0.17 [-0.95; 0.60]	-0.11 [-0.85; 0.63]	-0.09 [-0.89; 0.72]	-0.06 [-0.76; 0.64]	-0.05 [-0.61; 0.52]	ACT	
-0.80 [-1.51; -0.10]	-0.37 [-0.79; 0.04]	-0.29 [-0.78; 0.21]	-0.35 [-1.61; 0.91]	-0.24 [-0.92; 0.45]	-0.17 [-0.82; 0.48]	-0.15 [-0.87; 0.57]	-0.13 [-0.61; 0.36]	-0.11 [-0.55; 0.34]	-0.06 [-0.75; 0.62]	WL

eTable 16. Duration lower than 13 weeks. For studies shorter than 13 weeks both pairwise and network meta – analysis results of primary outcome positive symptoms suggested a benefit for CBT in comparison with Inactive control, and network meta - analysis suggested a benefit for CBT in comparison with TAU.

MF	-0.26 [-1.44; 0.91]						
-0.26 [-1.44; 0.91]	WL		-0.28 [-1.21; 0.65]				
-0.55 [-2.18; 1.08]	-0.29 [-1.42; 0.84]	СВТ			-0.34 [-0.68; 0.00]		-0.65 [-1.15; -0.16]
-0.54 [-2.04; 0.95]	-0.28 [-1.21; 0.65]	0.01 [-0.64; 0.65]	МТ		-0.38 [-0.93; 0.17]	-0.64 [-1.56; 0.27]	
-0.72 [-2.59; 1.14]	-0.46 [-1.91; 0.99]	-0.17 [-1.10; 0.76]	-0.18 [-1.29; 0.94]	AVATAR			-0.38 [-1.18; 0.42]
-0.92 [-2.52; 0.67]	-0.66 [-1.74; 0.42]	-0.37 [-0.71; -0.04]	-0.38 [-0.93; 0.17]	-0.20 [-1.17; 0.77]	TAU		0.41 [-0.48; 1.31]
-1.19 [-2.94; 0.57]	-0.92 [-2.23; 0.38]	-0.63 [-1.75; 0.48]	-0.64 [-1.56; 0.27]	-0.46 [-1.90; 0.98]	-0.26 [-1.33; 0.81]	ST	
-1.10 [-2.78; 0.59]	-0.84 [-2.05; 0.37]	-0.55 [-1.02; -0.07]	-0.55 [-1.33; 0.22]	-0.38 [-1.18; 0.42]	-0.18 [-0.72; 0.37]	0.09 [-1.11; 1.28]	IC

9.4 Subgroup analysis by setting

eTable 17. Individual setting. When the treatments were administered in an individual setting, pairwise meta-analysis showed a benefit for AVATAR therapy in comparison with Inactive control and for CBT in comparison with TAU and WL for the primary outcome positive symptoms. In network meta-analysis AVATAR therapy was superior to TAU and WL, and Inactive control was superior to TAU and WL.

AVATAR		-0.38 [-0.73; -0.02]					
-0.29 [-0.70; 0.12]	СВТ	-0.12 [-0.32; 0.09]		-0.11 [-0.69; 0.48]	-0.09 [-0.71; 0.54]	-0.33 [-0.45; -0.21]	-0.96 [-1.58; -0.34]
-0.38 [-0.73; -0.02]	-0.09 [-0.29; 0.12]	IC				-0.41 [-0.95; 0.13]	
-0.38 [-1.61; 0.85]	-0.09 [-1.25; 1.07]	-0.00 [-1.18; 1.17]	EFC			-0.24 [-1.39; 0.92]	
-0.46 [-1.11; 0.19]	-0.17 [-0.67; 0.33]	-0.08 [-0.62; 0.46]	-0.08 [-1.34; 1.18]	FI		-0.10 [-0.67; 0.47]	
-0.54 [-1.23; 0.14]	-0.25 [-0.80; 0.30]	-0.16 [-0.75; 0.42]	-0.16 [-1.44; 1.12]	-0.08 [-0.82; 0.66]	ST	0.11 [-0.53; 0.74]	
-0.62 [-1.04; -0.19]	-0.33 [-0.44; -0.21]	-0.24 [-0.47; -0.01]	-0.24 [-1.39; 0.92]	-0.16 [-0.66; 0.34]	-0.08 [-0.63; 0.47]	TAU	
-1.25 [-2.00; -0.51]	-0.96 [-1.58; -0.34]	-0.88 [-1.53; -0.22]	-0.87 [-2.19; 0.44]	-0.79 [-1.59; 0.01]	-0.71 [-1.54; 0.12]	-0.64 [-1.27; 0.00]	WL

eTable 18. Group setting. When the treatments were administered in a group setting, CBT was superior to IC in pairwise meta-analysis for the primary outcome positive symptoms. In network meta-analysis, HFIT, MT, WL and CBT were superior to IC.

HFIT						-0.69 [-1.54; 0.15]		
-0.43 [-1.41; 0.54]	MT	0.28 [-0.63; 1.19]				-0.37 [-0.91; 0.16]	-0.64 [-1.53; 0.25]	
-0.47 [-1.53; 0.59]	-0.04 [-0.70; 0.63]	WL	0.26 [-0.89; 1.42]	0.00 [-0.84; 0.84]	-0.10 [-0.93; 0.73]			
-0.49 [-1.58; 0.60]	-0.06 [-0.87; 0.75]	-0.02 [-0.81; 0.76]	MF			-0.06 [-0.86; 0.74]		
-0.59 [-1.55; 0.38]	-0.16 [-0.79; 0.48]	-0.12 [-0.76; 0.52]	-0.09 [-0.89; 0.70]	СВТ	-0.10 [-0.89; 0.69]	-0.06 [-0.57; 0.45]		-0.76 [-1.34; -0.17]
-0.64 [-1.82; 0.55]	-0.20 [-1.10; 0.69]	-0.17 [-0.94; 0.61]	-0.14 [-1.14; 0.86]	-0.05 [-0.80; 0.70]	SST			
-0.69 [-1.54; 0.15]	-0.26 [-0.75; 0.23]	-0.22 [-0.86; 0.42]	-0.20 [-0.89; 0.49]	-0.11 [-0.58; 0.36]	-0.06 [-0.89; 0.77]	TAU		
-1.07 [-2.40; 0.25]	-0.64 [-1.53; 0.25]	-0.60 [-1.72; 0.51]	-0.58 [-1.78; 0.62]	-0.48 [-1.58; 0.61]	-0.44 [-1.70; 0.83]	-0.38 [-1.40; 0.64]	ST	
-1.35 [-2.47; -0.22]	-0.91 [-1.78; -0.05]	-0.88 [-1.74; -0.01]	-0.85 [-1.84; 0.13]	-0.76 [-1.34; -0.17]	-0.71 [-1.66; 0.24]	-0.65 [-1.40; 0.10]	-0.27 [-1.52; 0.97]	IC

9.5 Subgroup analysis by therapist's expertise

eTable 19. Only expert therapists. When the treatments were provided by expert therapists, pairwise meta-analysis showed a benefit for HFIT and CBT in comparison with TAU, and for AVATAR therapy in comparison with IC. In network meta – analysis, HFIT was superior to ACT, ST and MT, AVATAR was superior to ACT, TAU, ST and MT, CBT was superior to MT.

HFIT								-0.69 [-1.18; -0.21]			
-0.09			-0.38								
[-0.74;	AVATAR		[-0.73;								
0.56]			-0.02]								
-0.43	-0.33		-0.08		-0.11			-0.27	-0.28		
[-0.93;	[-0.75;	CBT	[-0.31;		[-0.69;			[-0.40;	[-0.73;		
0.08]	0.08]		0.14]		0.48]			-0.14]	0.17]		
-0.47	-0.38	-0.04					-0.22 [-	-0.41			
[-1.02;	[-0.73;	[-0.26;	IC				0.63;	[-0.95;	•	•	
0.08]	-0.02]	0.18]					0.18]	0.13]			
-0.46	-0.37	-0.03	0.01					-0.24			
[-1.71;	[-1.60;	[-1.19;	[-1.17;	EFC			·	[-1.39;	·	•	
0.80]	0.87]	1.13]	1.19]					0.92]			
-0.57	-0.47	-0.14	-0.10	-0.11				-0.10			
[-1.26;	[-1.13;	[-0.64;	[-0.64;	[-1.37;	FI		·	[-0.67;	·	•	
0.13]	0.18]	0.36]	0.45]	1.15]				0.47]			
-0.63	-0.54	-0.20	-0.16	-0.17	-0.07			-0.06		-0.26	
[-1.27;	[-1.14;	[-0.63;	[-0.64;	[-1.40;	[-0.71;	MF		[-0.47;		[-1.19;	-
0.00]	0.06]	0.23]	0.32]	1.05]	0.58]			0.35]		0.67]	
-0.69	-0.60	-0.27	-0.22	-0.24	-0.13	-0.06					
[-1.37;	[-1.14;	[-0.72;	[-0.63;	[-1.48;	[-0.81;	[-0.69;	ACT	·	•	•	
-0.01]	-0.06]	0.19]	0.18]	1.01]	0.55]	0.56]					
-0.69	-0.60	-0.27	-0.22	-0.24	-0.13	-0.06	-0.00		-0.11		-0.25
[-1.18;	[-1.04;	[-0.40;	[-0.47;	[-1.39;	[-0.63;	[-0.47;	[-0.47;	TAU	[-0.74;		[-0.63;
-0.21]	-0.17]	-0.14]	0.02]	0.92]	0.37]	0.35]	0.47]		0.53]		0.12]
-0.76	-0.67	-0.34	-0.29	-0.31	-0.20	-0.13	-0.07	-0.07			
[-1.41;	[-1.27;	[-0.76;	[-0.77;	[-1.54;	[-0.85;	[-0.73;	[-0.69;	[-0.50;	ST	-	-
-0.11]	-0.08]	0.08]	0.18]	0.92]	0.45]	0.46]	0.55]	0.36]			
-0.89	-0.80	-0.47	-0.43	-0.44	-0.33	-0.26	-0.20	-0.20	-0.13		
[-2.02;	[-1.91;	[-1.49;	[-1.47;	[-1.97;	[-1.46;	[-1.19;	[-1.32;	[-1.22;	[-1.23;	WL	-
0.23]	0.30]	0.56]	0.62]	1.10]	0.80]	0.67]	0.92]	0.81]	0.97]		
-0.95	-0.85	-0.52	-0.48	-0.49	-0.38	-0.32	-0.25	-0.25	-0.18	-0.05	
[-1.56;	[-1.43;	[-0.92;	[-0.93;	[-1.70;	[-1.01;	[-0.87;	[-0.86;	[-0.63;	[-0.75;	[-1.13;	MT
-0.33]	-0.28]	-0.12]	-0.03]	0.72]	0.24]	0.24]	0.35]	0.12]	0.39]	1.03]	

eTable 20. Trainees therapists allowed. Very few studies involved therapists in training. In these studies, no significant differences between the treatments were found.

СВТ	-0.30 [-1.63;	-0.10 [-1.38;	-0.46 [-1.40;
	1.02]	1.17]	0.48]
-0.30 [-1.63; 1.02]	IC		
-0.32 [-1.52;	-0.02 [-1.80;	SST	0.10 [-1.20;
0.88]	1.77]		1.40]
-0.46 [-1.40;	-0.15 [-1.78;	-0.14 [-1.35;	WL
0.48]	1.47]	1.08]	

9.6 Subgroup analysis by baseline severity

eTable 21. Low baseline severity. In patients with low baseline severity for positive symptoms, pairwise meta-analysis showed a benefit for HFIT in comparison to TAU and for CBT in comparison to TAU, IC and WL. In network meta - analysis HFIT was superior to IC, MT and WL, and CBT was superior to MT.

HFIT			-0.69 [-1.22; -0.16]			
-0.40 [-0.96; 0.16]	СВТ	-0.11 [-0.73; 0.51]	-0.29 [-0.46; - 0.12]	-0.42 [-0.79; -0.04]		-0.96 [-1.62; -0.31]
-0.55 [-1.31; 0.20]	-0.15 [-0.69; 0.38]	FI	-0.10 [-0.71; 0.51]			
-0.69 [-1.22; -0.16]	-0.29 [-0.46; -0.12]	-0.14 [-0.68; 0.39]	TAU		-0.25 [-0.68; 0.18]	
-0.82 [-1.49; -0.15]	-0.42 [-0.79; -0.04]	-0.26 [-0.92; 0.39]	-0.12 [-0.53; 0.29]	IC		
-0.95 [-1.63; -0.27]	-0.55 [-1.01; -0.08]	-0.39 [-1.08; 0.29]	-0.25 [-0.68; 0.18]	-0.13 [-0.72; 0.46]	MT	
-1.36 [-2.22; -0.50]	-0.96 [-1.62; -0.31]	-0.81 [-1.66; 0.04]	-0.67 [-1.34; 0.01]	-0.55 [-1.30; 0.21]	-0.42 [-1.22; 0.39]	WL

eTable 22. High baseline severity. In patients with high baseline severity for positive symptoms, pairwise meta-analysis showed a benefit for MT and CBT in comparison with TAU. These results were confirmed in network meta-analysis. In NMA MT was superior to IC, ST and ACT, and WL was superior to TAU and ST.

MT	0.28 [-0.40; 0.96]							-0.93 [-1.51; -0.34]	-0.64 [-1.30; 0.02]	
-0.08 [-0.59; 0.43]	WL		0.00 [-0.58; 0.58]	-0.10 [-0.67; 0.47]						
-0.16 [-0.86; 0.55]	-0.08 [-0.81; 0.66]	AVATAR				-0.38 [-0.87; 0.11]				
-0.34 [-0.77; 0.10]	-0.26 [-0.74; 0.22]	-0.18 [-0.74; 0.38]	СВТ	-0.10 [-0.62; 0.41]		-0.25 [-0.54; 0.03]		-0.26 [-0.47; -0.05]	-0.29 [-0.79; 0.22]	
-0.33 [-0.94; 0.28]	-0.25 [-0.79; 0.28]	-0.18 [-0.93; 0.57]	0.00 [-0.49; 0.50]	SST						
-0.40 [-1.68; 0.87]	-0.33 [-1.63; 0.97]	-0.25 [-1.59; 1.09]	-0.07 [-1.29; 1.15]	-0.07 [-1.38; 1.24]	EFC			-0.24 [-1.44; 0.96]		
-0.53 [-1.04; -0.02]	-0.45 [-1.01; 0.10]	-0.38 [-0.87; 0.11]	-0.20 [-0.48; 0.08]	-0.20 [-0.77; 0.37]	-0.13 [-1.37; 1.12]	IC		-0.41 [-1.05; 0.22]		-0.22 [-0.75; 0.30]
-0.58 [-1.26; 0.10]	-0.50 [-1.23; 0.23]	-0.42 [-1.22; 0.37]	-0.24 [-0.81; 0.32]	-0.25 [-0.99; 0.50]	-0.17 [-1.49; 1.14]	-0.05 [-0.67; 0.58]	MF	-0.06 [-0.59; 0.47]	٠	
-0.64 [-1.07; -0.22]	-0.56 [-1.06; -0.07]	-0.49 [-1.08; 0.10]	-0.31 [-0.51; -0.10]	-0.31 [-0.84; 0.22]	-0.24 [-1.44; 0.96]	-0.11 [-0.44; 0.22]	-0.06 [-0.59; 0.47]	TAU	-0.11 [-0.83; 0.61]	
-0.67 [-1.15; -0.19]	-0.59 [-1.18; -0.01]	-0.52 [-1.21; 0.18]	-0.33 [-0.75; 0.08]	-0.34 [-0.97; 0.29]	-0.27 [-1.54; 1.01]	-0.14 [-0.64; 0.36]	-0.09 [-0.77; 0.59]	-0.03 [-0.46; 0.40]	ST	
-0.76 [-1.49; -0.03]	-0.68 [-1.44; 0.08]	-0.60 [-1.32; 0.12]	-0.42 [-1.01; 0.17]	-0.42 [-1.20; 0.35]	-0.35 [-1.70; 1.00]	-0.22 [-0.75; 0.30]	-0.18 [-0.99; 0.64]	-0.11 [-0.73; 0.50]	-0.09 [-0.81; 0.64]	ACT

10. Sensitivity Analyses

Abbreviations:

ACT = Acceptance and commitment therapy

AVATAR = AVATAR therapy

CBT = Cognitive behavioral therapy

EFC = Experience Focused Counselling

FI = Family intervention

HFIT = Hallucination Focused Integrative Treatment

IC = Inactive control

MT = Metacognitive Training

MF = Mindfulness

SST = Social skills training

ST = Supportive Therapy

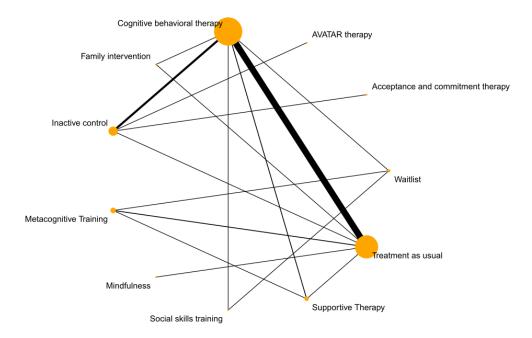
TAU = Treatment as usual

WL = Waitlist

10.1 Excluding open label studies

As sensitivity analysis, we excluded the open-label trials and performed pairwise and network meta-analysis for the primary outcome "Positive symptoms". Overall 28 studies were included in the sensitivity analysis.

eFigure 24. Positive symptoms - excluding open label studies



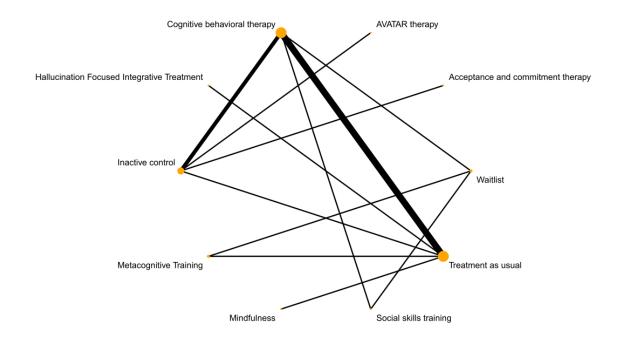
eTable 23. Positive symptoms - excluding open label studies. When only assessor-blind studies were considered, pairwise meta-analyses showed a benefit for CBT compared to TAU and for MT compared to ST. In network meta-analysis, AVATAR and CBT were superior to ST.

AVATAR						-0.38 [-0.82; 0.07]				
-0.15 [-0.82;	WL	0.00 [-0.54;	-0.28 [-0.93;	-0.10 [-0.64;						
0.51]		0.54]	0.37]	0.43]	-	-		-		
-0.23	-0.08	_		-0.10	-0.11	-0.18		-0.27		-0.28
[-0.74;	[-0.52;	CBT	-	[-0.57;	[-0.75;	[-0.42;		[-0.41;		[-0.77;
0.27]	0.36]			0.37]	0.54]	0.05]		-0.12]		0.20]
-0.31	-0.16	-0.08						-0.14		-0.64
[-0.91;	[-0.62;	[-0.41;	MT	•	•	•	•	[-0.52;	•	[-1.27;
0.29]	0.30]	0.25]						0.24]		-0.01]
-0.30	-0.15	-0.07	0.01	aam						
[-0.98;	[-0.65;	[-0.52;	[-0.52;	SST			•			•
0.37]	0.35]	0.39]	0.54]	0.05				0.40		
-0.37	-0.22	-0.14	-0.06	-0.07	FT			-0.10		
[-1.12;	[-0.92;	[-0.69;	[-0.69;	[-0.78;	FI	•	•	[-0.73;		•
0.37]	0.48]	0.42]	0.57]	0.65]	0.00			0.53]	0.22	
-0.38	-0.23	-0.14	-0.06	-0.07	-0.00	IC		-0.41	-0.22	
[-0.82; 0.07]	[-0.72; 0.27]	[-0.37; 0.09]	[-0.46; 0.34]	[-0.58;	[-0.60; 0.59]	IC	•	[-1.02; 0.19]	[-0.71; 0.26]	•
-0.44	-0.29	-0.20	-0.13	0.44] -0.14	-0.07	-0.06		-0.06	0.26]	
-0.44 [-1.15;	-0.29 [-0.95;	[-0.71;	-0.13 [-0.71;	-0.14 [-0.82;	-0.07 [-0.80;	-0.00 [-0.62;	MF	-0.06 [-0.55;		
0.27]	0.38]	0.30]	0.46]	0.54]	0.67]	0.49]	IVII	0.43]		•
-0.50	-0.35	-0.27	-0.19	-0.20	-0.13	-0.12	-0.06	0.43]		-0.11
[-1.02;	[-0.80;	[-0.41;	[-0.50;	[-0.67;	[-0.68;	[-0.38;	[-0.55;	TAU		[-0.80;
0.02]	0.10]	-0.13]	0.13]	0.271	0.421	0.14]	0.43]	1710	•	0.58]
-0.60	-0.45	-0.37	-0.29	-0.30	-0.23	-0.22	-0.16	-0.10		0.00,
[-1.26;	[-1.14;	[-0.90;	[-0.91;	[-1.00;	[-1.00;	[-0.71;	[-0.90;	[-0.65;	ACT	
0.06]	0.24]	0.17]	0.34]	0.40]	0.54]	0.26]	0.57]	0.45]		
-0.70	-0.55	-0.47	-0.39	-0.40	-0.33	-0.33	-0.27	-0.20	-0.10	
[-1.34;	[-1.11;	[-0.86;	[-0.82;	[-0.99;	[-1.00;	[-0.78;	[-0.89;	[-0.59;	[-0.76;	ST
-0.07]	0.01]	-0.08]	0.03]	0.19]	0.34]	0.12]	0.36]	0.19]	0.56]	

10.2 Excluding studies that presented only completer analyses

As sensitivity analysis, we excluded the studies that presented only completer analysis, and performed pairwise and a network meta-analysis for the primary outcome "Positive symptoms". Overall 18 studies were included in the sensitivity analysis.

eFigure 25. Positive symptoms - excluding studies that presented only completer analyses



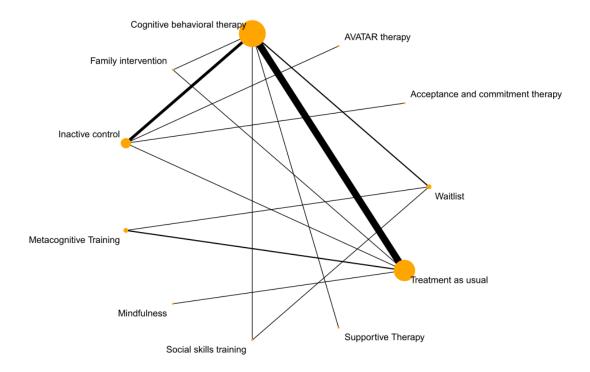
eTable 24. Positive symptoms - excluding studies that presented only completer analyses. In pairwise meta-analysis, AVATAR was superior to IC, HFIT and CBT were superior to TAU. In network meta-analysis, AVATAR showed a benefit in comparison to ACT, MF, TAU and MT; HFIT, was superior to MT; CBT was superior to TAU and MT, IC was superior to TAU and MT, WL showed a benefit in comparison to MT.

AVATAR			-0.38 [-0.73; -0.02]						
-0.01 [-0.67; 0.66]	HFIT							-0.69 [-1.18; -0.21]	
-0.28 [-0.70; 0.14]	-0.27 [-0.80; 0.25]	СВТ	-0.12 [-0.34; 0.10]	0.00 [-0.47; 0.47]	-0.10 [-0.49; 0.29]			-0.46 [-0.66; -0.25]	
-0.38 [-0.73; -0.02]	-0.37 [-0.93; 0.19]	-0.10 [-0.31; 0.12]	IC			-0.22 [-0.63; 0.18]		-0.41 [-0.95; 0.13]	
-0.40 [-0.98; 0.17]	-0.39 [-1.03; 0.24]	-0.12 [-0.52; 0.27]	-0.03 [-0.48; 0.42]	WL	-0.10 [-0.56; 0.36]				-0.28 [-0.88; 0.31]
-0.43 [-0.99; 0.14]	-0.42 [-1.06; 0.22]	-0.15 [-0.52; 0.23]	-0.05 [-0.48; 0.38]	-0.02 [-0.46; 0.41]	SST				
-0.60 [-1.14; -0.06]	-0.59 [-1.28; 0.10]	-0.32 [-0.78; 0.14]	-0.22 [-0.63; 0.18]	-0.20 [-0.80; 0.40]	-0.17 [-0.77; 0.42]	ACT			
-0.64 [-1.25; -0.03]	-0.63 [-1.27; 0.00]	-0.36 [-0.81; 0.10]	-0.26 [-0.76; 0.23]	-0.24 [-0.82; 0.35]	-0.21 [-0.80; 0.37]	-0.04 [-0.68; 0.60]	MF	-0.06 [-0.47; 0.35]	
-0.70 [-1.16; -0.25]	-0.69 [-1.18; -0.21]	-0.42 [-0.62; -0.22]	-0.33 [-0.60; -0.05]	-0.30 [-0.71; 0.12]	-0.28 [-0.69; 0.14]	-0.10 [-0.59; 0.39]	-0.06 [-0.47; 0.35]	TAU	-0.25 [-0.63; 0.12]
-0.88 [-1.43; -0.33]	-0.87 [-1.46; -0.28]	-0.60 [-0.97; -0.22]	-0.50 [-0.92; -0.08]	-0.47 [-0.91; -0.04]	-0.45 [-0.94; 0.04]	-0.28 [-0.86; 0.31]	-0.24 [-0.77; 0.29]	-0.18 [-0.51; 0.16]	MT

10.3 Excluding high risk of bias studies

As sensitivity analysis, we excluded the studies that presented an overall high risk of bias and performed pairwise and a network meta-analysis for the primary outcome "Positive symptoms". A global score for Risk of Bias score was calculated according to the criteria proposed by Furukawa and colleagues (3): studies were classified as having overall high risk of bias if two or more domains were judged as high risk. For this aim, the item "Blinding of participants and personnel" was not considered, as they cannot be blind in studies on psychological treatments. The item "Researchers' allegiance" was also not counted, since it is considered in a separate sensitivity analysis. Overall 31 studies were included in the sensitivity analysis.

eFigure 26. Positive symptoms - excluding high risk of bias studies



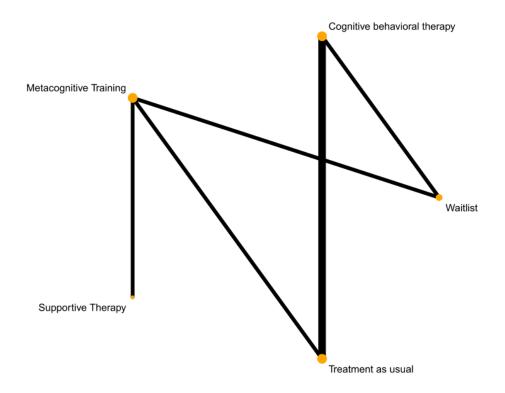
eTable 25. Positive symptoms - excluding high risk of bias studies. Excluding studies with a global score of high risk of bias, CBT was superior to TAU.

AVATAR			-0.38 [-0.92; 0.17]							
-0.22 [-0.83; 0.39]	СВТ	-0.11 [-0.83; 0.61]	-0.20 [-0.48; 0.07]			-0.10 [-0.67; 0.47]	-0.40 [-0.88; 0.08]	-0.24 [-0.43; -0.04]		-0.50 [-1.28; 0.27]
-0.36 [-1.22; 0.51]	-0.14 [-0.76; 0.49]	FI						-0.10 [-0.81; 0.61]		
-0.38 [-0.92; 0.17]	-0.16 [-0.42; 0.11]	-0.02 [-0.69; 0.65]	IC					-0.41 [-1.09; 0.27]	-0.22 [-0.80; 0.35]	
-0.42 [-1.28; 0.44]	-0.20 [-0.81; 0.41]	-0.06 [-0.91; 0.79]	-0.04 [-0.71; 0.62]	MF				-0.06 [-0.64; 0.52]		
-0.42 [-1.16; 0.31]	-0.20 [-0.62; 0.22]	-0.07 [-0.80; 0.67]	-0.05 [-0.54; 0.45]	-0.00 [-0.71; 0.70]	МТ		0.28 [-0.44; 1.01]	-0.19 [-0.63; 0.26]		
-0.43 [-1.24; 0.38]	-0.21 [-0.74; 0.33]	-0.07 [-0.89; 0.74]	-0.05 [-0.65; 0.54]	-0.01 [-0.82; 0.80]	-0.01 [-0.65; 0.64]	SST	0.10 [-0.52; 0.72]			
-0.47 [-1.21; 0.26]	-0.25 [-0.67; 0.17]	-0.12 [-0.86; 0.63]	-0.10 [-0.59; 0.40]	-0.05 [-0.78; 0.68]	-0.05 [-0.55; 0.44]	-0.04 [-0.60; 0.51]	WL			•
-0.48 [-1.12; 0.15]	-0.26 [-0.45; -0.07]	-0.13 [-0.75; 0.49]	-0.11 [-0.43; 0.21]	-0.06 [-0.64; 0.52]	-0.06 [-0.46; 0.34]	-0.05 [-0.61; 0.51]	-0.01 [-0.45; 0.43]	TAU		•
-0.60 [-1.40; 0.19]	-0.38 [-1.02; 0.26]	-0.24 [-1.13; 0.64]	-0.22 [-0.80; 0.35]	-0.18 [-1.06; 0.70]	-0.18 [-0.94; 0.58]	-0.17 [-1.00; 0.66]	-0.13 [-0.89; 0.63]	-0.12 [-0.78; 0.54]	ACT	
-0.72 [-1.71; 0.26]	-0.50 [-1.28; 0.27]	-0.37 [-1.36; 0.63]	-0.35 [-1.17; 0.47]	-0.30 [-1.29; 0.68]	-0.30 [-1.18; 0.58]	-0.29 [-1.24; 0.65]	-0.25 [-1.13; 0.63]	-0.24 [-1.04; 0.56]	-0.12 [-1.13; 0.88]	ST

10.4 Excluding studies with high risk of bias in researchers' allegiance

As sensitivity analysis, we excluded the studies that were judged as high risk of bias for researchers' allegiance, and performed pairwise and a network meta-analysis for the primary outcome "Positive symptoms". Overall 6 studies were included in this sensitivity analysis.

eFigure 27. Positive symptoms - excluding studies with high risk of bias in researchers' allegiance



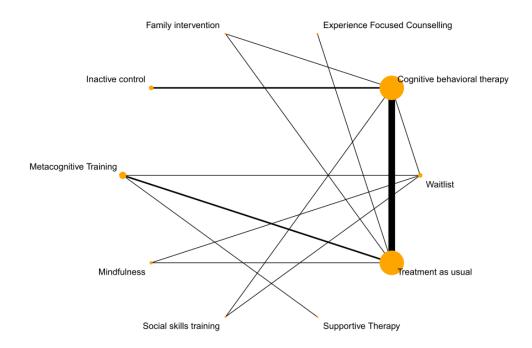
eTable 26. Positive symptoms - excluding studies with high risk of bias in researchers' allegiance. Excluding studies conducted by authors who developed the treatment under investigation, pairwise meta-analyses show a benefit for CBT in comparison with TAU and with WL (these results are confirmed in NMA), and for MT in comparison with ST. In NMA, CBT was superior to MT and ST, and TAU, WL and MT were superior to ST.

СВТ	-0.54 [-0.96; -0.12]	-0.96 [-1.58; -0.34]		
-0.61 [-1.00; -0.23]	TAU		-0.25 [-0.63; 0.12]	
-0.80 [-1.29; -0.30]	-0.18 [-0.70; 0.33]	WL	-0.28 [-0.88; 0.31]	
-0.93 [-1.40; -0.45]	-0.31 [-0.66; 0.04]	-0.13 [-0.61; 0.36]	MT	-0.64 [-1.21; -0.07]
-1.57 [-2.31; -0.83]	-0.95 [-1.62; -0.29]	-0.77 [-1.52; -0.02]	-0.64 [-1.21; -0.07]	ST

10.5 Excluding studies focused on treatment resistant patients

As sensitivity analysis, we excluded the studies that were focused on treatment resistant patients, as defined in the trials, and performed pairwise and a network meta-analysis for the primary outcome "Positive symptoms". Overall 29 studies were included in this sensitivity analysis.

eFigure 28. Positive symptoms - excluding studies focused on treatment resistant patients



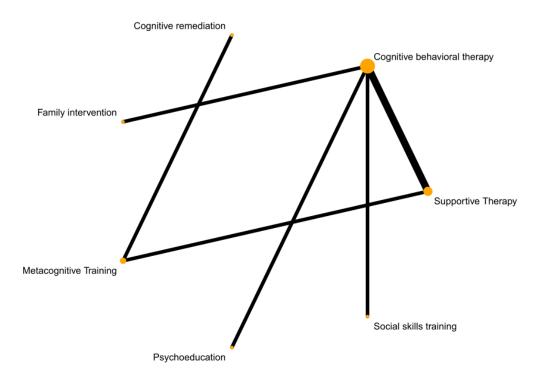
eTable 27. Positive symptoms - excluding studies focused on treatment resistant patients. Excluding studies focused on treatment resistant patients, pairwise meta-analysis showed a benefit for CBT in comparison with TAU.

WL	0.00 [-0.69; 0.69]	-0.28 [-1.06; 0.50]	0.26 [-0.80; 1.32]		-0.10 [-0.79; 0.59]				
-0.03 [-0.55; 0.48]	СВТ				-0.10 [-0.74; 0.54]	-0.11 [-0.88; 0.67]	-0.25 [-0.46; -0.04]	-0.42 [-0.87; 0.04]	
-0.05 [-0.60; 0.50]	-0.01 [-0.46; 0.44]	MT					-0.32 [-0.77; 0.13]		-0.64 [-1.40; 0.12]
-0.09 [-0.76; 0.58]	-0.06 [-0.65; 0.54]	-0.04 [-0.72; 0.64]	MF				-0.06 [-0.72; 0.59]		
-0.05 [-1.41; 1.31]	-0.02 [-1.29; 1.26]	-0.00 [-1.33; 1.32]	0.04 [-1.35; 1.43]	EFC			-0.24 [-1.50; 1.02]		
-0.12 [-0.76; 0.51]	-0.09 [-0.69; 0.52]	-0.07 [-0.78; 0.63]	-0.03 [-0.84; 0.78]	-0.07 [-1.48; 1.34]	SST				
-0.16 [-1.00; 0.67]	-0.13 [-0.80; 0.54]	-0.12 [-0.90; 0.67]	-0.07 [-0.96; 0.81]	-0.12 [-1.54; 1.31]	-0.04 [-0.95; 0.86]	FI	-0.10 [-0.87; 0.67]		
-0.29 [-0.80; 0.23]	-0.25 [-0.46; -0.05]	-0.24 [-0.65; 0.17]	-0.20 [-0.77; 0.38]	-0.24 [-1.50; 1.02]	-0.17 [-0.79; 0.46]	-0.12 [-0.79; 0.55]	TAU		
-0.45 [-1.14; 0.23]	-0.42 [-0.87; 0.04]	-0.41 [-1.05; 0.23]	-0.36 [-1.12; 0.39]	-0.40 [-1.76; 0.95]	-0.33 [-1.09; 0.43]	-0.29 [-1.10; 0.52]	-0.17 [-0.66; 0.33]	IC	
-0.69 [-1.63; 0.26]	-0.65 [-1.54; 0.23]	-0.64 [-1.40; 0.12]	-0.60 [-1.62; 0.43]	-0.64 [-2.17; 0.89]	-0.57 [-1.61; 0.48]	-0.52 [-1.62; 0.57]	-0.40 [-1.27; 0.47]	-0.23 [-1.23; 0.76]	ST

10.6 Excluding studies with a non-active comparison group

As sensitivity analysis, we excluded the studies that used a non-active comparison group, and performed pairwise and a network meta-analysis for the primary outcome "Positive symptoms". For this analysis the studies Bechdolf 2004 and ACTRN12616000976482 were also considered (4, 5). Overall 7 studies were included in this sensitivity analysis.

eFigure 29. Positive symptoms - excluding studies with a non-active comparison group



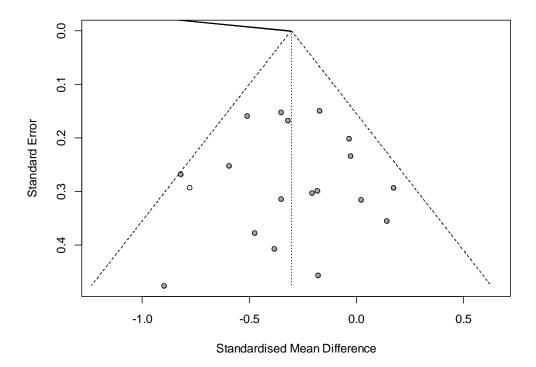
eTable 28. Positive symptoms - excluding studies with a non-active comparison group

MT			-0.40 [-0.94; 0.14]	•		-0.64 [-1.21; -0.07]
-0.36 [-1.08; 0.37]	СВТ	-0.02 [-0.49; 0.45]		-0.11 [-0.69; 0.48]	-0.10 [-0.49; 0.29]	-0.28 [-0.73; 0.17]
-0.38 [-1.25; 0.48]	-0.02 [-0.49; 0.45]	PSYED				
-0.40 [-0.94; 0.14]	-0.04 [-0.94; 0.87]	-0.02 [-1.04; 1.00]	CR			
-0.47 [-1.40; 0.47]	-0.11 [-0.69; 0.48]	-0.09 [-0.84; 0.67]	-0.07 [-1.15; 1.01]	FI		
-0.46 [-1.28; 0.36]	-0.10 [-0.49; 0.29]	-0.08 [-0.69; 0.53]	-0.06 [-1.05; 0.92]	0.01 [-0.70; 0.71]	SST	
-0.64 [-1.21; -0.07]	-0.28 [-0.73; 0.17]	-0.26 [-0.91; 0.39]	-0.24 [-1.03; 0.54]	-0.17 [-0.91; 0.56]	-0.18 [-0.78; 0.41]	ST

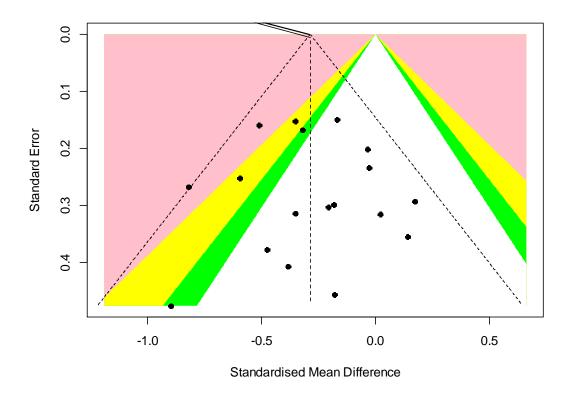
11. Investigation of Small Study Effects and Publication Bias

We first examined funnel plot of pairwise meta-analysis with 10 or more studies included, since the power of tests for funnel plot asymmetry is considered very low when less than ten comparisons are included in the meta-analysis (6). The only pairwise meta-analysis including more than 10 studies was CBT versus TAU (18 studies). Visual inspection of the forest plot may suggest that some small studies favoring the TAU might be missing from the analysis. However Egger's test (which quantifies the bias captured by the asymmetry of the funnel plot and whether it is significant) do not reveal a significant asymmetry in the funnel plot (t = 0.13, t = 16, p-value = 0.89). As a further check, we applied Duval and Tweedie's trim and fill procedure (7), which yields an estimate of the effect size after the publication bias has been taken into account. The resulting effect size is an SMD of -0.30 (95 % CI -0.42, -0.18), which is very similar to the original one.

eFigure 30. Funnel plot of comparisons CBT *vs* TAU. Grey circles represent identified studies, white circles represent potentially missing studies, whose effect has been estimated with trim and fill method.

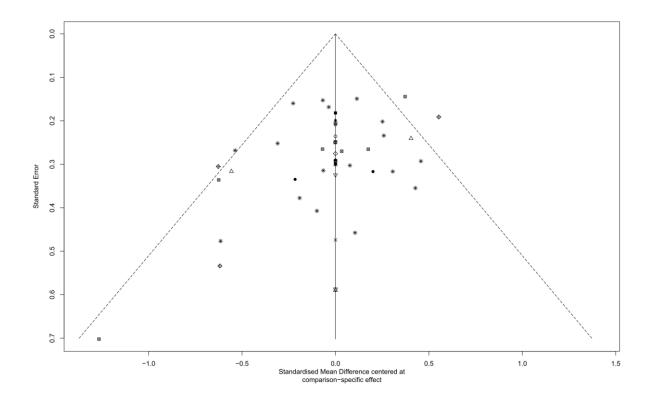


eFigure 31. Contour-enhanced funnel plot of comparisons CBT *vs* TAU.



We also applied a comparison adjusted forest plot (8), specifically developed for NMA. Comparisons have been defined as newer versus older. Visual inspection of the funnel plot suggests that small studies that did not show a benefit for the newer psychological treatment over the older treatment are underrepresented in our data (possibly remain unpublished).

eFigure 32. Comparison adjusted funnel plot



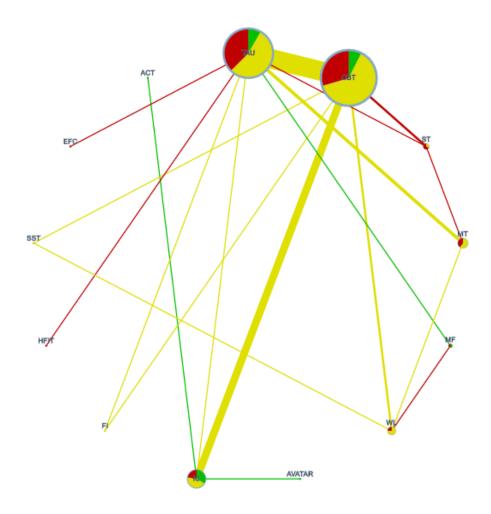
- Social skills training:Waitlist
- △ Cognitive behavioral therapy:Waitlist
- + Metacognitive Training:Waitlist
- × Mindfulness:Waitlist
- ♦ Inactive control: Treatment as usual
- \triangledown Supportive Therapy:Treatment as usual
- □ Family intervention:Treatment as usual
- * Cognitive behavioral therapy:Treatment as usual
- ◆ Metacognitive Training:Treatment as usual
- Mindfulness:Treatment as usual
- ☼ Experience Focused Counselling: Treatment as usual
- Hallucination Focused Integrative Treatment:Treatment as usual
- Cognitive behavioral therapy:Inactive control
- Acceptance and commitment therapy:Inactive control
- AVATAR therapy:Inactive control
- Cognitive behavioral therapy:Supportive Therapy
- ▲ Metacognitive Training:Supportive Therapy
- Cognitive behavioral therapy:Social skills training
- Cognitive behavioral therapy:Family intervention

12. Evaluating the confidence in NMA

12.1 Summary of study limitations of the included studies

We evaluated the quality of evidence of primary outcome based on the Grading of Recommendations Assessment, Development and Evaluation (GRADE) framework, adapted to network meta-analysis (9). We assessed the following five domains for confidence in specific pairwise and network meta-analyses: Study limitations, Indirectness, Inconsistency, Imprecision and Publication bias. For this purpose, we also used the under-development online tool Confidence in Network Meta-Analysis (CINeMA) (10).

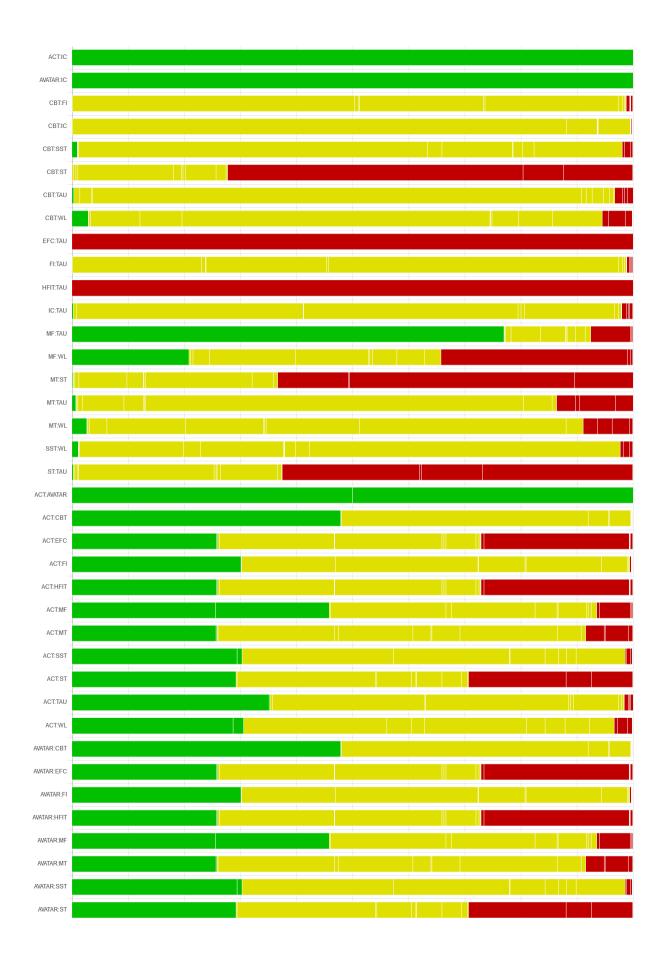
eFigure 33. Network plot with colours for Study limitations. The colours in the circles indicate the percentages of low RoB studies [green], moderate RoB studies [yellow] and high RoB studies [red] involving each intervention. The colours of the line indicate the RoB assessment of each comparison based on the above information - low RoB comparison [green], moderate RoB comparison [yellow] and high RoB comparison [red].

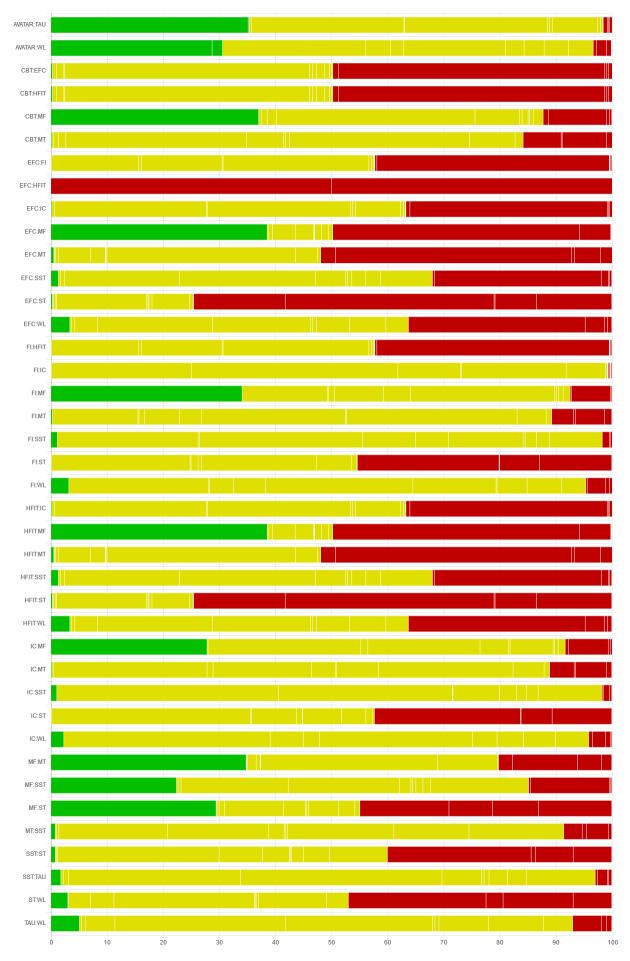


12.2 Contribution of comparisons to each network estimate by RoB

Based on the above assessment of RoB for each comparison and the contribution matrix detailing contribution of each direct comparison to all network estimates, the following bar graphs show the percentage of low, moderate or high RoB contributions for each network estimate.

eFigure 34. Contribution bar graph. Each bar corresponds to a NMA relative treatment effect and shows how much information comes from comparisons at low risk of bias [green], moderate risk of bias [yellow] or high risk of bias [red].





12.3 Table of reasons for downgrading

Comparison	Nature of the evidence	Confidence	Downgrading due to
ACT vs IC	Mixed	Moderate	Imprecision ³
AVATAR vs IC	Mixed	Moderate	Inconsistency ⁴
CBT vs FI	Mixed	Low	Study limitations ² , Imprecision ³
CBT vs IC	Mixed	Low	Study limitations ² , Inconsistency ⁴
CBT vs SST	Mixed	Low	Study limitations ² , Imprecision ³
CBT vs ST	Mixed	Low	Serious study limitations ¹
CBT vs TAU	Mixed	Moderate	Study limitations ²
CBT vs WL EFC vs TAU	Mixed Mixed	Low Very low	Study limitations ² , Inconsistency ⁴ Serious study limitations ¹ , Imprecision ³
FI vs TAU	Mixed	Low	Study limitations ² , Imprecision ³
HFIT vs TAU	Mixed	Moderate	Serious study limitations ¹
IC vs TAU	Mixed	Low	Study limitations ² , Imprecision ³
MF vs TAU	Mixed	Moderate	Imprecision ³
MF vs WL	Mixed	Low	Study limitations ² , Imprecision ³
MT vs ST	Mixed	Very low	Serious study limitations ¹ , Inconsistency ⁴
MT vs TAU	Mixed	Low	Study limitations ² , Inconsistency ⁴
MT vs WL	Mixed	Low	Study limitations ² , Imprecision ³
SST vs WL	Mixed	Low	Study limitations ² , Imprecision ³
ST vs TAU	Mixed	Very low	Serious study limitations ¹ , Imprecision ³
ACT vs AVATAR	Indirect	Moderate	Imprecision ³
ACT vs CBT	Indirect	Low	Study limitations ² , Inconsistency ⁴
ACT vs EFC	Indirect	Low	Study limitations ² , Imprecision ³
ACT vs FI	Indirect	Low	Study limitations ² , Imprecision ³
ACT vs HFIT ACT vs MF	Indirect Indirect	Moderate Low	Study limitations ² Study limitations ² , Imprecision ³
ACT VS MT	Indirect	Low	Study limitations, Imprecision ³
ACT vs MT	Indirect	Low	Study limitations ² , Imprecision ³
ACT vs ST	Indirect	Low	Study limitations ² , Imprecision ³
ACT vs TAU	Indirect	Low	Study limitations ² , Imprecision ³
ACT vs WL	Indirect	Low	Study limitations ² , Imprecision ³
AVATAR vs CBT	Indirect	Low	Study limitations ² , Imprecision ³
AVATAR vs EFC	Indirect	Low	Study limitations ² , Imprecision ³
AVATAR vs FI	Indirect	Low	Study limitations ² , Imprecision ³
AVATAR vs HFIT	Indirect	Low	Study limitations ² , Imprecision ³
AVATAR vs MF	Indirect	Low	Study limitations ² , Imprecision ³
AVATAR vs MT	Indirect	Low	Study limitations ² , Imprecision ³
AVATAR vs SST	Indirect	Low	Study limitations ² , Imprecision ³
AVATAR vs ST	Indirect	Low	Study limitations ² , Imprecision ³
AVATAR vs TAU AVATAR vs WL	Indirect Indirect	Low Low	Study limitations ² , Imprecision ³ Study limitations ² , Imprecision ³
CBT vs EFC	Indirect	Low	Study limitations, Imprecision ³
CBT vs HFIT	Indirect	Low	Study limitations ² , Imprecision ³
CBT vs MF	Indirect	Low	Study limitations ² , Imprecision ³
CBT vs MT	Indirect	Low	Study limitations ² , Imprecision ³
EFC vs FI	Indirect	Low	Study limitations ² , Imprecision ³
EFC vs HFIT	Indirect	Very low	Serious study limitations ¹ , Imprecision ³
EFC vs IC	Indirect	Low	Study limitations ² , Imprecision ³
EFC vs MF	Indirect	Low	Study limitations ² , Imprecision ³
EFC vs MT	Indirect	Very low	Serious study limitations ¹ , Imprecision ³
EFC vs SST	Indirect	Low	Study limitations ² , Imprecision ³
EFC vs ST	Indirect	Very low	Serious study limitations ¹ , Imprecision ³
EFC vs WL	Indirect	Low	Study limitations ² , Imprecision ³
FI vs HFIT FI vs IC	Indirect Indirect	Low Low	Study limitations ² , Imprecision ³ Study limitations ² , Imprecision ³
FI vs IC FI vs MF	Indirect	Low	Study limitations, Imprecision Study limitations ² , Imprecision ³
FI vs MT	Indirect	Low	Study limitations, imprecision Study limitations ² , Imprecision ³
FI vs SST	Indirect	Low	Study limitations ² , Imprecision ³
FI vs ST	Indirect	Low	Study limitations ² , Imprecision ³
FI vs WL	Indirect	Low	Study limitations ² , Imprecision ³
HFIT vs IC	Indirect	Moderate	Study limitations ²
HFIT vs MF	Indirect	Low	Study limitations ² , Imprecision ³
HFIT vs MT	Indirect	Very low	Serious study limitations ¹ , Imprecision ³
HFIT vs SST	Indirect	Low	Study limitations ² , Imprecision ³
HFIT vs ST	Indirect	Low	Serious study limitations ¹
HFIT vs WL	Indirect	Low	Study limitations ² , Inconsistency ⁴
IC vs MF	Indirect	Low	Study limitations ² , Imprecision ³
IC vs MT	Indirect	Low	Study limitations ² , Imprecision ³
IC vs SST	Indirect	Low	Study limitations ² , Imprecision ³

IC vs ST	Indirect	Low	Study limitations ² , Imprecision ³
IC vs WL	Indirect	Low	Study limitations ² , Imprecision ³
MF vs MT	Indirect	Low	Study limitations ² , Imprecision ³
MF vs SST	Indirect	Low	Study limitations ² , Imprecision ³
MF vs ST	Indirect	Low	Study limitations ² , Imprecision ³
MT vs SST	Indirect	Low	Study limitations ² , Imprecision ³
SST vs ST	Indirect	Low	Study limitations ² , Imprecision ³
SST vs TAU	Indirect	Low	Study limitations ² , Imprecision ³
ST vs WL	Indirect	Low	Study limitations ² , Imprecision ³
TAU vs WL	Indirect	Low	Study limitations ² , Imprecision ³
Ranking of		Low	Study limitations ² , Indirectness ⁵
treatments			

- 1 Dominated by evidence at high risk of bias (> 50%).
- 2 Dominated by evidence at moderate risk of bias (> 50%).
- 3 Confidence interval includes values favouring either treatment (considering a margin of equivalence of 0.20).
- 4 There might be some concerns about heterogeneity between study variance in this comparison (prediction intervals extend into clinically important or unimportant effect, using a reference interval of 0.20).
- 5 Lack convincing evidence for the plausibility of the transitivity assumption due to few studies included in the network

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