

Post-traumatic stress disorder

[G] Evidence reviews for psychological and psychosocial interventions for family members of people at risk of, or with, PTSD

NICE guideline NG116

Evidence reviews

December 2018

Final

These evidence reviews were developed by the National Guideline Alliance hosted by the Royal College of Obstetricians and Gynaecologists

Disclaimer

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or service users. The recommendations in this guideline are not mandatory and the guideline does not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

Local commissioners and/or providers have a responsibility to enable the guideline to be applied when individual health professionals and their patients or service users wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with compliance with those duties.

NICE guidelines cover health and care in England. Decisions on how they apply in other UK countries are made by ministers in the [Welsh Government](#), [Scottish Government](#), and [Northern Ireland Executive](#). All NICE guidance is subject to regular review and may be updated or withdrawn.

Copyright

© NICE, 2018. All rights reserved. Subject to [Notice of rights](#).

ISBN: 978-1-4731-3181-1

Contents

| | |
|---|----------|
| Psychological, psychosocial and other non-pharmacological interventions for the support of family and carers of people at risk of PTSD and of people with PTSD..... | 7 |
| Review question 5.1 For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes? | 8 |
| Introduction | 8 |
| Summary of the protocol (PICO table)..... | 8 |
| Methods and processes..... | 9 |
| Psychological interventions for family and carers of people at risk of PTSD | 9 |
| Introduction to clinical evidence | 9 |
| Problem-solving: clinical evidence | 9 |
| Self-help (without support): clinical evidence..... | 11 |
| Parent training/family interventions: clinical evidence..... | 14 |
| Psychosocial interventions for family or carers of people at risk of PTSD | 15 |
| Introduction to clinical evidence | 15 |
| Other non-pharmacological interventions for family or carers of people at risk of PTSD | 15 |
| Introduction to clinical evidence | 15 |
| Economic evidence | 15 |
| Included studies..... | 15 |
| Excluded studies..... | 15 |
| Economic model..... | 15 |
| Resource impact | 16 |
| Clinical evidence statements..... | 16 |
| Psychological interventions..... | 16 |
| Economic evidence statements | 16 |
| Review question 5.2 For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes? | 17 |
| Summary of the protocol (PICO table)..... | 17 |
| Methods and processes..... | 17 |
| Psychological interventions for family and carers of people with PTSD | 18 |
| Introduction to clinical evidence | 18 |
| Trauma-focused CBT: clinical evidence | 18 |
| Couple interventions: clinical evidence | 20 |
| Self-help (without support): clinical evidence..... | 25 |

| | |
|--|-----------|
| Psychosocial interventions for family or carers of people with PTSD | 27 |
| Introduction to clinical evidence | 27 |
| Psychoeducation: clinical evidence | 27 |
| Practical support: clinical evidence | 27 |
| Other non-pharmacological interventions for family or carers of people at risk of PTSD | 28 |
| Introduction to clinical evidence | 28 |
| Economic evidence | 28 |
| Included studies | 28 |
| Excluded studies | 28 |
| Economic model | 28 |
| Resource impact | 28 |
| Clinical evidence statements | 28 |
| Psychological interventions | 28 |
| Economic evidence statements | 29 |
| The committee’s discussion of the evidence | 29 |
| Interpreting the evidence | 29 |
| References for included studies | 31 |
| Appendices | 33 |
| Appendix A – Review protocols | 33 |
| Appendix B – Literature search strategies | 40 |
| Appendix C – Clinical evidence study selection | 52 |
| Appendix D – Clinical evidence tables | 54 |
| Clinical evidence tables for “For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?” | 54 |
| Clinical evidence tables for “For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?” | 56 |
| Appendix E – Forest plots | 61 |
| Forest plots for “For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?” | 61 |
| Psychological: Problem solving | 61 |
| Psychological: Self-help (without support) | 62 |
| Forest plots for “For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions | |

| | |
|--|----|
| result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?" | 65 |
| Psychological: Trauma-focused CBT | 65 |
| Psychological: Couples interventions | 66 |
| Appendix F–GRADE tables | 72 |
| GRADE tables for “For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?” | 72 |
| Psychological: Problem solving | 72 |
| Psychological: Self-help (without support) | 72 |
| GRADE tables “For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?” | 74 |
| Psychological: Trauma-focused CBT | 74 |
| Psychological: Couples interventions | 74 |
| Psychological: Self-help (without support) | 77 |
| Self-help (without support) versus waitlist for the support of partners of adults with PTSD | 78 |
| Appendix G – Health economic evidence study selection | 79 |
| Appendix H – Health economic evidence tables | 80 |
| Appendix I – Health economic evidence profiles | 81 |
| Appendix J – Health economic analysis | 82 |
| Appendix K – Excluded studies | 83 |
| Clinical studies | 83 |
| Excluded studies for “For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?” | 83 |
| Psychological: Parent training/Family therapy | 83 |
| Excluded studies for “For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?” | 84 |
| Psychological: Self-help (without support) | 84 |
| Psychosocial: Psychoeducation and supportive intervention | 84 |
| Psychosocial: Practical support | 85 |
| Appendix L – Research recommendations | 86 |

Psychological, psychosocial and other non-pharmacological interventions for the support of family and carers of people at risk of PTSD and of people with PTSD

This evidence report contains information on 2 reviews relating to psychological, psychosocial and other non-pharmacological interventions for the support of family and carers:

- Review question 5.1 For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?
- Review question 5.2 For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?

Review question 5.1 For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?

Introduction

The evidence for interventions to support family (including children and carers) of people at risk of PTSD [5.1] and people with PTSD [5.2] was not adequate to warrant recommendations. The committee considered this evidence and using their expertise developed overall recommendations for the support of family of people at risk of PTSD and for people with PTSD based on consensus, using good practice points. The committee discussion of the evidence as well as the recommendations they made are relevant to both populations. Therefore, although evidence is presented separately for 5.1 and 5.2, recommendations, rationale and impact of recommendations and the discussion of the committee are combined for family of people at risk of PTSD and family of people with PTSD and provided at the end of the evidence report.

Summary of the protocol (PICO table)

Please see Table 1 for a summary of the Population, Intervention, Comparison and Outcome (PICO) characteristics of this review.

Table 1: Summary of the protocol (PICO table)

| | |
|---------------------|---|
| Population | <ul style="list-style-type: none"> Family members (including children and carers) of people at risk of PTSD |
| Intervention | <ul style="list-style-type: none"> Psychological interventions Psychosocial interventions Other non-pharmacological interventions |
| Comparison | <ul style="list-style-type: none"> Any other intervention Prevention as usual Waitlist Placebo |
| Outcome | <p>Critical outcomes:</p> <ul style="list-style-type: none"> Family member/carer mental health Family member/carer wellbeing or quality of life Carer burden <p>Important outcomes:</p> <ul style="list-style-type: none"> Employment Housing Lifestyle disruption Relationship difficulties |

PTSD=Post-traumatic stress disorder

For full details see review protocol in [Appendix A](#).

Methods and processes

This evidence review was developed using the methods and process described in [Developing NICE guidelines: the manual](#); see the methods chapter for further information.

Declarations of interest were recorded according to NICE's 2014 and 2018 conflicts of interest policies.

Psychological interventions for family and carers of people at risk of PTSD

Introduction to clinical evidence

Psychological interventions will be considered as classes of intervention (problem solving; self-help [without support]; parent training/family interventions), and form the subsections below.

Evidence for interventions in the following classes was also searched for but none was found: trauma-focused CBT; non-trauma-focused CBT; psychologically-focused debriefing; eye movement desensitisation and reprocessing (EMDR); hypnotherapy; psychodynamic therapies; counselling; human givens therapy; combined somatic and cognitive therapies; coping skills training; couple interventions; play therapy.

Problem-solving: clinical evidence

Included studies

One RCT (N=153) of problem solving for the support of family or carers of people at risk of PTSD was identified and included (Powell 2016) in a single comparison of problem solving compared with TAU.

Excluded studies

No studies were identified and excluded at full-text for this review.

Studies not included in this review with reasons for their exclusions are provided in [Appendix K](#).

Summary of clinical studies included in the evidence review

Table 2 provides a brief summary of the included study and evidence from this study is summarised in the clinical GRADE evidence profile below (Table 3).

See also the study selection flow chart in [Appendix C](#), forest plots in [Appendix E](#) and study evidence tables in [Appendix D](#).

Table 2: Summary of included studies: Problem solving for caregivers of adults at risk of PTSD

| Comparison | Problem solving versus TAU |
|-------------------------------------|----------------------------|
| Total no. of studies (N randomised) | 1 (153) |
| Study ID | Powell 2016 |
| Country | US |

| Comparison | Problem solving versus TAU |
|--|--|
| Diagnostic status | Unclear |
| Mean age (range) | 49.7 (19-89) |
| Sex (% female) | 82 |
| Ethnicity (% BME) | 21 |
| Coexisting conditions | NR |
| Mean months since traumatic event | NR (initiated after discharge) |
| Type of traumatic event | Caregiver of adult patients with moderate to severe traumatic brain injury (TBI) who received acute and/or rehabilitation care at a level I trauma centre. Cause of injury: Motor vehicle collision (40%); violence (10%); fall (31%); other (19%) |
| Single or multiple incident index trauma | Single |
| Lifetime experience of trauma | NR |
| Relationship to person at risk of PTSD | 54% spouses/partners; 35% parents; 11% other |
| Intervention details | Individualized education and mentored problem-solving intervention based on model of intervention from Lorig et al. (2003), focused on increasing self-effectiveness and problem-solving |
| Intervention format | Individual |
| Intervention intensity | 8-10 fortnightly sessions (target 8 + 2 additional calls at caregiver's discretion). Median number of calls 7 (interquartile range 3-9) |
| Comparator | TAU: free to access typically available care, with no contact from the research team between baseline interview and follow-up |
| Intervention length (weeks) | 20 |
| Note. | |

Quality assessment of clinical studies included in the evidence review

The clinical evidence profiles for this review (problem-solving for the support of family and carers of people at risk of PTSD) are presented in Table 3.

Table 3: Summary clinical evidence profile: Problem solving versus TAU for caregivers of adults at risk of PTSD

| Outcomes | Illustrative comparative risks* (95% CI) | | Relative effect (95% CI) | No of Participants (studies) | Quality of the evidence (GRADE) |
|---|--|---|--------------------------|------------------------------|---------------------------------|
| | Assumed risk TAU | Corresponding risk Problem solving | | | |
| Family member/carer mental health at 6-week follow-up BSI global T-test score | | The mean family member/carer mental health at 6-week follow-up in the intervention groups was 0.41 standard | | 124 (1 study) | low ^{1,2} |

| Outcomes | Illustrative comparative risks* (95% CI) | | Relative effect (95% CI) | No of Participants (studies) | Quality of the evidence (GRADE) |
|--|--|---|--------------------------|------------------------------|---------------------------------|
| | Assumed risk TAU | Corresponding risk Problem solving | | | |
| Follow-up: mean 6 weeks | | deviations lower (0.77 to 0.05 lower) | | | |
| Family member/carer quality of life at 6-week follow-up Bakas Caregiving Outcomes Scale (BCOS) Follow-up: mean 6 weeks Better indicated by higher values | | The mean family member/carer quality of life at 6-week follow-up in the intervention groups was 0.19 standard deviations higher (0.16 lower to 0.55 higher) | | 124 (1 study) | low ^{1,3} |

¹ Risk of bias is high or unclear across multiple domains

² OIS not met (N<400)

³ 95% CI crosses both line of no effect and threshold for clinically important benefit

See [appendix F](#) for full GRADE tables.

Self-help (without support): clinical evidence

Included studies

One RCT (N=174) of self-help (without support) for the support of family or carers of people at risk of PTSD was identified and included (Melnyk 2004) in a single comparison of self-help (without support) compared with attention-placebo.

Excluded studies

No studies were identified and excluded at full-text for this review.

Studies not included in this review with reasons for their exclusions are provided in [Appendix K](#).

Summary of clinical studies included in the evidence review

Table 4 provides a brief summary of the included study and evidence from this study is summarised in the clinical GRADE evidence profile below (Table 5).

See also the study selection flow chart in [Appendix C](#), forest plots in [Appendix E](#) and study evidence tables in [Appendix D](#).

Table 4: Summary of included studies: Self-help (without support) for parents of children at risk of PTSD

| Comparison | Self-help (without support) versus attention-placebo |
|-------------------------------------|--|
| Total no. of studies (N randomised) | 1 (174) |
| Study ID | Melnyk 2004 |

| Comparison | Self-help (without support) versus attention-placebo |
|--|---|
| Country | US |
| Diagnostic status | Unclear |
| Mean age (range) | 31.2 (18-52) |
| Sex (% female) | 100 |
| Ethnicity (% BME) | 29 |
| Coexisting conditions | NR |
| Mean months since traumatic event | 0.03 |
| Type of traumatic event | Mother of a child admitted to a paediatric intensive care unit. The major reasons for hospitalisation were respiratory problems (eg, asthma or pneumonia; 44%), accidental trauma (16%), neurologic problems (eg, seizures or accidents; 14%), infections (eg, meningitis or sepsis; 11%), hematologic problems (eg, bleeding after procedures; 5%), cardiac problems (2%), ingestions (4%), or other causes (eg, acidosis; 5%). The length of stay in the PICU averaged 64.3 hours (SD: 64.3 hours; range: 10.0–440.0 hours), and the total length of hospital stay averaged 6.9 days (SD: 6.3 days; range: 1–32 days) |
| Single or multiple incident index trauma | Single |
| Lifetime experience of trauma | NR |
| Relationship to person at risk of PTSD | Mother |
| Intervention details | COPE intervention (Creating Opportunities for Parent Empowerment). Psychoeducational materials focused on increasing (i) parents' knowledge and understanding of the range of behaviours and emotions that young children typically display during and after hospitalization and (ii) direct parent participation in their children's emotional and physical care |
| Intervention format | Individual |
| Intervention intensity | NR |
| Comparator | Control programme, structured as the COPE intervention, but providing information on the policies and services of the PICU |
| Intervention length (weeks) | NR (from 6-16 hours after PICU admission to 2-3 days after hospital discharge) |
| Note. | |

Quality assessment of clinical studies included in the evidence review

The clinical evidence profiles for this review (self-help for the support of family and carers of people at risk of PTSD) are presented in Table 5.

Table 5: Summary clinical evidence profile: Self-help (without support) versus attention-placebo for parents of children at risk of PTSD

| Outcomes | Illustrative comparative risks* (95% CI) | | Relative effect (95% CI) | No of Participants (studies) | Quality of the evidence (GRADE) |
|--|--|---|--------------------------|------------------------------|---------------------------------|
| | Assumed risk Attention-placebo | Corresponding risk Self-help (without support) | | | |
| Family member/carer anxiety at 1-month follow-up STAI State change score Follow-up: mean 1 months | | The mean family member/carer anxiety at 1-month follow-up in the intervention groups was 0.44 standard deviations lower (0.84 to 0.04 lower) | | 103 (1 study) | low ^{1,2} |
| Family member/carer anxiety at 3-month follow-up STAI State change score Follow-up: mean 3 months | | The mean family member/carer anxiety at 3-month follow-up in the intervention groups was 0.25 standard deviations lower (0.66 lower to 0.16 higher) | | 93 (1 study) | low ^{1,3} |
| Family member/carer anxiety at 6-month follow-up STAI State change score Follow-up: mean 6 months | | The mean family member/carer anxiety at 6-month follow-up in the intervention groups was 0.34 standard deviations lower (0.77 lower to 0.09 higher) | | 89 (1 study) | low ^{1,3} |
| Family member/carer anxiety at 1-year follow-up STAI State change score Follow-up: mean 12 months | | The mean family member/carer anxiety at 1-year follow-up in the intervention groups was 0.56 standard deviations lower (1.06 to 0.05 lower) | | 67 (1 study) | low ^{1,2} |
| Family member/carer depression at 1-month follow-up POMS change score Follow-up: mean 1 months | | The mean family member/carer depression at 1-month follow-up in the intervention groups was 0.62 standard deviations lower | | 105 (1 study) | low ^{1,2} |

| Outcomes | Illustrative comparative risks* (95% CI) | | Relative effect (95% CI) | No of Participants (studies) | Quality of the evidence (GRADE) |
|---|--|--|--------------------------|------------------------------|---------------------------------|
| | Assumed risk Attention -placebo | Corresponding risk Self-help (without support) | | | |
| | | (1.01 to 0.22 lower) | | | |
| Family member/carer depression at 3-month follow-up POMS change score Follow-up: mean 3 months | | The mean family member/carer depression at 3-month follow-up in the intervention groups was 0.38 standard deviations lower (0.79 lower to 0.02 higher) | | 97 (1 study) | low ^{1,3} |
| Family member/carer depression at 6-month follow-up POMS change score Follow-up: mean 6 months | | The mean family member/carer depression at 6-month follow-up in the intervention groups was 0.7 standard deviations lower (1.11 to 0.29 lower) | | 99 (1 study) | low ^{1,2} |
| Family member/carer depression at 1-year follow-up POMS change score Follow-up: mean 12 months | | The mean family member/carer depression at 1-year follow-up in the intervention groups was 0.47 standard deviations lower (0.98 lower to 0.03 higher) | | 66 (1 study) | low ^{1,3} |

¹ Risk of bias is high or unclear across multiple domains

² OIS not met (N<400)

³ 95% CI crosses both line of no effect and threshold for clinically important benefit

See [appendix F](#) for full GRADE tables.

Parent training/family interventions: clinical evidence

Included studies

One study of parent training/family intervention for the support of family and carers of people at risk of PTSD was identified for full-text review. This study could not be included.

Excluded studies

One study was reviewed at full text and excluded from this review because the intervention was outside protocol (abusing parents involved in the therapy that was targeted at the child rather than parents/carers receiving separate intervention).

Studies not included in this review with reasons for their exclusions are provided in [Appendix K](#).

Psychosocial interventions for family or carers of people at risk of PTSD**Introduction to clinical evidence**

No studies on psychosocial interventions for the support of family or carers of people at risk of PTSD were identified.

Evidence for interventions in the following classes was searched for but none was found: meditation; mindfulness-based stress reduction (MBSR); nature-assisted therapies; supported employment; psychoeducational interventions; practical support; peer support.

Other non-pharmacological interventions for family or carers of people at risk of PTSD**Introduction to clinical evidence**

No studies on other non-pharmacological interventions for the support of family or carers of people at risk of PTSD were identified.

Evidence for interventions in the following classes was searched for but none was found: acupuncture; exercise; repetitive transcranial magnetic stimulation (rTMS); yoga.

Economic evidence**Included studies**

No economic studies assessing the cost effectiveness of interventions for the support of family members (including children and carers) of people at risk of PTSD were identified.

Excluded studies

No economic studies were reviewed at full text and excluded from this review.

Economic model

No economic modelling was conducted for this question because other topics were agreed as higher priorities for economic evaluation.

Resource impact

The recommendations made by the committee based on this review are not expected to have a substantial impact on resources. The committee's considerations that contributed to the resource impact assessment are included under the 'Cost effectiveness and resource use' in 'The committee's discussion of the evidence' section.

Clinical evidence statements

Psychological interventions

Problem solving

- Low quality single-RCT (N=124) evidence suggests a small but statistically significant benefit of problem solving relative to TAU on caregiver mental health at 6-week follow-up for spouses/partners and parents of adults at risk of PTSD following moderate to severe traumatic brain injury. However, evidence from this same study suggests neither clinically important nor statistically significant effects on caregiver quality of life. No other outcomes were available.

Self-help (without support)

- Low quality single-RCT (N=66-105) evidence suggests small to moderate but statistically significant benefits of self-help (without support) relative to attention-placebo on improving anxiety symptoms at 1-month and 1-year follow-up (non-significant at 3- and 6-month follow-ups) and depression symptoms at 1- and 6-month follow-ups (non-significant at 3-month and 1-year follow-ups) for parents of children at risk of PTSD following admission to a paediatric intensive care unit. No other outcomes were available.

Economic evidence statements

- No economic evidence on interventions for the support of family members (including children and carers) of people at risk of PTSD was identified and no economic modelling was undertaken.

Review question 5.2 For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?

Summary of the protocol (PICO table)

Please see Table 6 for a summary of the Population, Intervention, Comparison and Outcome (PICO) characteristics of this review.

Table 6: Summary of the protocol (PICO table)

| | |
|---------------------|---|
| Population | Family members (including children and carers) of people with clinically important post-traumatic stress symptoms |
| Intervention | <ul style="list-style-type: none"> • Psychological interventions • Psychosocial interventions • Other non-pharmacological interventions |
| Comparison | <ul style="list-style-type: none"> • Any other intervention • Prevention as usual • Waitlist • Placebo |
| Outcome | <p>Critical outcomes:</p> <ul style="list-style-type: none"> • Family member/carer mental health • Family member/carer wellbeing or quality of life • Carer burden <p>Important outcomes:</p> <ul style="list-style-type: none"> • Employment • Housing • Lifestyle disruption • Relationship difficulties |

For full details see review protocol in [Appendix A](#).

Methods and processes

This evidence review was developed using the methods and process described in [Developing NICE guidelines: the manual](#); see the methods chapter for further information.

Declarations of interest were recorded according to NICE's 2014 and 2018 conflicts of interest policies.

Psychological interventions for family and carers of people with PTSD

Introduction to clinical evidence

Psychological interventions will be considered as classes of intervention (trauma-focused CBT; couple interventions; self-help [without support]), and form the subsections below.

Evidence for interventions in the following classes was also searched for but none was found: non-trauma-focused CBT; psychologically-focused debriefing; eye movement desensitisation and reprocessing (EMDR); hypnotherapy; psychodynamic therapies; counselling; human givens therapy; combined somatic and cognitive therapies; coping skills training; parent training/family interventions; play therapy.

Trauma-focused CBT: clinical evidence

Included studies

One RCT (N=229) of trauma-focused CBT for the support of family or carers of people with PTSD was identified and included (Cohen 2004a/Deblinger 2006 [1 study reported across 2 papers]) in a single comparison of trauma-focused CBT (caregiver and child) compared with supportive counselling (caregiver and child).

Excluded studies

No studies were identified and excluded at full-text for this review.

Studies not included in this review with reasons for their exclusions are provided in [Appendix K](#).

Summary of clinical studies included in the evidence review

Table 7 provides a brief summary of the included study and evidence from this study is summarised in the clinical GRADE evidence profile below (Table 8).

See also the study selection flow chart in [Appendix C](#), forest plots in [Appendix E](#) and study evidence tables in [Appendix D](#).

Table 7: Summary of included studies: Trauma-focused CBT for parents of children with PTSD

| Comparison | Trauma-focused CBT (caregiver and child) versus supportive counselling (caregiver and child) |
|-------------------------------------|--|
| Total no. of studies (N randomised) | 1 (229) |
| Study ID | Cohen 2004a/Deblinger 2006 |
| Country | US |

| Trauma-focused CBT (caregiver and child) versus supportive counselling (caregiver and child) | |
|---|---|
| Comparison | |
| Diagnostic status | Unclear |
| Mean age (range) | 37.1 (range NR) |
| Sex (% female) | 95 |
| Ethnicity (% BME) | NR |
| Coexisting conditions | 24% of participating parents had drug or alcohol abuse |
| Mean months since traumatic event | 12.3 |
| Type of traumatic event | Family member of child who had experienced contact sexual abuse |
| Single or multiple incident index trauma | Multiple |
| Lifetime experience of trauma | 8% of participating parents received treatment for personal sexual abuse |
| Relationship to person at risk of PTSD | 78% biological mother; 3% adoptive mother; 2% stepmother; 4% foster mother; 5% grandmother; 4% other female relative; 4% biological father; 1% stepfather; 1% grandfather |
| Intervention details | Trauma-focused CBT delivered to caregiver and child (based on protocol from Deblinger & Heflin 1996) |
| Intervention format | Individual/Family |
| Intervention intensity | 12x 90-min sessions (9x 45-min for parent and 45-min for child and 3x 30-min joint parent-child session + 30-min for parent and 30-min for child; total 18 hours). Mean attended sessions 10.5 (SD=2.9) |
| Comparator | Client Centred Therapy (CCT; based on unpublished treatment manual) delivered to caregiver and child |
| Intervention length (weeks) | 12 |
| Note. | |

Quality assessment of clinical studies included in the evidence review

The clinical evidence profiles for this review (trauma-focused CBT for the support of family and carers of people with PTSD) are presented in Table 8Table 3.

Table 8: Summary clinical evidence profile: Trauma-focused CBT (caregiver and child) versus supportive counselling (caregiver and child) for the support of parents of children with PTSD

| Outcomes | Illustrative comparative risks* (95% CI) | | Relative effect (95% CI) | No of Participants (studies) | Quality of the evidence (GRADE) |
|---------------------|--|--|---------------------------------|-------------------------------------|--|
| | Assumed risk Supportive counselling (caregiver and child) | Corresponding risk Trauma-focused CBT (caregiver and child) | | | |
| Family member/carer | | The mean family member/carer | | 166 (1 study) | low ^{1,2} |

PTSD: evidence reviews for psychological and psychosocial interventions for family members of people at risk of PTSD FINAL (December 2018)

| Outcomes | Illustrative comparative risks* (95% CI) | | Relative effect (95% CI) | No of Participants (studies) | Quality of the evidence (GRADE) |
|---|---|--|--------------------------|------------------------------|---------------------------------|
| | Assumed risk Supportive counselling (caregiver and child) | Corresponding risk Trauma-focused CBT (caregiver and child) | | | |
| depression BDI-II change score Follow-up: mean 12 weeks | | depression in the intervention groups was 0.49 standard deviations lower (0.8 to 0.18 lower) | | | |
| Parenting difficulties Parenting Practices Questionnaire (PPQ) change score Follow-up: mean 12 weeks Better indicated by higher values | | The mean parenting difficulties in the intervention groups was 0.56 standard deviations higher (0.25 to 0.87 higher) | | 168 (1 study) | low ^{1,2} |

¹ Risk of bias is high or unclear across multiple domains

² OIS not met (N<400)

See [appendix F](#) for full GRADE tables.

Couple interventions: clinical evidence

Included studies

Two RCTs (N=97) of couple interventions for the support of family or carers of people with PTSD were identified and included. There were 2 relevant comparisons for couple interventions: 1 RCT (N=40) compared cognitive behavioural conjoint therapy with waitlist (Monson 2008/2012/Schnaider 2014 [1 study reported across 3 papers]); 1 RCT (N=57) compared cognitive behavioural conjoint therapy with psychoeducational sessions (Sautter 2015).

Excluded studies

No studies were identified and excluded at full-text for this review.

Studies not included in this review with reasons for their exclusions are provided in [Appendix K](#).

Summary of clinical studies included in the evidence review

Table 9 provides brief summaries of the included studies and evidence from these are summarised in the clinical GRADE evidence profiles below (Table 10 and Table 11).

See also the study selection flow chart in [Appendix C](#), forest plots in [Appendix E](#) and study evidence tables in [Appendix D](#).

Table 9: Summary of included studies: Couple interventions for partners of adults with PTSD

| Comparison | Cognitive behavioural conjoint therapy versus waitlist | Cognitive behavioural conjoint therapy versus psychoeducational sessions |
|--|--|--|
| Total no. of studies (N randomised) | 1 (40) | 1 (57) |
| Study ID | Monson 2008/2012/Schnaider 2014 | Sautter 2015 |
| Country | US and Canada | US |
| Diagnostic status | Unclear | Unclear |
| Mean age (range) | 37.8 (18-70) | 32.2 (range NR) |
| Sex (% female) | 33 | 98 |
| Ethnicity (% BME) | 20 | 25 |
| Coexisting conditions | Partner group: 25% any comorbidity, 8% mood disorder, 13% anxiety disorder, 3% substance abuse, 5% 'other' | NR |
| Mean months since traumatic event | 182 | NR |
| Type of traumatic event | Partner/spouse of adult with PTSD. Type of trauma for partner with PTSD: Adult sexual trauma (20%); child sexual trauma (28%); noncombat physical assault (15%); motor vehicle collision (8%); witnessing/learning about death/illness (13%); combat (5%); other (13%) | Partner of veteran of Operation Iraqi Freedom (OIF)/Operation Enduring Freedom (OEF) with PTSD |
| Single or multiple incident index trauma | Unclear | Multiple |
| Lifetime experience of trauma | NR | NR |
| Relationship to person at risk of PTSD | Partner/spouse | Partner |
| Intervention details | Cognitive-behavioural conjoint therapy (following manual by Monson et al. 2012) | Structured Approach Therapy (SAT; following manual by Sautter 2011) |
| Intervention format | Couple | Couple |

| Comparison | Cognitive behavioural conjoint therapy versus waitlist | Cognitive behavioural conjoint therapy versus psychoeducational sessions |
|-----------------------------|---|---|
| Intervention intensity | 15x sessions (biweekly for phases 1-2 and weekly for phase 3) | 12x 1-hour sessions (12 hours). Mean attended 10.31 sessions |
| Comparator | Waitlist | PTSD Family Education, conjoint psychoeducational sessions, using material adapted from the SAFE (Support and Family Education) and BFT (Behavioural Family Therapy) programmes |
| Intervention length (weeks) | 12 | 12 |
| Note. | | |

Quality assessment of clinical studies included in the evidence review

The clinical evidence profiles for this review (couple interventions for the support of family and carers of people with PTSD) are presented in Table 10 and Table 11 Table 3.

Table 10: Summary clinical evidence profile: Cognitive behavioural conjoint therapy versus waitlist for the support of partners of adults with PTSD

| Outcomes | Illustrative comparative risks* (95% CI) | | Relative effect (95% CI) | No of Participants (studies) | Quality of the evidence (GRADE) |
|---|--|--|--------------------------|------------------------------|---------------------------------|
| | Assumed risk Waitlist | Corresponding risk Cognitive behavioural conjoint therapy | | | |
| Partner depression symptoms BDI-II change score Follow-up: mean 12 weeks | | The mean partner depression symptoms in the intervention groups was 0.09 standard deviations lower (0.71 lower to 0.53 higher) | | 40 (1 study) | very low ^{1,2} |
| Relationship difficulties response Number of participants showing improvement of at least 10 points on DAS Follow-up: mean 12 weeks | 300 per 1000 | 249 per 1000 (90 to 687) | RR 0.83 (0.3 to 2.29) | 40 (1 study) | very low ^{1,2} |
| Relationship difficulties remission Number of participants | 500 per 1000 | 550 per 1000 (305 to 995) | RR 1.1 (0.61 | 40 (1 study) | very low ^{1,2} |

PTSD: evidence reviews for psychological and psychosocial interventions for family members of people at risk of PTSD FINAL (December 2018)

| Outcomes | Illustrative comparative risks* (95% CI) | | Relative effect (95% CI) | No of Participants (studies) | Quality of the evidence (GRADE) |
|---|--|---|--------------------------|------------------------------|---------------------------------|
| | Assumed risk Waitlist | Corresponding risk Cognitive behavioural conjoint therapy | | | |
| scoring ≥ 98 on DAS Follow-up: mean 12 weeks | | | to 1.99) | | |
| Discontinuation Number of participants lost to follow-up Follow-up: mean 12 weeks | 150 per 1000 | 300 per 1000 (87 to 1000) | RR 2 (0.58 to 6.91) | 40 (1 study) | very low ^{1,2} |

¹ Risk of bias is high or unclear across multiple domains

² 95% CI crosses line of no effect and thresholds for both clinically important benefit and harm

Table 11: Summary clinical evidence profile: Cognitive behavioural conjoint therapy versus psychoeducational sessions for the support of partners of adults with PTSD

| Outcomes | Illustrative comparative risks* (95% CI) | | Relative effect (95% CI) | No of Participants (studies) | Quality of the evidence (GRADE) |
|---|--|---|--------------------------|------------------------------|---------------------------------|
| | Assumed risk Psychoeducational sessions | Corresponding risk Cognitive behavioural conjoint therapy | | | |
| Family member/carer anxiety at endpoint STAI-state change score Follow-up: mean 12 weeks | | The mean family member/carer anxiety at endpoint in the intervention groups was 0.12 standard deviations higher (0.48 lower to 0.72 higher) | | 43 (1 study) | very low ^{1,2} |
| Family member/carer anxiety at 3-month follow-up STAI-state change score Follow-up: mean 3 months | | The mean family member/carer anxiety at 3-month follow-up in the intervention groups was 0.44 standard deviations lower (1.06 lower to 0.18 higher) | | 41 (1 study) | very low ^{1,3} |
| Family member/carer depression at endpoint CES-D change score | | The mean family member/carer depression at endpoint in the intervention groups was 0.03 standard deviations lower | | 43 (1 study) | very low ^{1,4} |

| Outcomes | Illustrative comparative risks* (95% CI) | | Relative effect (95% CI) | No of Participants (studies) | Quality of the evidence (GRADE) |
|--|--|---|--------------------------|------------------------------|---------------------------------|
| | Assumed risk Psychoeducational sessions | Corresponding risk Cognitive behavioural conjoint therapy | | | |
| Follow-up: mean 12 weeks | | (0.63 lower to 0.57 higher) | | | |
| Family member/carer depression at 3-month follow-up CES-D change score Follow-up: mean 3 months | | The mean family member/carer depression at 3-month follow-up in the intervention groups was 0.1 standard deviations lower (0.71 lower to 0.51 higher) | | 41 (1 study) | very low ^{1,4} |
| Relationship improvement at endpoint DAS change score Follow-up: mean 12 weeks Better indicated by higher values | | The mean relationship improvement at endpoint in the intervention groups was 0.49 standard deviations higher (0.12 lower to 1.09 higher) | | 43 (1 study) | very low ^{1,3} |
| Relationship improvement at 3-month follow-up DAS change score Follow-up: mean 3 months Better indicated by higher values | | The mean relationship improvement at 3-month follow-up in the intervention groups was 0.1 standard deviations higher (0.52 lower to 0.71 higher) | | 41 (1 study) | very low ^{1,4} |
| Discontinuation Number of participants lost to follow-up Follow-up: mean 12 weeks | 250 per 1000 | 242 per 1000 (97 to 600) | RR 0.97 (0.39 to 2.4) | 57 (1 study) | very low ^{1,4} |

¹ Risk of bias is high or unclear across multiple domains

² 95% CI crosses both line of no effect and threshold for clinically important harm

³ 95% CI crosses both line of no effect and threshold for clinically important benefit

⁴ 95% CI crosses line of no effect and thresholds for both clinically important benefit and harm

See [appendix F](#) for full GRADE tables.

Self-help (without support): clinical evidence

Included studies

Two studies of self-help (without support) for the support of family or carers of people with PTSD were identified. Of these 2 studies, 1 RCT (N=46) was included in a single comparison of self-help (without support) compared with waitlist (Erbes submitted).

Excluded studies

One study was identified and excluded at full-text because the outcomes were not of interest.

Studies not included in this review with reasons for their exclusions are provided in Appendix K.

Summary of clinical studies included in the evidence review

Table 12 provides a brief summary of the included study and evidence from this study is summarised in the clinical GRADE evidence profile below (Table 13).

See also the study selection flow chart in [Appendix C](#), forest plots in [Appendix E](#) and study evidence tables in [Appendix D](#).

Table 12: Summary of included studies: Self-help (without support) for partners of adults with PTSD

| Comparison | Self-help (without support) versus waitlist |
|--|---|
| Total no. of studies (N randomised) | 1 (46) |
| Study ID | Erbes (submitted) |
| Country | US |
| Diagnostic status | Unclear |
| Mean age (range) | NR |
| Sex (% female) | NR |
| Ethnicity (% BME) | NR |
| Coexisting conditions | NR |
| Mean months since traumatic event | NR |
| Type of traumatic event | Partner (defined as being in an intimate relationship) of veteran with combat-related PTSD |
| Single or multiple incident index trauma | Multiple |
| Lifetime experience of trauma | NR |
| Relationship to person at risk of PTSD | Partner |
| Intervention details | Veterans Affairs Community Reinforcement and Family Training (VA-CRAFT), a website developed to help family members of veterans with PTSD |

| Comparison | Self-help (without support) versus waitlist |
|-----------------------------|---|
| Intervention format | Individual |
| Intervention intensity | 12x 15-min sessions |
| Comparator | Waitlist |
| Intervention length (weeks) | Mean 4.6 |
| Note. | |

Quality assessment of clinical studies included in the evidence review

The clinical evidence profiles for this review (self-help for the support of family and carers of people with PTSD) are presented in Table 13 Table 3.

Table 13: Summary clinical evidence profile: Self-help (without support) versus waitlist for the support of partners of adults with PTSD

| Outcomes | Illustrative comparative risks* (95% CI) | | Relative effect (95% CI) | No of Participants (studies) | Quality of the evidence (GRADE) |
|--|--|--|--------------------------|------------------------------|---------------------------------|
| | Assumed risk Waitlist | Corresponding risk Self-help (without support) | | | |
| Family/carer mental health BSI change score Follow-up: mean 5 weeks | | The mean family/carer mental health in the intervention groups was 0.64 standard deviations lower (1.27 to 0.01 lower) | | 41 (1 study) | low ^{1,2} |
| Relationship satisfaction DAS-7 change score Follow-up: mean 5 weeks Better indicated by higher values | | The mean relationship satisfaction in the intervention groups was 0.47 standard deviations higher (0.15 lower to 1.1 higher) | | 41 (1 study) | low ^{1,3} |

¹ Risk of bias was high or unclear across multiple domains

² OIS not met (N<400)

³ 95% CI crosses both line of no effect and threshold for clinically important benefit

See [appendix F](#) for full GRADE tables.

Psychosocial interventions for family or carers of people with PTSD

Introduction to clinical evidence

Psychosocial interventions will be considered as classes of intervention (psychoeducation; practical support), and form the subsections below.

Evidence for interventions in the following classes was searched for but none was found: meditation; mindfulness-based stress reduction (MBSR); nature-assisted therapies; supported employment; peer support.

Psychoeducation: clinical evidence

Included studies

One study of psychoeducation for the support of family and carers of people with PTSD was identified for full-text review. This study could not be included.

Excluded studies

One study was reviewed at full text and excluded from this review due to small sample size (N<10 per arm).

Studies not included in this review with reasons for their exclusions are provided in Appendix K.

Practical support: clinical evidence

Included studies

One study of practical support for the support of family and carers of people with PTSD was identified for full-text review. This study could not be included.

Excluded studies

One study was reviewed at full text and excluded from this review because it was a systematic review with no new useable data and any meta-analysis results not appropriate to extract.

Studies not included in this review with reasons for their exclusions are provided in Appendix K.

Other non-pharmacological interventions for family or carers of people at risk of PTSD

Introduction to clinical evidence

No studies on other non-pharmacological interventions for the support of family or carers of people with PTSD were identified.

Evidence for interventions in the following classes was searched for but none was found: acupuncture; exercise; repetitive transcranial magnetic stimulation (rTMS); yoga.

Economic evidence

Included studies

No economic studies assessing the cost effectiveness of interventions for the support of family members (including children and carers) of people with clinically important post-traumatic stress symptoms were identified.

Excluded studies

No economic studies were reviewed at full text and excluded from this review.

Economic model

No economic modelling was conducted for this question because other topics were agreed as higher priorities for economic evaluation.

Resource impact

The recommendations made by the committee based on this review are not expected to have a substantial impact on resources. The committee's considerations that contributed to the resource impact assessment are included under the 'Cost effectiveness and resource use' in 'The committee's discussion of the evidence' section.

Clinical evidence statements

Psychological interventions

Trauma-focused CBT

- Low quality single-RCT (N=166-168) evidence suggests a small to moderate but statistically significant benefit of trauma-focused CBT for parents of children with PTSD relative to supportive counselling (for parent and child) on improving parental depression, and a clinically important but not statistically significant benefit on improving parenting difficulties. No other outcomes are available.

Couple interventions

- Very low quality single-RCT (N=40) evidence suggests non-significant effects of cognitive behavioural conjoint therapy relative to waitlist on partner depression symptoms, and the rate of response and remission in terms of relationship difficulties, for partners of adults with PTSD. Evidence from this same study suggests a higher rate of discontinuation may be associated with cognitive behavioural conjoint therapy, however this effect is not statistically significant.
- Very low quality single-RCT (N=41-57) evidence suggests non-significant effects of cognitive behavioural conjoint therapy relative to psychoeducational sessions on partner anxiety and depression symptoms and relationship improvement at endpoint and 3-month follow-up or on discontinuation, for partners of veterans with PTSD.

Self-help (without support)

- Low quality single-RCT (N=41) evidence suggests a clinically important and statistically significant benefit of self-help (without support) relative to waitlist on improving mental health for partners of veterans with combat-related PTSD. However, evidence from this same study suggests non-significant effects on relationship satisfaction. No other outcomes are available.

Economic evidence statements

- No economic evidence on psychosocial interventions for family members (including children and carers) of people with clinically important post-traumatic stress symptoms was identified and no economic modelling was undertaken.

The committee's discussion of the evidence**Interpreting the evidence*****The outcomes that matter most***

Improvement in family or carer's mental health, wellbeing or quality of life, and reductions in the burden on them were critical outcomes. Employment, housing, lifestyle disruption and relationship difficulties of carers or family members were considered as important but not critical outcomes in both reviews. This distinction was based on the primacy of improving the mental health and wellbeing of family and carers, whilst acknowledging that broader symptom measures may be indicators of a general pattern of effect. Generally change scores were favoured over final scores as although in theory randomisation should balance out any differences at baseline, this assumption can be violated by small sample sizes.

The quality of the evidence

All the evidence reviewed was of very low to low quality, reflecting the high risk of bias associated with the studies (including for instance, inadequate or unclear randomisation and allocation concealment, and lack of/unclear blinding of outcome assessment), the small numbers in trials and the imprecision of many of the results (in terms of both the width of the confidence intervals and the failure to meet the optimal information size). This uncertainty of the evidence is reflected in the committee's decision to not base any recommendations on

the RCT evidence of psychological and psychosocial interventions for the support of family and carers.

Consideration of clinical benefits and harms

The committee considered the evidence for self-help (without support) as initially encouraging given the benefit observed on parental anxiety and depression symptoms, and the fact that this intervention consisted of audiotaped and written information that is inexpensive and easy to implement. However, the limited evidence, inconsistent effects across follow-ups and concerns about the generalisability of this specific intervention for parents of children admitted to intensive care, were sufficient to discourage a specific intervention recommendation. The committee also noted the benefits observed, on caregiver mental health, of problem solving for caregivers of adults with traumatic brain injury, and of self-help (without support) for partners of veterans with combat-related PTSD. The committee interpreted this evidence in the context of their clinical experience of best practice and agreed that information and support should be provided to family members and carers of people at risk of PTSD and people with PTSD. The committee also considered evidence from the qualitative review (see evidence report H) that suggested that a common reason for not seeking help for PTSD is a lack of awareness about interventions and services available. The committee agreed that information and support provided to family and carers could act as a facilitator for accessing services for both the carer and the person with PTSD.

The committee also discussed evidence suggesting that parental involvement in trauma-focused CBT for the child with PTSD had benefits on the parent's depression symptoms. This evidence was again considered together with the qualitative evidence review that suggests that involving families and carers in treatment provided extra support for the person while also giving the family or carer a greater understanding of PTSD.

The committee agreed that the evidence was too uncertain to support any recommendations for specific interventions for the support of family or carers. However, drawing on consensus opinion and the qualitative finding that peer support groups can facilitate access to services for people with PTSD, the committee considered it reasonable to extrapolate to family and carers and recommend that family members and carers are provided with practical and emotional advice and support which may include directing them to peer support groups.

The committee also discussed the potential for more than one family member to have PTSD and considered it important that awareness was raised about this risk in order to provide appropriate support as promptly as possible.

Cost effectiveness and resource use

No economic evidence on interventions for the support of family and carers of people at risk of or with PTSD was identified. The committee made recommendations that reflect good practice. They agreed that providing information and support to family and carers and involving them in the care of people at risk of or with PTSD will have minor resource implications and is likely to have a positive impact on the mental health and well-being of family and carers and to improve clinical outcomes for people at risk of PTSD and for those with PTSD. It is also likely to help increase engagement with treatment for people who have developed PTSD, which can lead to further clinical benefits. Improved clinical benefits for the family and carers and for people at risk of or with PTSD are expected to reduce the need for more costly management further down the care pathway, thus leading to cost-savings that

are likely to offset the small costs associated with provision of information, practical and emotional support to family and carers.

The committee advised that currently the care and support received by families and carers of people at risk of or with PTSD is highly variable and that the recommendations will help reduce this variation and improve consistency in practice.

References for included studies

Psychological, psychosocial and non-pharmacological interventions for people at risk of PTSD

Problem solving

Powell 2016

Powell, J. M., Fraser, R., Brockway, J. A., Temkin, N., Bell, K. R. (2016) A telehealth approach to caregiver self-management following traumatic brain injury: A randomized controlled trial, *Journal of head trauma rehabilitation*, 31, 180-90

Self-help without support

Melnyk 2004

Melnyk, B. M., Alpert-Gillis, L., Feinstein, N. F., Crean, H. F., Johnson, J., Fairbanks, E., Small, L., Rubenstein, J., Slota, M., Corbo-Richert, B. (2004) Creating opportunities for parent empowerment: program effects on the mental health/coping outcomes of critically ill young children and their mothers, *Pediatrics*, 113, e597-607

Psychological, psychosocial and non-pharmacological interventions for the support of family and carers of people with PTSD

Trauma focused CBT

Cohen 2004a/Deblinger 2006

Cohen JA, Deblinger E, Mannarino AP and Steer RA (2004) A multisite, randomized controlled trial for children with sexual abuse–related PTSD symptoms. *Journal of the American Academy of Child & Adolescent Psychiatry* 43(4), 393-402

Deblinger E, Mannarino AP, Cohen JA and Steer RA (2006) A follow-up study of a multisite, randomized, controlled trial for children with sexual abuse-related PTSD symptoms. *Journal of the American Academy of Child & Adolescent Psychiatry* 45(12), 1474-84

Couples interventions

Monson 2008/2012/Schnaider 2014

Monson CM, Vorstenbosch V. Cognitive-behavioral couples therapy for posttraumatic stress disorder [NCT00669981]. 2008. Available from: <https://clinicaltrials.gov/ct2/show/NCT00669981> [accessed 08.08.2017]

Monson CM, Fredman SJ, Macdonald A, Pukay-Martin ND, Resick PA, Schnurr PP. Effect of cognitive-behavioral couple therapy for PTSD: A randomized controlled trial. *Jama*. 2012 Aug 15;308(7):700-9.

Schnaider, P., Pukay-Martin, N., Fredman, S., Macdonald, A., Monson, C. (2014) Effects of Cognitive–Behavioral Conjoint Therapy for PTSD on Partners’ Psychological Functioning, *Journal of Traumatic Stress*, 27, 129-136.

Sautter 2015

Sautter FJ, Glynn SM, Cretu JB, Senturk D, Vaught AS. Efficacy of structured approach therapy in reducing PTSD in returning veterans: A randomized clinical trial. *Psychological services*. 2015 Aug;12(3):199.

Self-help (without support)

Erbes (submitted)

Erbes C, Kuhn E, Gifford E, Spont M, Meis L, et al. (submitted). A pilot trial of VA-CRAFT: Online training to enhance family well-being and Veteran mental health service use.

Appendices

Appendix A – Review protocols

Review protocol for “For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?” and

Review protocol for “For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?”

Both evidence review questions are covered by the same protocol.

| Topic | Psychological, psychosocial and other non-pharmacological interventions for the support of family or carers |
|--------------------|--|
| Review question(s) | <p>RQ. 5.1 For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?</p> <p>RQ. 5.2 For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?</p> <p>Note: Formally there are two review question but they reflect 48 sub-questions if one were to structure them by intervention</p> |
| Sub-question(s) | <p>Where evidence exists, consideration will be given to the specific needs of:-</p> <ul style="list-style-type: none"> women who have been exposed to sexual abuse or assault, or domestic violence lesbian, gay, bisexual, transsexual or transgender people people from black and minority ethnic groups people who are homeless or in insecure accommodation asylum seekers or refugees or other immigrants who are entitled to NHS treatment people who have been trafficked |

| Topic | Psychological, psychosocial and other non-pharmacological interventions for the support of family or carers |
|------------|--|
| | <p>people who are socially isolated (and who are not captured by any other subgroup listed)</p> <p>people with complex PTSD</p> <p>people with neurodevelopmental disorders (including autism)</p> <p>people with coexisting conditions (drug and alcohol misuse, common mental health disorders, eating disorders, personality disorders, acquired brain injury, physical disabilities and sensory impairments)</p> <p>people who are critically ill or injured (for instance after a vehicle crash)</p> |
| Objectives | To identify the most effective psychological, psychosocial or other non-pharmacological interventions for the support of family or carers |
| Population | <p>RQ 5.1:</p> <p>Family members (including children and carers) of people at risk of PTSD</p> <p>At risk of PTSD is defined (in accordance with DSM) as: Exposure to actual or threatened death, serious injury or sexual violation. The exposure must result from one or more of the following scenarios, in which the individual:</p> <ul style="list-style-type: none"> directly experiences the traumatic event; witnesses the traumatic event in person; learns that the traumatic event occurred to a close family member or close friend (with the actual or threatened death being either violent or accidental); or experiences first-hand repeated or extreme exposure to aversive details of the traumatic event (not through media, pictures, television or movies unless work-related) <p>The at-risk population includes people with a diagnosis of acute stress disorder/acute stress reaction (according to DSM, ICD or similar criteria), people with clinically important PTSD symptoms within a month of the traumatic event, and people with sub-threshold symptoms</p> <p>The at-risk population for this review will also include the following groups that may not be captured by the DSM criteria:</p> <ul style="list-style-type: none"> family members of people with PTSD family members or carers of people with a life-threatening illness or injury <p>RQ 5.2:</p> <p>Family members (including children and carers) of people with clinically important post-traumatic stress symptoms (as defined by a diagnosis of PTSD according to DSM, ICD or similar criteria, or clinically-significant PTSD symptoms as indicated by baseline scores above threshold on a validated scale)</p> |

| Topic | Psychological, psychosocial and other non-pharmacological interventions for the support of family or carers |
|--------------|--|
| | If some, but not all, of a study's participants are eligible for the review, where possible disaggregated data will be obtained. If this is not possible then the study will be included if at least 80% of its participants are eligible for this review. |
| Exclude | Trials of people with adjustment disorders Trials of people with traumatic grief Trials of people with psychosis as a coexisting condition Trials of people with learning disabilities Trials of women with PTSD during pregnancy or in the first year following childbirth Trials of adults in contact with the criminal justice system (not solely as a result of being a witness or victim) |
| Intervention | Psychological interventions (psychological interventions listed below are examples of interventions which may be included either alone or in combination and delivered to the person with (or at risk of) PTSD and/or a parent or carer in an individual or group format): Trauma-focused cognitive behavioural therapies (CBT), including cognitive therapy, cognitive processing therapy, compassion focused therapy, exposure therapy/prolonged exposure (PE), virtual reality exposure therapy (VRET), imagery rehearsal therapy, mindfulness-based cognitive therapy (MBCT), narrative exposure therapy (NET) and narrative exposure therapy for traumatized children and adolescents (KidNET) Non-trauma-focused CBT, including stress inoculation training (SIT) Psychologically-focused debriefing (including single session debriefing) Eye movement desensitisation and reprocessing (EMDR) Hypnotherapy Psychodynamic therapies, including traumatic incident reduction (TIR) Counselling, including non-directive/supportive/person-centred counselling Human givens therapy Combined somatic and cognitive therapies, including thought field therapy (TFT) and emotional freedom technique (EFT) Coping skills training Couple interventions, including cognitive-behavioural conjoint therapy Parent training/family interventions, including behavioural family therapy (such as Child and Family Traumatic Stress Intervention [CFTSI]) Play therapy |

| Topic | Psychological, psychosocial and other non-pharmacological interventions for the support of family or carers |
|------------|--|
| | <p>Psychosocial interventions (psychosocial interventions listed below are examples of interventions which may be included either alone or in combination and delivered to the person with (or at risk of) PTSD and/or a parent or carer in an individual or group format):</p> <ul style="list-style-type: none"> Meditation Mindfulness-based stress reduction (MBSR) Nature-assisted therapies (including ecotherapy, horticultural therapy, therapeutic horticulture and nature-based therapy) Supported employment (including individual placement and support [IPS] supported employment and Veterans Health Administration Vocational Rehabilitation Programme [VRP]) Psychoeducational interventions Practical support (including financial and housing) Peer support (including self-help groups and support groups) <p>Other non-pharmacological interventions (other non-pharmacological interventions listed below are examples of interventions which may be included either alone or in combination and delivered to the person with (or at risk of) PTSD and/or a parent or carer in an individual or group format):</p> <ul style="list-style-type: none"> Acupuncture (including classical acupuncture, electroacupuncture, auricular acupuncture, laser acupuncture and acupoint stimulation [such as acupressure, moxibustion and tapping]) Exercise (including anaerobic [such as heavy weight training, sprinting, high-intensity interval training] and aerobic [such as running/jogging, swimming, cycling and walking] exercise, both supervised and unsupervised) Repetitive transcranial magnetic stimulation (rTMS) Yoga (including all types of yoga) <p>Combination interventions, such as combined psychological plus pharmacological versus pharmacological alone, will also be considered here.</p> <p>A distinction will be made between early interventions (delivered within 3 months of the traumatic event) and delayed interventions (delivered more than 3 months after the traumatic event)</p> <p>Exclude:</p> <ul style="list-style-type: none"> Inoculation interventions for people who may be at risk of experiencing but have not experienced, a traumatic event |
| Comparison | <ul style="list-style-type: none"> Any other intervention Treatment as usual |

| Topic | Psychological, psychosocial and other non-pharmacological interventions for the support of family or carers |
|--------------------------------------|---|
| | Waitlist Placebo |
| Critical outcomes | <p>Family member/carer mental health (for instance: depression symptoms assessed with a validated scale including the Patient Health Questionnaire [PHQ-9], the Hospital Anxiety and Depression [HAD] Scale and the Beck Depression Inventory [BDI]; or general mental health assessed with a validated scale including the General Health Questionnaire long or short forms [GHQ-60; GHQ-30; GHQ-28; GHQ-12] and the Neuropsychiatry Inventory Caregiver Distress Scale)</p> <p>Family member/carer wellbeing or quality of life (as assessed with a validated scale including the 36-item Short-Form Survey [SF-36], Health Status Questionnaire-12 and Warwick-Edinburgh Mental Well-being Scale [WEMWBS])</p> <p>Carer burden (as assessed with a validated scale including the Caregiver Burden Interview, Carers Checklist, Family Burden Interview Schedule, Pearlin Caregiving Measures, Screen for Caregiver Burden, Social Behaviour Assessment Schedule, and Carers Assessment of Difficulties Index [CADI])</p> |
| Important, but not critical outcomes | <p>Employment (for instance, proportion of caregivers that stopped working in order to provide care)</p> <p>Housing (for instance, number homeless or in insecure accommodation)</p> <p>Lifestyle disruption (as assessed with a validated scale including the Activity Restriction Scale [ARS])</p> <p>Relationship difficulties (with spouse and/or children, as assessed with a validated scale including the Inventory of Interpersonal Problems [IIP] and Self-Report Family Inventory [SFI])</p> |
| Study design | Systematic reviews of RCTs RCTs |
| Include unpublished data? | <p>Clinical trial registries (ISRCTN and ClinicalTrials.gov) will be searched to identify any relevant unpublished trials and authors will be contacted to request study reports (where these are not available online). Unpublished data will only be included where a full study report is available with sufficient detail to properly assess the risk of bias. Authors of unpublished evidence will be asked for permission to use such data, and will be informed that summary data from the study and the study's characteristics will be published in the full guideline</p> <p>Conference abstracts and dissertations will not be included.</p> |
| Restriction by date? | All relevant studies from existing reviews from the 2005 guideline will be carried forward. No restriction on date for the updated search. |
| Minimum sample size | N = 10 in each arm |

| Topic | Psychological, psychosocial and other non-pharmacological interventions for the support of family or carers |
|---------------------|--|
| Study setting | <p>Primary, secondary, tertiary, social care and community settings. Treatment provided to troops on operational deployment or exercise will not be covered.</p> |
| The review strategy | <p>Reviews If existing systematic reviews are found, the GC will assess their quality, completeness, and applicability to the NHS and to the scope of the guideline. If the GC agrees that a systematic review appropriately addresses a review question, a search for studies published since the review will be conducted.</p> <p>Data Extraction (selection and coding) Citations from each search will be downloaded into EndNote and duplicates removed. Titles and abstracts of identified studies will be screened by two reviewers for inclusion against criteria, until a good inter-rater reliability has been observed (percentage agreement =>90% or Kappa statistics, K>0.60). Initially 10% of references will be double-screened. If inter-rater agreement is good then the remaining references will be screened by one reviewer. All primary-level studies included after the first scan of citations will be acquired in full and re-evaluated for eligibility at the time they are being entered into a study database (standardised template created in Microsoft Excel). At least 10% of data extraction will be double-coded. Discrepancies or difficulties with coding will be resolved through discussion between reviewers or the opinion of a third reviewer will be sought. Non-English-language papers will be excluded (unless data can be obtained from an existing review).</p> <p>Data Analysis Where data is available, meta-analysis using a fixed-effects model will be used to combine results from similar studies. Heterogeneity will be considered and if a random-effects model is considered more appropriate it will be conducted. For risk of bias, outcomes will be downgraded if the randomisation and/or allocation concealment methods are unclear or inadequate. Outcomes will also be downgraded if no attempts are made to blind the assessors or participants in some way, i.e. by either not knowing the aim of the study or the result from other tests. Outcomes will also be downgraded if there is considerable missing data (see below).</p> <p>Handling missing data: Where possible an intention to treat approach will be used outcomes will be downgraded if there is a dropout of more than 20%, or if there was a difference of >20% between the groups. For heterogeneity: outcomes will be downgraded once if I²>50%, twice if I² >80% For imprecision: outcomes will be downgraded if: Step 1: If the 95% CI is imprecise i.e. crosses 0.8 or 1.25 (dichotomous) or -0.5 or 0.5 (for continuous). Outcomes will be downgraded one or two levels depending on how many lines it crosses.</p> |

| Topic | Psychological, psychosocial and other non-pharmacological interventions for the support of family or carers |
|---|--|
| | <p>Step 2: If the clinical decision threshold is not crossed, we will consider whether the criterion for Optimal Information Size is met, if not we will downgrade one level for the following.</p> <p>for dichotomous outcomes: <300 events for continuous outcomes: <400 participants</p> <p>For clinical effectiveness, if studies report outcomes using the same scale mean differences will be considered, if not standardized mean differences (SMDs) will be considered and the following criteria will be used:</p> <p>SMD <0.2 too small to likely show an effect SMD 0.2 small effect SMD 0.5 moderate effect SMD 0.8 large effect RR <0.8 or >1.25 clinical benefit</p> <p>Anything less (RR >0.8 and <1.25), the absolute numbers will be looked at to make a decision on whether there may be a clinical effect.</p> |
| Heterogeneity (sensitivity analysis and subgroups) | <p>Where substantial heterogeneity exists, sensitivity analyses will be considered, for instance:</p> <p>Studies with <50% completion data (drop out of >50%) will be excluded.</p> <p>Where possible, the influence of subgroups will be considered, including subgroup analyses giving specific consideration to the groups outlined in the sub-question section and to the following groups:</p> <p>Trauma type (including single incident relative to chronic exposure) Duration of intervention (for instance, short-term [≤ 12 weeks] relative to long-term [> 12 weeks]) Intensity of intervention (for instance, low intensity [≤ 15 sessions] relative to high intensity [> 15 sessions]) First-line treatment relative to second-line treatment and treatment-resistant PTSD (≥ 2 inadequate treatments) Acute PTSD symptoms (clinically important PTSD symptoms for less than 3 months) relative to chronic PTSD symptoms (clinically important PTSD symptoms for 3 months or more)</p> |
| Notes | |

Appendix B – Literature search strategies

Literature search strategy for “For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?” and “For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?”

One literature search covers both evidence review questions.

Clinical evidence

Database: Medline

Last searched on: **Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily and Ovid MEDLINE(R), Embase, PsycINFO**

Date of last search: 31 January 2017

| # | Searches |
|----|--|
| 1 | *acute stress/ or *behavioural stress/ or *emotional stress/ or *critical incident stress/ or *mental stress/ or *posttraumatic stress disorder/ or *psychotrauma/ |
| 2 | 1 use emez |
| 3 | stress disorders, traumatic/ or combat disorders/ or psychological trauma/ or stress disorders, post-traumatic/ or stress disorders, traumatic, acute/ or stress, psychological/ |
| 4 | 3 use mesz, prem |
| 5 | exp posttraumatic stress disorder/ or acute stress disorder/ or combat experience/ or emotional trauma/ or post-traumatic stress/ or traumatic neurosis/ or trauma/ or psychological stress/ or chronic stress/ |
| 6 | 5 use psyh |
| 7 | (railway spine or (rape adj2 trauma*) or reexperien* or re experienc* or torture syndrome or traumatic neuros* or traumatic stress).ti,ab. |
| 8 | (trauma* and (avoidance or grief or horror or death* or nightmare* or night mare* or emotion*)).ti,ab. |
| 9 | (posttraumatic* or post traumatic* or stress disorder* or acute stress or ptsd or asd or desnos or (combat neuros* or combat syndrome or concentration camp syndrome or extreme stress or flashback* or flash back* or hypervigilan* or hypervigilen* or psych* stress or psych* trauma* or psycho?trauma* or psychotrauma*) or (posttrauma* or traumagenic* or traumatic stress*)).ti,ab. |
| 10 | or/2,4,6-9 |
| 11 | *psychotherapy/ use emez or psychotherapy/ use mesz, prem,psyh |
| 12 | ((((psycholog* or psycho social* or psychosocial*) adj3 (intervention* or program* or therap* or treat*)) or psychotherap* or psycho therap* or talk* therap* or therapeutic technique* or therapist* or third wave or time limited).ti,ab,sh. |
| 13 | exp *behavior therapy/ or exp *cognitive therapy/ |
| 14 | 13 use emez |

PTSD: evidence reviews for psychological an psychosocial interventions for family members of people at risk of PTSD FINAL (December 2018)

| # | Searches |
|----|--|
| 15 | exp behavior therapy/ use mesz, prem |
| 16 | exp behavior therapy/ or exp cognitive behavior therapy/ |
| 17 | 16 use psych |
| 18 | (((behaviour* or behavior*) adj2 cognitiv*) or cbt or ccbt or ((behav* or cognitive*) adj3 (intervention* or manag* or program* or restructure* or therap* or treat*)) or (stress inoculation adj2 (intervention* or program* or therap* or train* or treat*)) or (behav* adj2 activat*) or ((trauma adj (based or focused or led)) or exposure based or prolonged exposure)).ti,ab. |
| 19 | *emotion/ use emez or emotions/ use mesz, prem |
| 20 | emotion focused therapy/ or sympathy/ |
| 21 | 20 use psych |
| 22 | (((compassion or emotion* or emotive*) adj (based or focused or led)) or emotional processing or ((compassion or emotion* or emotive*) adj3 (coach* or intervention* or program* or therap* or treat*))).ti,ab. |
| 23 | exposure therapy/ or narrative therapy/ or virtual reality exposure therapy/ |
| 24 | 23 use emez |
| 25 | implosive therapy/ or narrative therapy/ or virtual reality exposure therapy/ |
| 26 | 25 use mesz, prem |
| 27 | exposure therapy/ or narrative therapy/ or virtual reality/ |
| 28 | 27 use psych |
| 29 | (((augmented or virtual) adj2 reality) or (virtual adj (environment or restorative)) or ((exposure or implosive or virtual reality) adj2 (intervention* or program* or therap* or train*))).ti,ab. |
| 30 | ((imagery adj2 (rehears* or re hears*)) or (((lower* or reduc*) adj3 (bad dream* or nightmare*)) and (intervention* or program* or therap* or treat*)) or ((intervention* or program* or therap* or treat*) adj3 nightmare)).mp. or ((presleep or presleep) adj2 imagery).ti,ab. |
| 31 | (mindfulness or ((exposure or narrative) adj therapy)).sh. |
| 32 | (kidnet or mindful* or narrative therap*).ti,ab. |
| 33 | exp "debriefing (psychological)"/ use psych |
| 34 | debrief*.ti,ab. |
| 35 | eye movement desensitization reprocessing/ use mesz, prem or eye movement desensitization therapy/ use psych or (emdr or (eye movement adj2 desensiti*)).ti,ab. |
| 36 | hypnosis/ use emez or exp hypnosis/ use mesz, prem or exp hypnotherapy/ use psych or (hypnosis or hypnotherap*).ti,ab. |
| 37 | psychodynamic psychotherapy/ use emez or psychotherapy, psychodynamic/ use mesz, prem or psychodynamic psychotherapy/ use psych or repetitive transcranial magnetic stimulation/ use emez or Transcranial Magnetic Stimulation/ use mesz, prem, psych |
| 38 | ((psychodynamic or (dynamic adj (psychotherapy* or therap*)) or incident reduction) or ((brain or transcranial) adj2 stimulat*) or rtms).ti,ab. |
| 39 | (psychoanal* or psychosomatic*).ti,ab. |
| 40 | exp counseling/ use emez,mesz,psych or counsel*.ti,ab. |
| 41 | (hg therap* or human givens).ti,ab. |
| 42 | psychosomatic disorder/th use emez or exp somatoform disorders/th use mesz, prem |
| 43 | (exp somatoform disorders/ or somatization/) and (intervention* or program* or therap* or treat*).ti,ab,hw. use psych |
| 44 | (psychosomatic* or somatherap* or somatic*).ti,ab. |

| # | Searches |
|----|---|
| 45 | (emotional freedom or holistic or thought field).ti,ab. |
| 46 | dance therap*.ti,ab,sh. |
| 47 | couple therapy/ or family therapy/ or marital therapy/ or exp parent/ed |
| 48 | 47 use emez |
| 49 | couples therapy/ or family therapy/ or marital therapy/ or exp parents/ed |
| 50 | 49 use mesz, prem |
| 51 | couples therapy/ or family intervention/ or exp family therapy/ or exp marriage counseling/ or parent training/ |
| 52 | 51 use psyh |
| 53 | ((con?joint or couple* or family or families or husband* or marriage* or marital* or partner* or relations* or spous* or wife or wives* or (child* adj5 parent*)) adj6 (counsel* or intervention* or program* or support* or therap* or treat*)) or ((couples* or family* or relations*) adj (based or focused or led)) or ecological therap* or expressed emotion or family dynamics or family relationships).tw. |
| 54 | ((child* adj2 family traumatic stress intervention) or cftsi).ti,ab. |
| 55 | play therapy.sh. |
| 56 | (doll therap* or ((play or playful) adj3 (intervention* or program* or therap* or treat*)) or sandplay or sand play).ti,ab. |
| 57 | meditation.sh. or meditat*.ti,ab. |
| 58 | mindfulness.sh. or (mbsr or mindful*).ti,ab. |
| 59 | exp horticulture/ or occupational therapy/ or recreational therapy/ |
| 60 | 59 use emez |
| 61 | horticultural therapy/ or occupational therapy/ or recreation therapy/ |
| 62 | 61 use mesz, prem |
| 63 | exp "nature (environment)"/ or horticulture therapy/ or recreation therapy/ or occupational therapy/ |
| 64 | 63 use psyh |
| 65 | ((nature adj (assisted or based)) or (nature adj3 (intervention* or program* or therap* or treat*)) or ecotherap* or e cotherap* or gardening or horticult* or leisure activit* or naturopath* or occupational therap*).ti,ab. |
| 66 | psychoeducation.sh. or (psychoed* or psycho ed*).ti,ab. |
| 67 | ((nature adj (assisted or based)) or (nature adj3 (intervention* or program* or therap* or treat*)) or ecotherap* or e cotherap* or gardening or horticult* or leisure activit* or naturopath* or occupational therap*).ti,ab. or exp animal assisted therapy/ use emez, mesz or animal assisted therapy/ use psyh or (((animal* or dog* or equine* or horse* or pet or pets) adj2 (assist* or based or facilitat*)) or ((animal* or dog* or equine* or horse* or pet or pets) adj3 (intervention* or therap* or treat* or program*))).ti,ab. |
| 68 | (chinese medicine or medicine, chinese traditional or (moxibustion or electroacupuncture)).sh,id. or ((alternative or complementary) adj2 (medicine* or therap*).ti,ab,sh. or (acu point* or acupoint* or acupressur* or acupunctur* or (ching adj2 lo) or cizhen or dianzhen or electroacupunctur* or (jing adj2 luo) or jingluo or massag* or needle therap* or tapping or zhenjiu or zhenci).tw. |
| 69 | exp *exercise/ use emez or exp *kinesiotherapy/ use emez or exp exercise/ use mesz, prem or exercise therapy/ use mesz, prem or exp exercise/ use psyh (physiotherap* or physio therap* or rehab*).ti,ab,hw. |
| 70 | ((balance or flexibility or resistance or sitting* or strenth*) adj2 (exercise* or train*)) or aerobic* or anaerobic* or bowls or dancing or dance or cycling or cycle* or elliptical train* or |

| # | Searches |
|----|--|
| | jogging or low impact activit* or running or swimming or sprinting or swim*1 or walking or yoga or tai chi or weight train* or (weight and brain* and (change* or increas* or volum*))).ti,ab. |
| 71 | friendship/ or peer counseling/ or peer group/ or self help/ or self care/ or social network/ or social support/ or support group/ |
| 72 | 71 use emez |
| 73 | community networks/ or friends/ or exp peer group/ or self care/ or self-help groups/ or social networking/ or social support/ |
| 74 | 73 use mesz, prem |
| 75 | friendship/ or network therapy/ or exp social networks/ or peer relations/ or peers/ or peer counseling/ or self care skills/ or exp self help techniques/ or social support/ or exp support groups/ |
| 76 | 75 use psych |
| 77 | ((self adj (administer* or assess* or attribut* or care or change or directed or efficacy or help* or guide* or instruct* or manag* or medicat* or monitor* or regulat* or reinforc* or re inforc* or support* or technique* or therap* or train* or treat*)) or selfadminister* or selfassess* or selfattribut* or selfcare or selfchange or selfdirected or selfefficacy or selfhelp* or selfguide* or selfinstruct* or selfmanag* or selfmedicat* or selfmonitor* or selfregulat* or selfreinforc* or self re inforc* or selfsupport* or selftechnique* or selftherap* or selftrain* or selftreat* or (wellness adj (therap* or train* or treat*))).ti,ab,sh. |
| 78 | (befriend* or be*1 friend* or buddy or buddies or ((community or lay or paid or support) adj (person or worker*))).ti,ab. |
| 79 | ((((consumer* or famil* or friend* or lay or mutual* or peer* or social* or spous* or voluntary or volunteer*) adj3 (assist* or advice* or advis* or counsel* or educat* or forum* or help* or mentor* or network* or support* or visit*)) or ((consumer* or famil* or peer* or self help or social* or support* or voluntary or volunteer*) adj2 group*) or ((consumer* or famil* or friend* or lay or mutual* or peer* or self help or social* or spous* or support* or voluntary or volunteer*) adj3 (intervention* or program* or rehab* or therap* or service* or skill* or treat*)) or (((consumer* or famil* or friend* or lay* or peer* or spous* or user* or support* or voluntary or volunteer*) adj (based or counsel* or deliver* or interact* or led or mediat* or operated or provides or provider* or run*)) or ((consumer* or famil* or friend* or lay* or peer* or relation* or spous* or support*) adj3 trust*) or voluntary work*))).ti,ab. |
| 80 | ((((lay or peer*) adj3 (advis* or consultant or educator* or expert* or facilitator* or instructor* or leader* or mentor* or person* or tutor* or worker*)) or expert patient* or mutual aid).ti,ab. |
| 81 | (peer* adj3 (assist* or counsel* or educat* or program* or rehab* or service* or supervis*)).ti,ab. |
| 82 | ((psychoeducat* or psycho educat*) adj3 (group or network* or service*)).ti,ab. |
| 83 | ((psychosocial or social) adj work*).ti,ab. |
| 84 | ((ptsd or posttrauma* or post trauma* or trauma*) adj2 support*).ti,ab. |
| 85 | recovery support.ti,ab. |
| 86 | financial management/ use emez or financial support/ use mesz, prem or finance/ use psych |
| 87 | ((financ* or money) adj2 (assist* or educat* or guidance or intervention* or program* or support* or train*)).ti,ab. |
| 88 | assisted living facility/ or emergency shelter/ or halfway house/ or housing/ or independent living/ or residential home/ or residential home/ |
| 89 | 88 use emez |
| 90 | assisted living facilities/ or emergency shelter/ or group homes/ or halfway houses/ or housing/ or independent living/ or residential facilities/ |

| # | Searches |
|-----|---|
| 91 | 90 use mesz, prem |
| 92 | assisted living / use psych or shelters/ use psych or group homes/ use psych or halfway houses/ use psych or housing/ use psych or residential care institutions/ use psych or ((resident* or hous* or accommod* or commun* or comu* or home*) adj5 (support* or support* or shelter* or outreach* or visit* or appointment*)).ti,ab. |
| 93 | (residential treatm* or residential facility* or supported hous* or public hous*).ti,ab. |
| 94 | (accomod* or assertive community treatment* or home* or housing* or outreach* or residential*).ti,ab. |
| 95 | absenteeism/ or daily life activity/ or employment/ or medical leave/ or mentoring/ or occupational health/ or occupational therapy/ or return to work/ or supported employment/ or unemployment/ or vocational guidance/ or vocational rehabilitation/ or work capacity/ or work/ |
| 96 | 95 use emez |
| 97 | absenteeism/ or "activities of daily living"/ or employment, supported/ or employment/ or mentoring/ or occupational health/ or occupational therapy/ or rehabilitation, vocational/ or return to work/ or sick leave/ or unemployment/ or vocational guidance/ or work/ |
| 98 | 97 use mesz, prem |
| 99 | "activities of daily living"/ or exp coaching/ or employee absenteeism/ or employment status/ or occupational guidance/ or occupational health/ or occupational therapy/ or reemployment/ or unemployment/ or vocational counselors/ or exp vocational rehabilitation/ |
| 100 | 99 use psych |
| 101 | ((supp* or transitional*) adj5 (employ* or work*)) or individual placement or (placement* adj3 (employ* or work*)).ti,ab. |
| 102 | ((employ* or placement* or psychosocial* or psycho-social* or occupation* or soc* or vocation* or work* or job* or counsel*) adj5 rehab*).ti,ab. |
| 103 | (sheltered work* or vocatio* or fountain house* or fountainhouse* or clubhouse* or club house* or work therap*).ti,ab. |
| 104 | (transitional employment or rehabilitation counsel* or (occupational adj (health or medicine)) or work* adjustment).ti,ab. |
| 105 | ((performance adj (activit* or coach* or management or occupation*)) or coaching).ti,ab. |
| 106 | ((sheltered or permitted or voluntary or vocational or return* or rehabilitat*) adj3 work*) or work capacity or reemploy* or re employ* or job retention or work capacity).ti,ab. |
| 107 | ((employ* or job or occupation* or vocation* or work*) adj5 (counsel* or educat* or guidance* or intervention* or program* or rehab* or reintegrat* or re integrat* or support* or therap* or train*).ti,ab. |
| 108 | placement.ti,ab. |
| 109 | or/11-12,14-15,17-19,21-22,24,26,28-46,48,50,52-58,60,62,64-70,72,74,76-87,89,91-94,96,98,100-108 |
| 110 | meta analysis/ or "meta analysis (topic)"/ or systematic review/ |
| 111 | 110 use emez |
| 112 | meta analysis.sh,pt. or "meta-analysis as topic"/ or "review literature as topic"/ |
| 113 | 112 use mesz, prem |
| 114 | (literature review or meta analysis).sh,id,md. or systematic review.id,md. |
| 115 | 114 use psych |
| 116 | (exp bibliographic database/ or (((electronic or computer* or online) adj database*) or bids or cochrane or embase or index medicus or isi citation or medline or psyclit or psychlit or scisearch or science citation or (web adj2 science)).ti,ab.) and (review*.ti,ab,sh,pt. or systematic*.ti,ab.) |

| # | Searches |
|-----|--|
| 117 | 116 use emez |
| 118 | (exp databases, bibliographic/ or (((electronic or computer* or online) adj database*) or bids or cochrane or embase or index medicus or isi citation or medline or psyclit or psychlit or scisearch or science citation or (web adj2 science)).ti,ab.) and (review*.ti,ab,sh,pt. or systematic*.ti,ab.) |
| 119 | 118 use mesz, prem |
| 120 | (computer searching.sh,id. or (((electronic or computer* or online) adj database*) or bids or cochrane or embase or index medicus or isi citation or medline or psyclit or psychlit or scisearch or science citation or (web adj2 science)).ti,ab.) and (review*.ti,ab,pt. or systematic*.ti,ab.) |
| 121 | 120 use psych |
| 122 | ((analy* or assessment* or evidence* or methodol* or quantativ* or systematic*) adj2 (overview* or review*)).tw. or ((analy* or assessment* or evidence* or methodol* or quantativ* or systematic*).ti. and review*.ti,pt.) or (systematic* adj2 search*).ti,ab. |
| 123 | (metaanal* or meta anal*).ti,ab. |
| 124 | (research adj (review* or integration)).ti,ab. |
| 125 | reference list*.ab. |
| 126 | bibliograph*.ab. |
| 127 | published studies.ab. |
| 128 | relevant journals.ab. |
| 129 | selection criteria.ab. |
| 130 | (data adj (extraction or synthesis)).ab. |
| 131 | (handsearch* or ((hand or manual) adj search*)).ti,ab. |
| 132 | (mantel haenszel or peto or dersimonian or der simonian).ti,ab. |
| 133 | (fixed effect* or random effect*).ti,ab. |
| 134 | ((pool* or combined or combining) adj2 (data or trials or studies or results)).ti,ab. |
| 135 | or/111,113,115,117,119,121-134 |
| 136 | exp "clinical trial (topic)"/ or exp clinical trial/ or crossover procedure/ or double blind procedure/ or placebo/ or randomization/ or random sample/ or single blind procedure/ |
| 137 | 136 use emez |
| 138 | exp clinical trial/ or exp "clinical trials as topic"/ or cross-over studies/ or double-blind method/ or placebos/ or random allocation/ or single-blind method/ |
| 139 | 138 use mesz, prem |
| 140 | (clinical trials or placebo or random sampling).sh,id. |
| 141 | 140 use psych |
| 142 | (clinical adj2 trial*).ti,ab. |
| 143 | (crossover or cross over).ti,ab. |
| 144 | ((single* or doubl* or trebl* or tripl*) adj2 blind*) or mask* or dummy or doubleblind* or singleblind* or trebleblind* or tripleblind*).ti,ab. |
| 145 | (placebo* or random*).ti,ab. |
| 146 | treatment outcome*.md. use psych |
| 147 | animals/ not human*.mp. use emez |
| 148 | animal*/ not human*/ use mesz, prem |
| 149 | (animal not human).po. use psych |

| # | Searches |
|-----|----------------------|
| 150 | or/137,139,141-146 |
| 151 | 150 not (or/147-149) |
| 152 | or/135,151 |
| 153 | 10 and 109 and 152 |

Database: CDSR, DARE, HTA, CENTRAL

Date of last search: 31 January 2017

| # | Searches |
|-----|--|
| #1 | MeSH descriptor: Stress Disorders, Traumatic this term only |
| #2 | MeSH descriptor: Combat Disorders this term only |
| #3 | MeSH descriptor: Psychological Trauma this term only |
| #4 | MeSH descriptor: Stress Disorders, Post-Traumatic this term only |
| #5 | MeSH descriptor: Stress Disorders, Traumatic, Acute this term only |
| #6 | MeSH descriptor: Stress, Psychological this term only |
| #7 | ("railway spine" or (rape near/2 trauma*) or reexperienc* or "re experienc*" or "torture syndrome" or "traumatic neuros*" or "traumatic stress"):ti (Word variations have been searched) |
| #8 | ("railway spine" or (rape near/2 trauma*) or reexperienc* or "re experienc*" or "torture syndrome" or "traumatic neuros*" or "traumatic stress"):ab (Word variations have been searched) |
| #9 | (trauma* and (avoidance or grief or horror or death* or nightmare* or "night mare*" or emotion*)):ti (Word variations have been searched) |
| #10 | (trauma* and (avoidance or grief or horror or death* or nightmare* or "night mare*" or emotion*)):ab (Word variations have been searched) |
| #11 | (posttraumatic* or "post traumatic*" or "stress disorder*" or "acute stress" or ptsd or asd or desnos or ("combat neuros*" or "combat syndrome" or "concentration camp syndrome" or "extreme stress" or flashback* or "flash back*" or hypervigilan* or hypervigilen* or "psych* stress" or "psych* trauma*" or psychotrauma* or psychotrauma*) or (posttrauma* or traumagenic* or "traumatic stress*")):ti (Word variations have been searched) |
| #12 | (posttraumatic* or "post traumatic*" or "stress disorder*" or "acute stress" or ptsd or asd or desnos or ("combat neuros*" or "combat syndrome" or "concentration camp syndrome" or "extreme stress" or flashback* or "flash back*" or hypervigilan* or hypervigilen* or "psych* stress" or "psych* trauma*" or psychotrauma* or psychotrauma*) or (posttrauma* or traumagenic* or "traumatic stress*")):ab (Word variations have been searched) |
| #13 | #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 |

Database: CINAHL PLUS

Date of last search: 31 January 2017

| # | Searches |
|-----|-------------|
| s52 | s6 and s51 |
| s51 | s40 or s50 |
| s50 | s48 not s49 |

PTSD: evidence reviews for psychological and psychosocial interventions for family members of people at risk of PTSD FINAL (December 2018)

| # | Searches |
|-----|--|
| s49 | (mh "animals") not (mh "human") |
| s48 | s41 or s42 or s43 or s44 or s45 or s46 or s47 |
| s47 | ti (placebo* or random*) or ab (placebo* or random*) |
| s46 | ti (single blind* or double blind* or treble blind* or mask* or dummy* or singleblind* or doubleblind* or trebleblind* or tripleblind*) or ab (single blind* or double blind* or treble blind* or mask* or dummy* or singleblind* or doubleblind* or trebleblind* or tripleblind*) |
| s45 | ti (crossover or cross over) or ab (crossover or cross over) |
| s44 | ti clinical n2 trial* or ab clinical n2 trial* |
| s43 | (mh "crossover design") or (mh "placebos") or (mh "random assignment") or (mh "random sample") |
| s42 | mw double blind* or single blind* or triple blind* |
| s41 | (mh "clinical trials+") |
| s40 | s7 or s8 or s9 or s10 or s11 or s12 or s13 or s14 or s15 or s16 or s17 or s18 or s19 or s20 or s21 or s22 or s23 or s29 or s30 or s31 or s34 or s35 or s36 or s37 or s38 or s39 |
| s39 | ti (analy* n5 review* or evidence* n5 review* or methodol* n5 review* or quantativ* n5 review* or systematic* n5 review*) or ab (analy* n5 review* or assessment* n5 review* or evidence* n5 review* or methodol* n5 review* or qualitativ* n5 review* or quantativ* n5 review* or systematic* n5 review*) |
| s38 | ti (pool* n2 results or combined n2 results or combining n2 results) or ab (pool* n2 results or combined n2 results or combining n2 results) |
| s37 | ti (pool* n2 studies or combined n2 studies or combining n2 studies) or ab (pool* n2 studies or combined n2 studies or combining n2 studies) |
| s36 | ti (pool* n2 trials or combined n2 trials or combining n2 trials) or ab (pool* n2 trials or combined n2 trials or combining n2 trials) |
| s35 | ti (pool* n2 data or combined n2 data or combining n2 data) or ab (pool* n2 data or combined n2 data or combining n2 data) |
| s34 | s32 and s33 |
| s33 | ti review* or pt review* |
| s32 | ti analy* or assessment* or evidence* or methodol* or quantativ* or qualitativ* or systematic* |
| s31 | ti "systematic* n5 search*" or ab "systematic* n5 search*" |
| s30 | ti "systematic* n5 review*" or ab "systematic* n5 review*" |
| s29 | (s24 or s25 or s26) and (s27 or s28) |
| s28 | ti systematic* or ab systematic* |
| s27 | tx review* or mw review* or pt review* |
| s26 | (mh "cochrane library") |
| s25 | ti (bids or cochrane or embase or "index medicus" or "isi citation" or medline or psychlit or psychlit or scisearch or "science citation" or web n2 science) or ab (bids or cochrane or "index medicus" or "isi citation" or psychlit or psychlit or scisearch or "science citation" or web n2 science) |
| s24 | ti ("electronic database*" or "bibliographic database*" or "computeri?ed database*" or "online database*") or ab ("electronic database*" or "bibliographic database*" or "computeri?ed database*" or "online database*") |
| s23 | (mh "literature review") |
| s22 | pt systematic* or pt meta* |
| s21 | ti ("fixed effect*" or "random effect*") or ab ("fixed effect*" or "random effect*") |

| # | Searches |
|-----|--|
| s20 | ti ("mantel haenszel" or peto or dersimonian or "der simonian") or ab ("mantel haenszel" or peto or dersimonian or "der simonian") |
| s19 | ti (handsearch* or "hand search*" or "manual search*") or ab (handsearch* or "hand search*" or "manual search*") |
| s18 | ab "data extraction" or "data synthesis" |
| s17 | ab "selection criteria" |
| s16 | ab "relevant journals" |
| s15 | ab "published studies" |
| s14 | ab bibliograph* |
| s13 | ti "reference list" |
| s12 | ab "reference list" |
| s11 | ti ("research review*" or "research integration") or ab ("research review*" or "research integration") |
| s10 | ti (metaanal* or "meta anal*" or metasyntes* or "meta syntes*") or ab (metaanal* or "meta anal*" or metasyntes* or "meta syntes*") |
| s9 | (mh "meta analysis") |
| s8 | (mh "systematic review") |
| s7 | (mh "literature searching+") |
| s6 | s1 or s2 or s3 or s4 or s5 |
| s5 | ti ((posttraumatic* or "post traumatic*" or "stress disorder*" or "acute stress" or ptsd or asd or desnos or ("combat neuros*" or "combat syndrome" or "concentration camp syndrome" or "extreme stress" or flashback* or "flash back*" or hypervigilan* or hypervigilen* or "psych* stress" or "psych* trauma*" or psychotrauma* or psychotrauma*) or (posttrauma* or traumagenic* or "traumatic stress*"))) or ab ((posttraumatic* or "post traumatic*" or "stress disorder*" or "acute stress" or ptsd or asd or desnos or ("combat neuros*" or "combat syndrome" or "concentration camp syndrome" or "extreme stress" or flashback* or "flash back*" or hypervigilan* or hypervigilen* or "psych* stress" or "psych* trauma*" or psychotrauma* or psychotrauma*) or (posttrauma* or traumagenic* or "traumatic stress*"))) |
| s4 | ti ((trauma* and (avoidance or grief or horror or death* or nightmare* or "night mare*" or emotion*))) or ab ((trauma* and (avoidance or grief or horror or death* or nightmare* or "night mare*" or emotion*))) |
| s3 | ti (("railway spine" or (rape near/2 trauma*) or reexperient* or "re experienc*" or "torture syndrome" or "traumatic neuros*" or "traumatic stress")) or ab (("railway spine" or (rape near/2 trauma*) or reexperient* or "re experienc*" or "torture syndrome" or "traumatic neuros*" or "traumatic stress")) |
| s2 | (mh "stress, psychological") |
| s1 | (mh "stress disorders, post-traumatic") |

Health economic evidence

Note: evidence resulting from the health economic search update was screened to reflect the final dates of the searches that were undertaken for the clinical reviews (see review protocols).

Database: Medline

Last searched on:

PTSD: evidence reviews for psychological and psychosocial interventions for family members of people at risk of PTSD FINAL (December 2018)

**Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R)
 Daily and Ovid MEDLINE(R), Embase, PsycINFO**

Date of last search: 1 March 2018

| # | Searches |
|----|--|
| 1 | *acute stress/ or *behavioural stress/ or *emotional stress/ or *critical incident stress/ or *mental stress/ or *posttraumatic stress disorder/ or *psychotrauma/ |
| 1 | *acute stress/ or *behavioural stress/ or *emotional stress/ or *critical incident stress/ or *mental stress/ or *posttraumatic stress disorder/ or *psychotrauma/ |
| 2 | 1 use emez |
| 3 | stress disorders, traumatic/ or combat disorders/ or psychological trauma/ or stress disorders, post-traumatic/ or stress disorders, traumatic, acute/ or stress, psychological/ |
| 4 | 3 use mesz, prem |
| 5 | exp posttraumatic stress disorder/ or acute stress disorder/ or combat experience/ or "debriefing (psychological)"/ or emotional trauma/ or post-traumatic stress/ or traumatic neurosis/ or "trauma"/ or stress reactions/ or psychological stress/ or chronic stress/ |
| 6 | 5 use psych |
| 7 | (railway spine or (rape adj2 trauma*) or reexperienc* or re experienc* or torture syndrome or traumatic neuros* or traumatic stress).ti,ab. |
| 8 | (trauma* and (avoidance or grief or horror or death* or nightmare* or night mare* or emotion*)).ti,ab. |
| 9 | (posttraumatic* or post traumatic* or stress disorder* or acute stress or ptsd or asd or desnos or (combat neuros* or combat syndrome or concentration camp syndrome or extreme stress or flashback* or flash back* or hypervigilan* or hypervigilen* or psych* stress or psych* trauma* or psycho?trauma* or psychotrauma*)).ti,ab. |
| 10 | or/2,4,6-9 |
| 11 | budget/ or exp economic evaluation/ or exp fee/ or funding/ or exp health care cost/ or health economics/ or exp pharmacoeconomics/ or resource allocation/ |
| 12 | 151 use emez |
| 13 | exp budgets/ or exp "costs and cost analysis"/ or economics/ or exp economics, hospital/ or exp economics, medical/ or economics, nursing/ or economics, pharmaceutical/ or exp "fees and charges"/ or value of life/ |
| 14 | 153 use mesz, prem |
| 15 | exp "costs and cost analysis"/ or cost containment/ or economics/ or finance/ or funding/ or "health care economics"/ or pharmacoeconomics/ or exp professional fees/ or resource allocation/ |
| 16 | 155 use psych |
| 17 | (cost* or economic* or pharmacoeconomic* or pharmaco economic*).ti. or (cost* adj2 (effective* or utilit* or benefit* or minimi*)).ab. or (budget* or fee or fees or financ* or price or prices or pricing or resource* allocat* or (value adj2 (monetary or money))).ti,ab. |
| 18 | or/12,14,16-17 |
| 19 | decision theory/ or decision tree/ or monte carlo method/ or nonbiological model/ or (statistical model/ and exp economic aspect/) or stochastic model/ or theoretical model/ |
| 20 | 159 use emez |
| 21 | exp decision theory/ or markov chains/ or exp models, economic/ or models, organizational/ or models, theoretical/ or monte carlo method/ |
| 22 | 161 use mesz, prem |
| 23 | exp decision theory/ or exp stochastic modeling/ |

PTSD: evidence reviews for psychological and psychosocial interventions for family members of people at risk of PTSD FINAL (December 2018)

| # | Searches |
|----|--|
| 24 | 163 use psyh |
| 25 | ((decision adj (analy* or model* or tree*)) or economic model* or markov).ti,ab. |
| 26 | or/20,22,24-25 |
| 27 | quality adjusted life year/ or "quality of life index"/ or short form 12/ or short form 20/ or short form 36/ or short form 8/ or sickness impact profile/ |
| 28 | 167 use emez |
| 29 | quality-adjusted life years/ or sickness impact profile/ |
| 30 | 169 use mesz, prem |
| 31 | ((disability or quality) adj adjusted) or (adjusted adj2 life)).ti,ab. |
| 32 | (disutili* or dis utili* or (utilit* adj1 (health or score* or value* or weigh*))).ti,ab. |
| 33 | (health year equivalent* or hye or hyes).ti,ab. |
| 34 | (daly or qal or qald or qale or qaly or qtime* or qwb*).ti,ab. |
| 35 | discrete choice.ti,ab. |
| 36 | (euroqol* or euro qol* or eq5d* or eq 5d*).ti,ab. |
| 37 | (hui or hui1 or hui2 or hui3).ti,ab. |
| 38 | ((general or quality) adj2 (wellbeing or well being)) or quality adjusted life or qwb or (value adj2 (money or monetary)).ti,ab. |
| 39 | (qol or hql* or hqol* or hrqol or hr ql or hrql).ti,ab. |
| 40 | rosser.ti,ab. |
| 41 | sickness impact profile.ti,ab. |
| 42 | (standard gamble or time trade* or tto or willingness to pay or wtp).ti,ab. |
| 43 | (sf36 or sf 36 or short form 36 or shortform 36 or shortform36).ti,ab. |
| 44 | (sf6 or sf 6 or short form 6 or shortform 6 or shortform6).ti,ab. |
| 45 | (sf12 or sf 12 or short form 12 or shortform 12 or shortform12).ti,ab. |
| 46 | (sf16 or sf 16 or short form 16 or shortform 16 or shortform16).ti,ab. |
| 47 | (sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab. |
| 48 | (sf8 or sf 8 or short form 8 or shortform 8 or shortform8).ti,ab. |
| 49 | or/28,30-48 |
| 50 | or/18,26,49 |

Database: HTA, NHS EED

Date of last search: 1 March 2018

| # | Searches |
|----|--|
| #1 | MeSH descriptor: Stress Disorders, Traumatic this term only |
| #2 | MeSH descriptor: Combat Disorders this term only |
| #3 | MeSH descriptor: Psychological Trauma this term only |
| #4 | MeSH descriptor: Stress Disorders, Post-Traumatic this term only |
| #5 | MeSH descriptor: Stress Disorders, Traumatic, Acute this term only |
| #6 | MeSH descriptor: Stress, Psychological this term only |

PTSD: evidence reviews for psychological and psychosocial interventions for family members of people at risk of PTSD FINAL (December 2018)

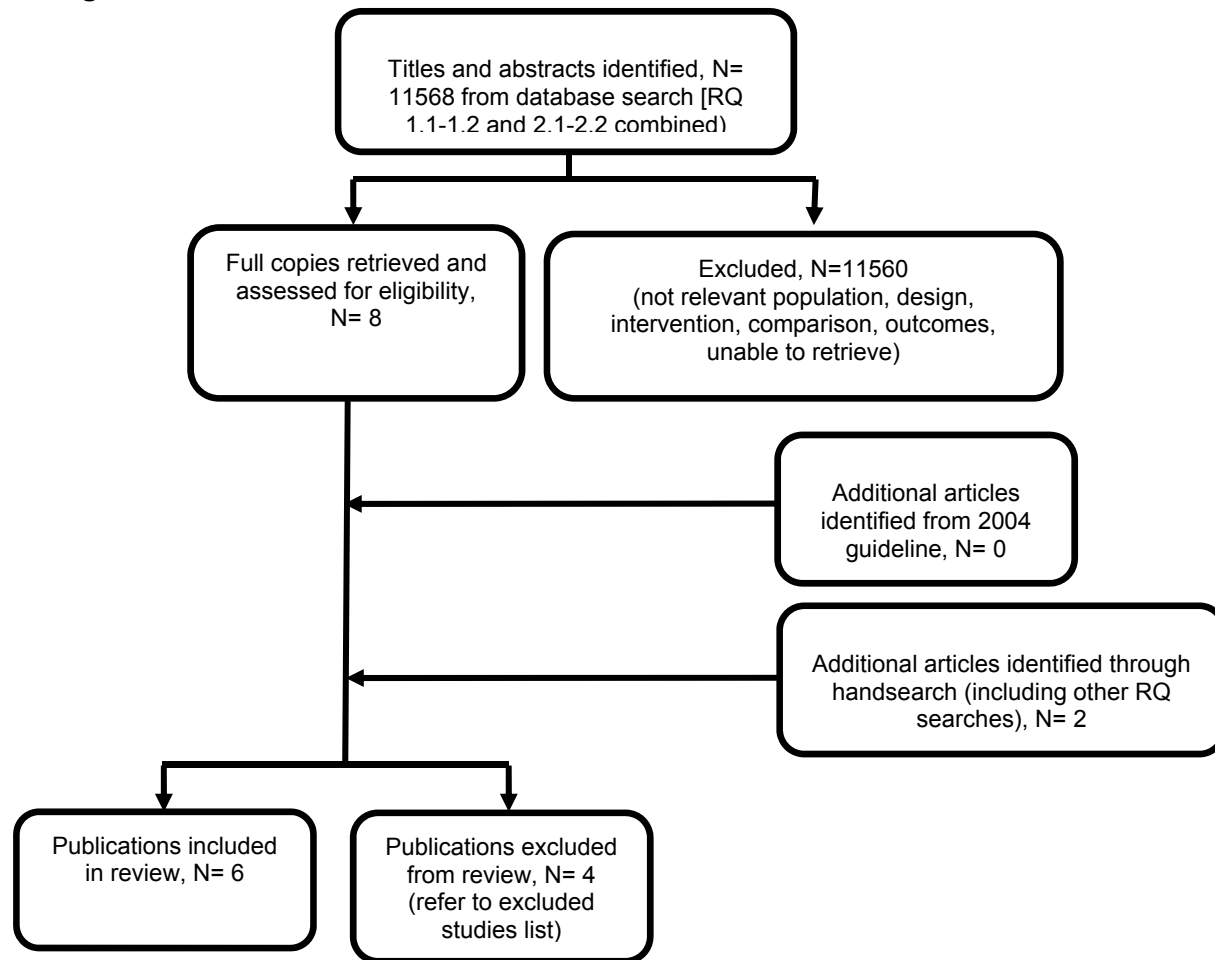
| # | Searches |
|-----|--|
| #7 | ("railway spine" or (rape near/2 trauma*) or reexperienc* or "re experienc*" or "torture syndrome" or "traumatic neuros*" or "traumatic stress"):ti (Word variations have been searched) |
| #8 | ("railway spine" or (rape near/2 trauma*) or reexperienc* or "re experienc*" or "torture syndrome" or "traumatic neuros*" or "traumatic stress"):ab (Word variations have been searched) |
| #9 | (trauma* and (avoidance or grief or horror or death* or nightmare* or "night mare*" or emotion*)):ti (Word variations have been searched) |
| #10 | (trauma* and (avoidance or grief or horror or death* or nightmare* or "night mare*" or emotion*)):ab (Word variations have been searched) |
| #11 | (posttraumatic* or "post traumatic*" or "stress disorder*" or "acute stress" or ptsd or asd or desnos or ("combat neuros*" or "combat syndrome" or "concentration camp syndrome" or "extreme stress" or flashback* or "flash back*" or hypervigilan* or hypervigilen* or "psych* stress" or "psych* trauma*" or psychotrauma* or psychotrauma*) or (posttrauma* or traumagenic* or "traumatic stress*")):ti (Word variations have been searched) |
| #12 | (posttraumatic* or "post traumatic*" or "stress disorder*" or "acute stress" or ptsd or asd or desnos or ("combat neuros*" or "combat syndrome" or "concentration camp syndrome" or "extreme stress" or flashback* or "flash back*" or hypervigilan* or hypervigilen* or "psych* stress" or "psych* trauma*" or psychotrauma* or psychotrauma*) or (posttrauma* or traumagenic* or "traumatic stress*")):ab (Word variations have been searched) |
| #13 | #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 |

Appendix C – Clinical evidence study selection

Clinical evidence study selection for “For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?” and “For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?”

One flow diagram covers both evidence review questions.

Figure 1: Flow diagram of clinical article selection for review



Appendix D – Clinical evidence tables

Clinical evidence tables for “For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?”

Problem solving versus TAU for caregivers of adults at risk of PTSD

| Study ID | Intervention | PTSD details | Trauma type | N | Demographics | Inclusion/Exclusion criteria |
|-------------|---|--------------|---|---------|---|---|
| Powell 2016 | Problem solving: Individualized education and mentored problem-solving intervention | Unclear | Caregiver (54% spouses/partners; 35% parents; 11% other) of adult patients with moderate to severe traumatic brain injury (TBI) who received acute and/or rehabilitation care at a level I trauma centre. Cause of injury: Motor vehicle collision (40%); violence (10%); fall (31%); other (19%) | 15 3 | Age range (mean): 19-89 (49.7) Gender (% female): 82 BME (% non-white): 21 Country: US Coexisting conditions: NR Lifetime experience of trauma (mean number of prior traumas/% with previous trauma): NR Single or multiple incident index trauma: single | Inclusion criteria: caregivers of adult patients with traumatic brain injury (TBI); discharge to the community directly from the hospital or from an interim facility; family member or friend with at least a 1-year relationship with the patient who assumed primary responsibility for the patient’s follow-up care and well-being at the time of discharge to the community; sufficient English to allow communication without an interpreter; have a telephone. Exclusion criteria: Not reported |

BME=Black and Minority Ethnic; N=number being randomised; PTSD=post-traumatic stress disorder

Self-help (without support) versus attention-placebo for parents of children at risk of PTSD

| Study ID | Intervention | PTSD details | Trauma type | N | Demographics | Inclusion/Exclusion criteria |
|-------------|---|--------------|--|---------|--|---|
| Melnyk 2004 | Self-help (without support): Psychoeducational materials | Unclear | Mother of a child admitted to a paediatric intensive care unit. The major reasons for hospitalisation were respiratory problems (eg, asthma or pneumonia; 44%), accidental trauma (16%), neurologic problems (eg, seizures or accidents; 14%), infections (eg, meningitis or sepsis; 11%), hematologic problems (eg, bleeding after procedures; 5%), cardiac problems (2%), ingestions (4%), or other causes (eg, acidosis; 5%). The length of stay in the PICU averaged 64.3 hours (SD: 64.3 hours; range: 10.0–440.0 hours), and the total length of hospital stay averaged 6.9 days | 17 4 | Age range (mean): 18-52 (31.2) Gender (% female): 100 BME (% non-white): 29 Country: US Coexisting conditions: NR Lifetime experience of trauma (mean number of prior traumas/% with previous trauma): NR Single or multiple incident index trauma: single | Inclusion criteria: mothers of children admitted to either of the 2 PICU study sites; whose children (aged 2-7 years) had an unplanned medical or surgical admission to the PICU, were expected to survive, had no prior ICU admissions, had no cancer, and had no suspected or diagnosed physical or sexual abuse. Exclusion criteria: could not read or speak English; their children were readmitted to the PICU after transfer from the PICU to the general paediatric unit; their children were hospitalized in the PICU for >21 days; made a personal decision to withdraw from the study |

| Study ID | Intervention | PTSD details | Trauma type | N | Demographics | Inclusion/Exclusion criteria |
|----------|--------------|--------------|----------------------------------|---|--------------|------------------------------|
| | | | (SD: 6.3 days; range: 1–32 days) | | | |

BME=Black and Minority Ethnic; N=number being randomised; PTSD=post-traumatic stress disorder

Clinical evidence tables for “For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?”

Trauma-focused CBT (caregiver and child) versus supportive counselling (caregiver and child) for the support of parents of children with PTSD

| Study ID | Intervention | PTSD details | Trauma type | N | Demographics | Inclusion/Exclusion criteria |
|----------------------------|---|--------------|--|-----|---|---|
| Cohen 2004a/Deblinger 2006 | Trauma-focused CBT: CBT (caregiver and child) | Unclear | Family member of child who had experienced contact sexual abuse. 78% biological mother; 3% adoptive mother; 2% stepmother; 4% foster mother; 5% grandmother; 4% other female relative; 4% biological father; 1% stepfather; 1% grandfather | 229 | Age range (mean): NR (37.1) Gender (% female): 95 BME (% non-white): NR Country: US Coexisting conditions: 24% of participating parents had drug or alcohol abuse Lifetime experience of | Inclusion criteria: children who had experienced contact sexual abuse that was confirmed by Child Protective Services (CPS), law enforcement, or a professional independent forensic evaluator; who met at least five criteria for sexual abuse-related DSM-IV-defined PTSD, including at least one symptom in each of the three PTSD clusters (re-experiencing, avoidance or numbing, and hyperarousal); who had a parent or other caretaker (including long-term foster parents) who was willing and able to participate in the parental treatment component of the study. Exclusion criteria: an active psychotic disorder or an active substance use disorder that resulted in significant impairment in adaptive functioning, or if the parent or primary |

PTSD: evidence reviews for psychological and psychosocial interventions for family members of people at risk of PTSD FINAL (December 2018)

| Study ID | Intervention | PTSD details | Trauma type | N | Demographics | Inclusion/Exclusion criteria |
|----------|--------------|--------------|-------------|---|---|--|
| | | | | | trauma (mean number of prior traumas/% with previous trauma): 8% of participating parents received treatment for personal sexual abuse Single or multiple incident index trauma: Multiple | caretaker who would be participating in the treatment had such a disorder; non-fluency in English; a documented developmental disorder (e.g., autism); children who were currently taking psychotropic medication who had not been on a stable medication regimen for at least 2 months prior to admission to the study. |

BME=Black and Minority Ethnic; N=number being randomised; PTSD=post-traumatic stress disorder

Cognitive behavioural conjoint therapy versus waitlist for the support of partners of adults with PTSD

| Study ID | Intervention | PTSD details | Trauma type | N | Demographics | Inclusion/Exclusion criteria |
|---------------------------------|--|--------------|--|----|--|--|
| Monson 2008/2012/Schnaider 2014 | Couple interventions: Cognitive-behavioural conjoint therapy | Unclear | Partner/spouse of adult with PTSD. Type of trauma for partner with PTSD: Adult sexual trauma (20%); child sexual trauma (28%); noncombat physical assault (15%); motor vehicle collision (8%); | 40 | Age range (mean): 18-70 (37.8) Gender (% female): 33 BME (% non-white): 20 Country: US and Canada | Inclusion criteria: heterosexual and same-sex couples where one partner met criteria for PTSD (met the DSM-IV-TR symptom cluster criteria and a total CAPS severity score ≥45), and both members of the couple were between 18 and 70 years old. Exclusion criteria: substance dependence that hadn't been in remission for at least 3 months, uncontrolled bipolar or psychotic disorder, acute suicidality |

PTSD: evidence reviews for psychological and psychosocial interventions for family members of people at risk of PTSD FINAL (December 2018)

| Study ID | Intervention | PTSD details | Trauma type | N | Demographics | Inclusion/Exclusion criteria |
|----------|--------------|--------------|---|---|--|---|
| | | | witnessing/learning about death/illness (13%); combat (5%); other (13%) | | <p>Coexisting conditions: Partner group: 25% any comorbidity, 8% mood disorder, 13% anxiety disorder, 3% substance abuse, 5% 'other'</p> <p>Lifetime experience of trauma (mean number of prior traumas/% with previous trauma): NR</p> <p>Single or multiple incident index trauma: Unclear</p> | or homicidality, severe cognitive impairment, severe IPV within the past year, receiving other couple therapy or individual therapy for PTSD during the study and unstable drug regimen within the 2 months prior to study entry. |

BME=Black and Minority Ethnic; N=number being randomised; PTSD=post-traumatic stress disorder

Cognitive behavioural conjoint therapy versus psychoeducational sessions for the support of partners of adults with PTSD

| Study ID | Intervention | PTSD details | Trauma type | N | Demographic s | Inclusion/Exclusion criteria |
|--------------|---|--------------|--|----|--|---|
| Sautter 2015 | Couple interventions: Cognitive-behavioural conjoint therapy | Unclear | Partner of veteran of Operation Iraqi Freedom (OIF)/Operation Enduring Freedom (OEF) with PTSD | 57 | Age range (mean): NR (32.2) Gender (% female): 98 BME (% non-white): 25 Country: US Coexisting conditions: NR Lifetime experience of trauma (mean number of prior traumas/% with previous trauma): NR Single or multiple incident index trauma: Multiple | Inclusion criteria: veterans of Operation Iraqi Freedom (OIF)/Operation Enduring Freedom (OEF), who met Diagnostic and Statistical Manual of Mental Disorders (fourth edition, text revision; DSM–IV–TR) criteria for PTSD, and who had been cohabiting with an opposite-sex intimate partner for at least 6 consecutive months. Exclusion criteria for both partners included: physical aggression with injury to a partner during domestic violence as measured on the Physical Assault subscale of the Revised Conflict Tactic Scales), active substance dependence within the past 3months, current psychotic symptoms, imminent suicidality, and/or homicidal behaviour. Partners with a current diagnosis of PTSD were also excluded. Veterans were asked to not participate in concurrent evidence based PTSD treatments, and couples were asked to refrain from participating in other concurrent couple therapies while in the trial. If prescribed psychotropic medications, then veterans were asked to communicate with their prescribing physicians the importance of maintaining a stable regimen during their study participation, to alert study staff to medication changes while in the study, and to avoid major changes in medication |

BME=Black and Minority Ethnic; N=number being randomised; PTSD=post-traumatic stress disorder

Self-help (without support) versus waitlist for the support of partners of adults with PTSD

| Study ID | Intervention | PTSD details | Trauma type | N | Demographics | Inclusion/Exclusion criteria |
|-------------------|---|--------------|--|----|---|------------------------------|
| Erbes (submitted) | Self-help (without support): Computerised psychoeducational intervention | Unclear | Partner (defined as being in an intimate relationship) of veteran with combat-related PTSD | 46 | Age range (mean): NR Gender (% female): NR BME (% non-white): NR Country: US Coexisting conditions: NR Lifetime experience of trauma (mean number of prior traumas/% with previous trauma): NR Single or multiple incident index trauma: Multiple | NR |

BME=Black and Minority Ethnic; N=number being randomised; PTSD=post-traumatic stress disorder

Appendix E – Forest plots

Forest plots for “For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?”

Psychological: Problem solving

Problem solving versus TAU for caregivers of adults at risk of PTSD

Figure 2: Problem solving versus TAU for caregivers of adults at risk of PTSD: Family member/carer mental health at 6-week follow-up (BSI global T-test score)

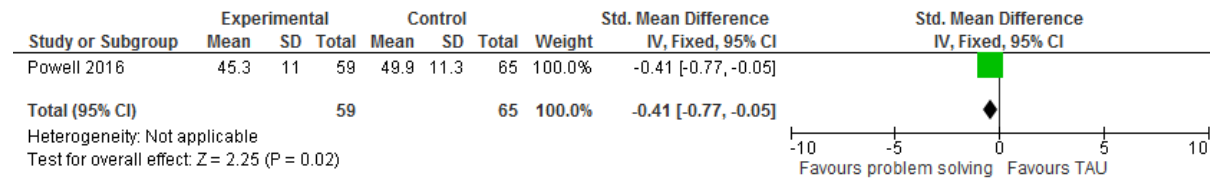
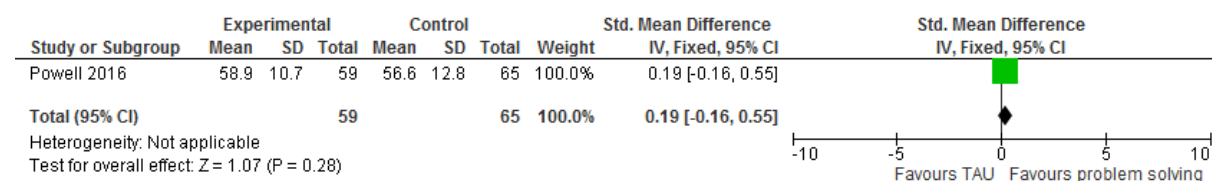


Figure 3: Problem solving versus TAU for caregivers of adults at risk of PTSD: Family member/carer quality of life at 6-week follow-up (BCOS)



Psychological: Self-help (without support)

Self-help (without support) versus attention-placebo for parents of children at risk of PTSD

Figure 4: Self-help (without support) versus attention-placebo for parents of children at risk of PTSD: Family member/carer mental health: Anxiety (STAI State change score)

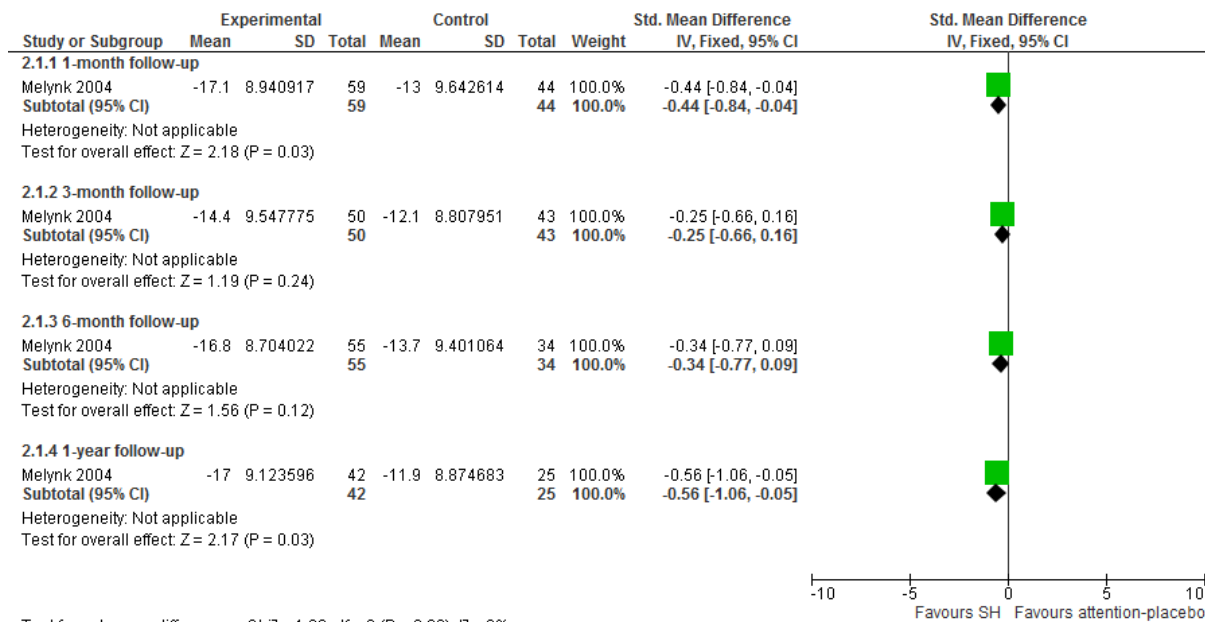
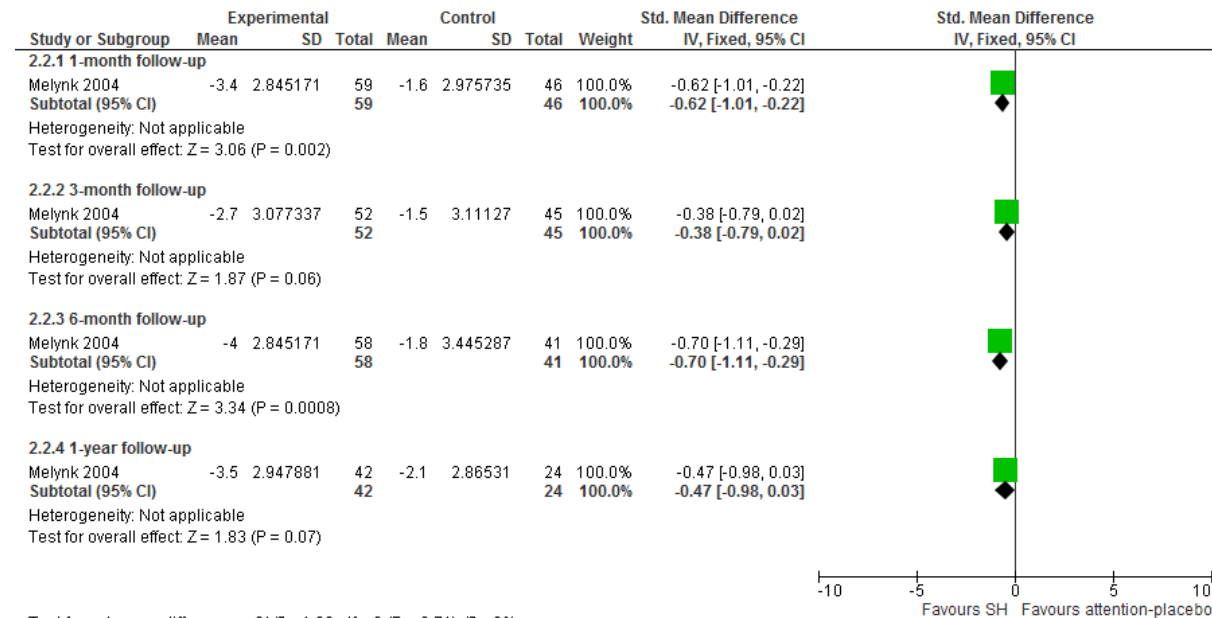


Figure 5: Self-help (without support) versus attention-placebo for parents of children at risk of PTSD: Family member/carer mental health: Depression (POMS change score)



Test for subgroup differences: Chi² = 1.36, df = 3 (P = 0.71), I² = 0%

Forest plots for “For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?”

Psychological: Trauma-focused CBT

Trauma-focused CBT (caregiver and child) versus supportive counselling (caregiver and child) for the support of parents of children with PTSD

Figure 6: Trauma-focused CBT (caregiver and child) versus supportive counselling (caregiver and child) for the support of parents of children with PTSD: Family member/carer depression (BDI-II change score)

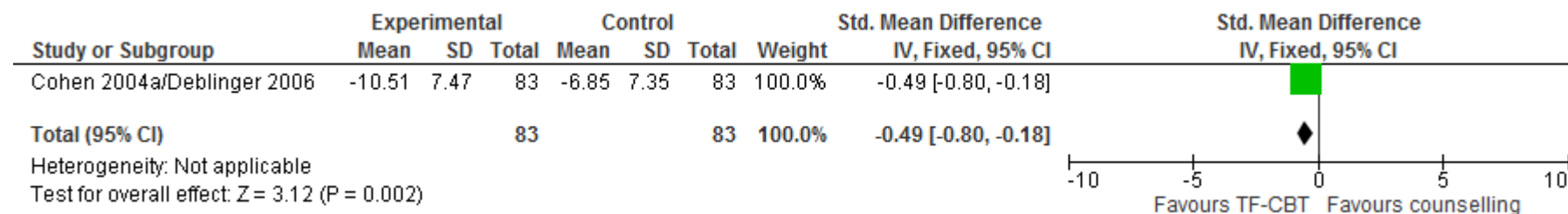
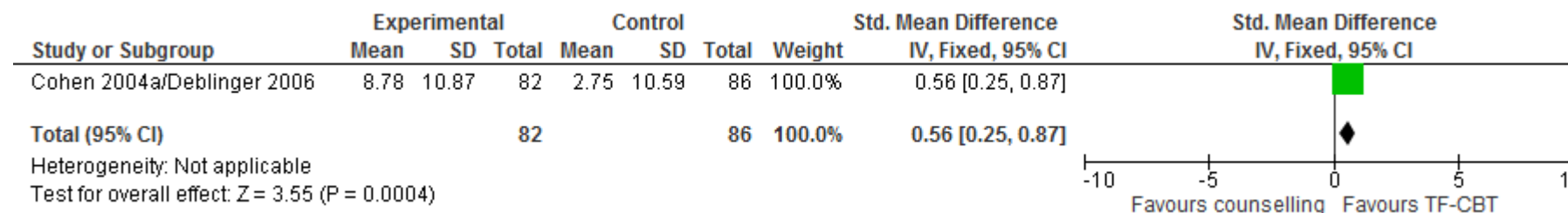


Figure 7: Trauma-focused CBT (caregiver and child) versus supportive counselling (caregiver and child) for the support of parents of children with PTSD: Relationship difficulties (parenting difficulties [PPQ] change score)



Psychological: Couples interventions

Cognitive behavioural conjoint therapy versus waitlist for the support of partners of adults with PTSD

Figure 8: Cognitive behavioural conjoint therapy versus waitlist for the support of partners of adults with PTSD: Partner depression symptoms (BDI-II change score)

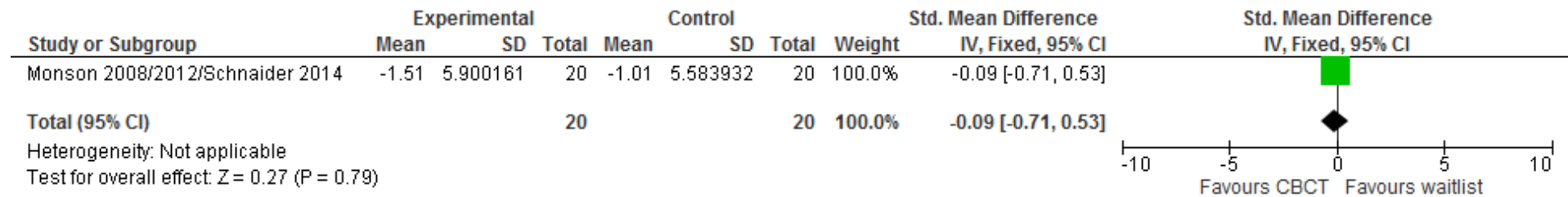


Figure 9: Cognitive behavioural conjoint therapy versus waitlist for the support of partners of adults with PTSD: Relationship difficulties response (number of participants showing improvement of at least 10 points on DAS)

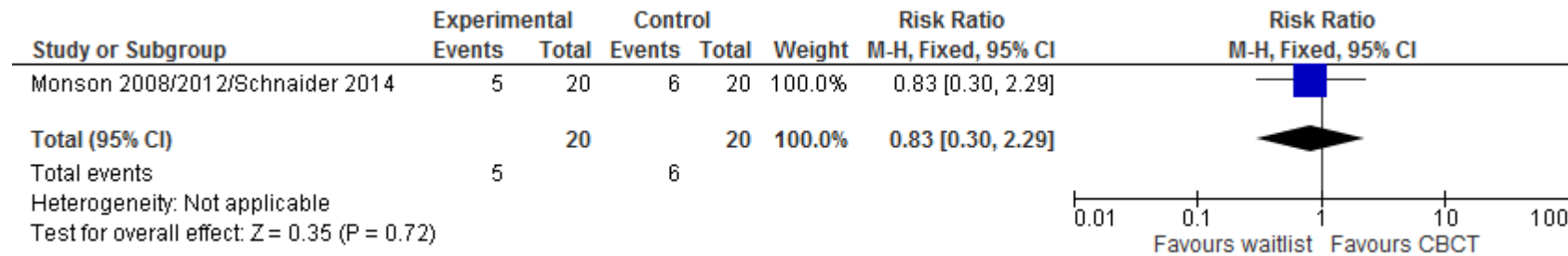


Figure 10: Cognitive behavioural conjoint therapy versus waitlist for the support of partners of adults with PTSD: Relationship difficulties remission (number of participants scoring ≥ 98 on DAS)

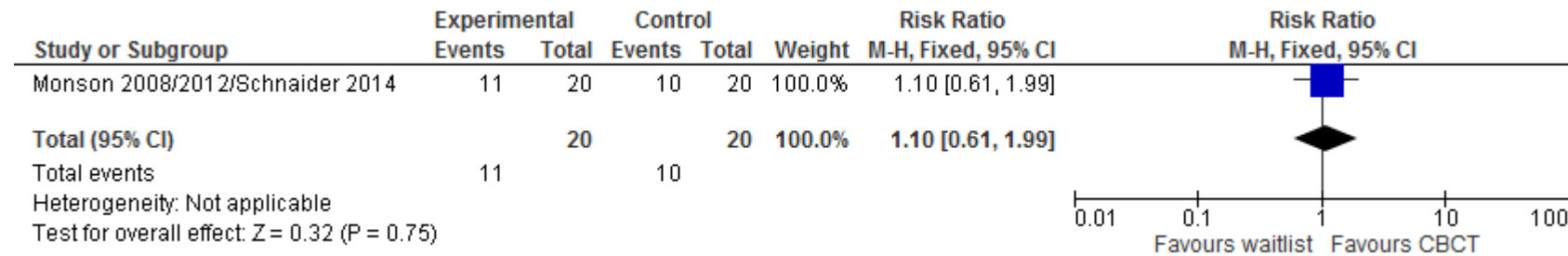
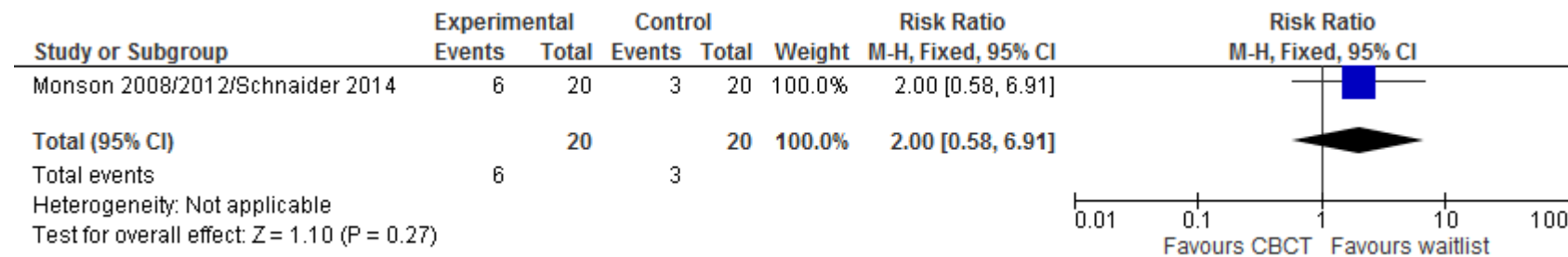


Figure 11: Cognitive behavioural conjoint therapy versus waitlist for the support of partners of adults with PTSD: Discontinuation (loss to follow-up)



Cognitive behavioural conjoint therapy versus psychoeducational sessions for the support of partners of adults with PTSD

Figure 12: Cognitive behavioural conjoint therapy versus psychoeducational sessions for the support of partners of adults with PTSD: Family member/carer anxiety (STAI-state change score)

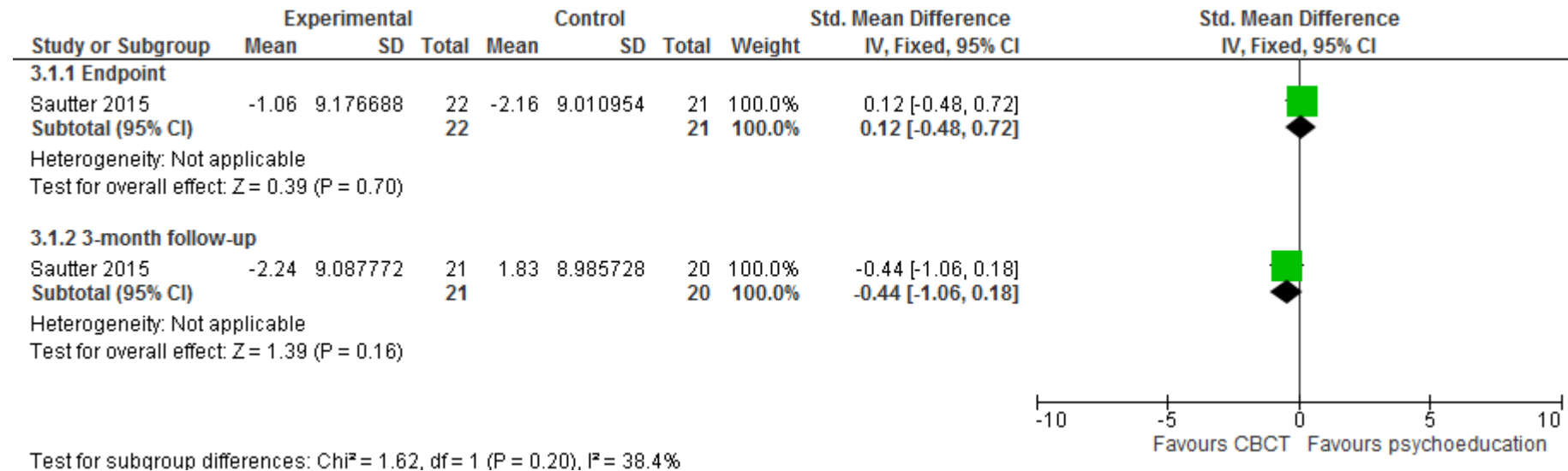


Figure 13: Cognitive behavioural conjoint therapy versus psychoeducational sessions for the support of partners of adults with PTSD: Family member/carer depression (CES-D change score)

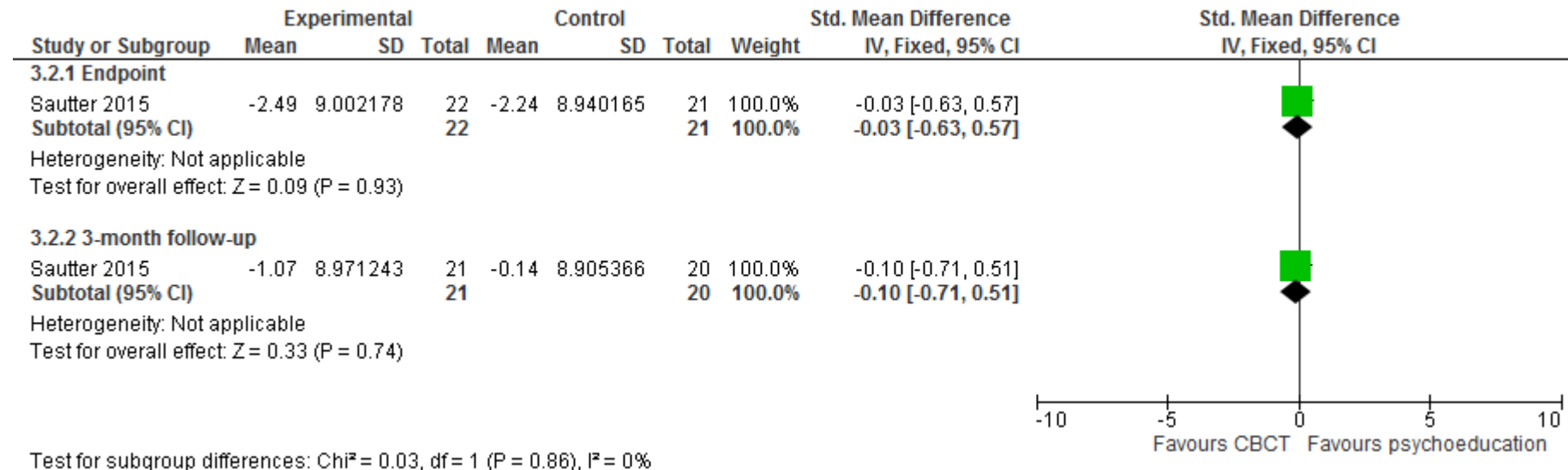


Figure 14: Cognitive behavioural conjoint therapy versus psychoeducational sessions for the support of partners of adults with PTSD: Relationship improvement (DAS change score)

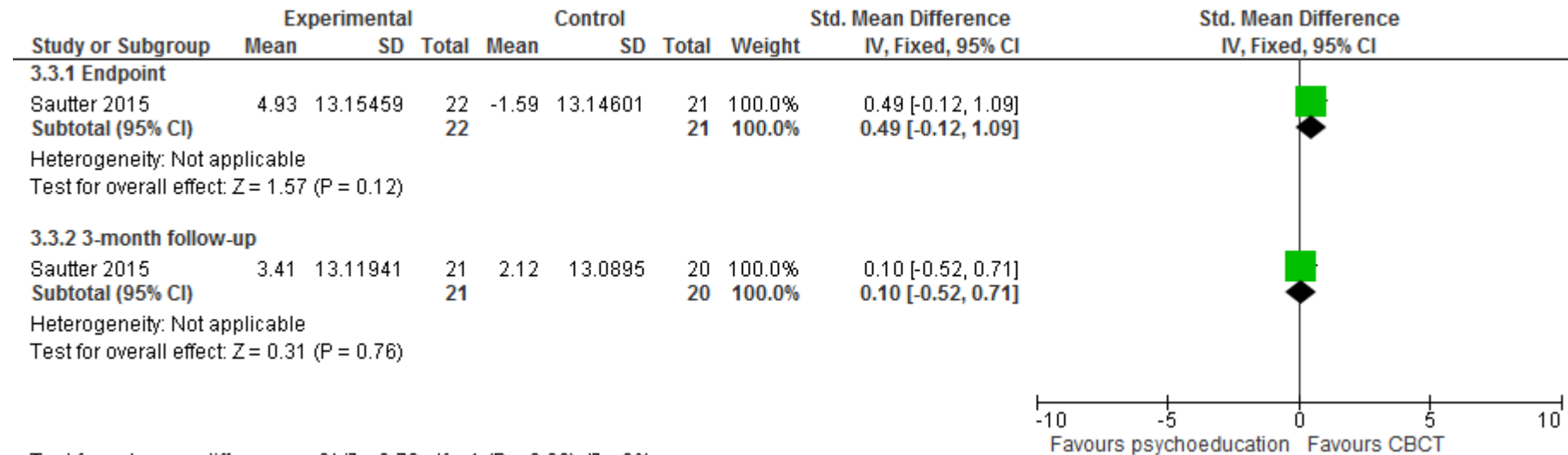


Figure 15: Cognitive behavioural conjoint therapy versus psychoeducational sessions for the support of partners of adults with PTSD: Discontinuation (loss to follow-up)



Self-help (without support) versus waitlist for the support of partners of adults with PTSD

Figure 16: Self-help (without support) versus waitlist for the support of partners of adults with PTSD: Family/carer mental health (BSI change score)

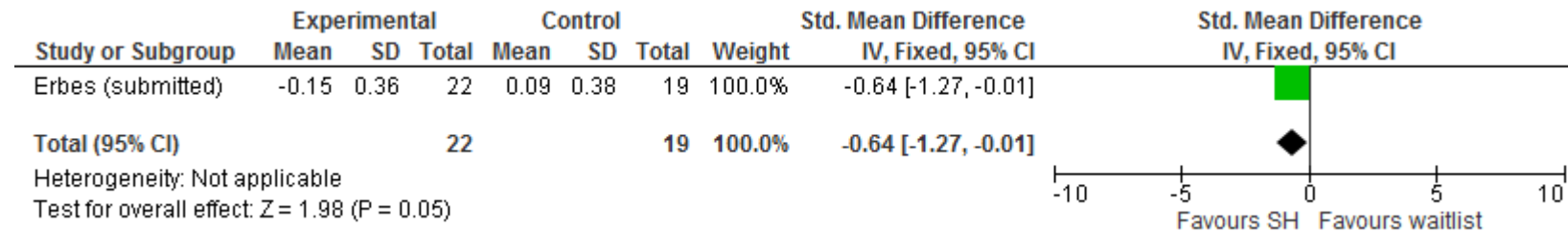
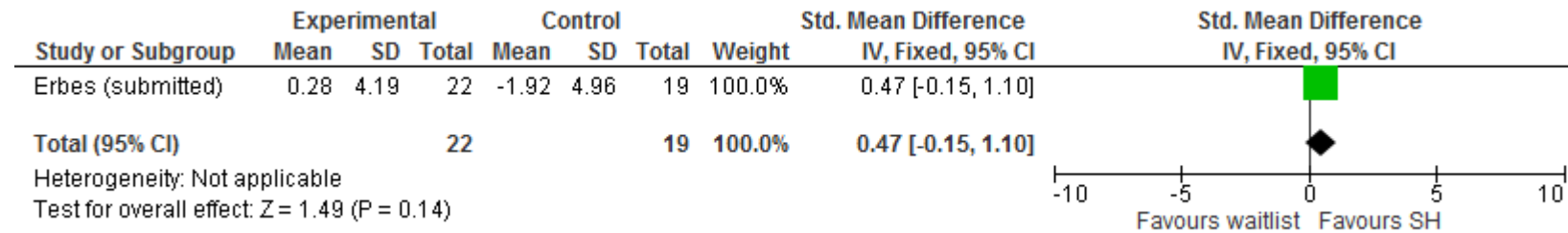


Figure 17: Self-help (without support) versus waitlist for the support of partners of adults with PTSD: Relationship satisfaction (DAS-7 change score)



Appendix F–GRADE tables

GRADE tables for “For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?”

Psychological: Problem solving

Problem solving versus TAU for caregivers of adults at risk of PTSD

| Quality assessment | | | | | | | No of patients | | Effect | | Quality | Importance |
|---|-------------------|----------------------|--------------------------|-------------------------|----------------------|----------------------|-----------------|-----|-------------------|---|---------|------------|
| No of studies | Design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Problem solving | TAU | Relative (95% CI) | Absolute | | |
| Family member/carer mental health at 6-week follow-up (follow-up mean 6 weeks; measured with: BSI global T-test score; Better indicated by lower values) | | | | | | | | | | | | |
| 1 | randomised trials | serious ¹ | no serious inconsistency | no serious indirectness | serious ² | none | 59 | 65 | - | SMD 0.41 lower (0.77 to 0.05 lower) | LOW | CRITICAL |
| Family member/carer quality of life at 6-week follow-up (follow-up mean 6 weeks; measured with: Bakas Caregiving Outcomes Scale (BCOS); Better indicated by higher values) | | | | | | | | | | | | |
| 1 | randomised trials | serious ¹ | no serious inconsistency | no serious indirectness | serious ³ | none | 59 | 65 | - | SMD 0.19 higher (0.16 lower to 0.55 higher) | LOW | CRITICAL |

¹ Risk of bias is high or unclear across multiple domains

² OIS not met (N<400)

³ 95% CI crosses both line of no effect and threshold for clinically important benefit

Psychological: Self-help (without support)

Self-help (without support) versus attention-placebo for parents of children at risk of PTSD

| Quality assessment | | | | | | | No of patients | | Effect | | Quality | Importance |
|---|--------|--------------|---------------|--------------|-------------|----------------------|-----------------------------|---------|-------------------|----------|---------|------------|
| No of studies | Design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Self-help (without support) | Control | Relative (95% CI) | Absolute | | |
| Family member/carer anxiety at 1-month follow-up (follow-up mean 1 months; measured with: STAI State change score; Better indicated by lower values) | | | | | | | | | | | | |

PTSD: evidence reviews for psychological and psychosocial interventions for family members of people at risk of PTSD FINAL (December 2018)

| Quality assessment | | | | | | | No of patients | | Effect | | Quality | Importance |
|---|-------------------|----------------------|--------------------------|-------------------------|----------------------|----------------------|-----------------------------|---------|-------------------|--|---------|------------|
| No of studies | Design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Self-help (without support) | Control | Relative (95% CI) | Absolute | | |
| 1 | randomised trials | serious ¹ | no serious inconsistency | no serious indirectness | serious ² | none | 59 | 44 | - | SMD 0.44 lower (0.84 to 0.04 lower) | LOW | CRITICAL |
| Family member/carer anxiety at 3-month follow-up (follow-up mean 3 months; measured with: STAI State change score; Better indicated by lower values) | | | | | | | | | | | | |
| 1 | randomised trials | serious ¹ | no serious inconsistency | no serious indirectness | serious ³ | none | 50 | 43 | - | SMD 0.25 lower (0.66 lower to 0.16 higher) | LOW | CRITICAL |
| Family member/carer anxiety at 6-month follow-up (follow-up mean 6 months; measured with: STAI State change score; Better indicated by lower values) | | | | | | | | | | | | |
| 1 | randomised trials | serious ¹ | no serious inconsistency | no serious indirectness | serious ³ | none | 55 | 34 | - | SMD 0.34 lower (0.77 lower to 0.09 higher) | LOW | CRITICAL |
| Family member/carer anxiety at 1-year follow-up (follow-up mean 12 months; measured with: STAI State change score; Better indicated by lower values) | | | | | | | | | | | | |
| 1 | randomised trials | serious ¹ | no serious inconsistency | no serious indirectness | serious ² | none | 42 | 25 | - | SMD 0.56 lower (1.06 to 0.05 lower) | LOW | CRITICAL |
| Family member/carer depression at 1-month follow-up (follow-up mean 1 months; measured with: POMS change score; Better indicated by lower values) | | | | | | | | | | | | |
| 1 | randomised trials | serious ¹ | no serious inconsistency | no serious indirectness | serious ² | none | 59 | 46 | - | SMD 0.62 lower (1.01 to 0.22 lower) | LOW | CRITICAL |
| Family member/carer depression at 3-month follow-up (follow-up mean 3 months; measured with: POMS change score; Better indicated by lower values) | | | | | | | | | | | | |
| 1 | randomised trials | serious ¹ | no serious inconsistency | no serious indirectness | serious ³ | none | 52 | 45 | - | SMD 0.38 lower (0.79 lower to 0.02 higher) | LOW | CRITICAL |
| Family member/carer depression at 6-month follow-up (follow-up mean 6 months; measured with: POMS change score; Better indicated by lower values) | | | | | | | | | | | | |
| 1 | randomised trials | serious ¹ | no serious inconsistency | no serious indirectness | serious ² | none | 58 | 41 | - | SMD 0.7 lower (1.11 to 0.29 lower) | LOW | CRITICAL |
| Family member/carer depression at 1-year follow-up (follow-up mean 12 months; measured with: POMS change score; Better indicated by lower values) | | | | | | | | | | | | |
| 1 | randomised trials | serious ¹ | no serious inconsistency | no serious indirectness | serious ³ | none | 42 | 24 | - | SMD 0.47 lower (0.98 lower to 0.03 higher) | LOW | CRITICAL |

¹ Risk of bias is high or unclear across multiple domains

² OIS not met (N<400)

³ 95% CI crosses both line of no effect and threshold for clinically important benefit

GRADE tables “For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?”

Psychological: Trauma-focused CBT

Trauma-focused CBT (caregiver and child) versus supportive counselling (caregiver and child) for the support of parents of children with PTSD

| Quality assessment | | | | | | | No of patients | | Effect | | Quality | Importance |
|---|-------------------|----------------------|--------------------------|-------------------------|----------------------|----------------------|--|--|-------------------|---------------------------------------|---------|------------|
| No of studies | Design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Trauma-focused CBT (caregiver and child) | Supportive counselling (caregiver and child) | Relative (95% CI) | Absolute | | |
| Family member/carer depression (follow-up mean 12 weeks; measured with: BDI-II change score; Better indicated by lower values) | | | | | | | | | | | | |
| 1 | randomised trials | serious ¹ | no serious inconsistency | no serious indirectness | serious ² | none | 83 | 83 | - | SMD 0.49 lower (0.8 to 0.18 lower) | LOW | CRITICAL |
| Parenting difficulties (follow-up mean 12 weeks; measured with: Parenting Practices Questionnaire (PPQ) change score; Better indicated by higher values) | | | | | | | | | | | | |
| 1 | randomised trials | serious ¹ | no serious inconsistency | no serious indirectness | serious ² | none | 82 | 86 | - | SMD 0.56 higher (0.25 to 0.87 higher) | LOW | IMPORTANT |

¹ Risk of bias is high or unclear across multiple domains

² OIS not met (N<400)

Psychological: Couples interventions

Cognitive behavioural conjoint therapy versus waitlist for the support of partners of adults with PTSD

| Quality assessment | | | | | | | No of patients | | Effect | | Quality | Importance |
|---|-------------------|---------------------------|--------------------------|-------------------------|---------------------------|----------------------|--|-------------|-----------------------|--|----------|------------|
| No of studies | Design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Cognitive behavioural conjoint therapy | Waitlist | Relative (95% CI) | Absolute | | |
| Partner depression symptoms (follow-up mean 12 weeks; measured with: BDI-II change score; Better indicated by lower values) | | | | | | | | | | | | |
| 1 | randomised trials | very serious ¹ | no serious inconsistency | no serious indirectness | very serious ² | none | 20 | 20 | - | SMD 0.09 lower (0.71 lower to 0.53 higher) | VERY LOW | CRITICAL |
| Relationship difficulties response (follow-up mean 12 weeks; assessed with: Number of participants showing improvement of at least 10 points on DAS) | | | | | | | | | | | | |
| 1 | randomised trials | very serious ¹ | no serious inconsistency | no serious indirectness | very serious ² | none | 5/20 (25%) | 6/20 (30%) | RR 0.83 (0.3 to 2.29) | 51 fewer per 1000 (from 210 fewer to 387 more) | VERY LOW | IMPORTANT |
| Relationship difficulties remission (follow-up mean 12 weeks; assessed with: Number of participants scoring ≥98 on DAS) | | | | | | | | | | | | |
| 1 | randomised trials | very serious ¹ | no serious inconsistency | no serious indirectness | very serious ² | none | 11/20 (55%) | 10/20 (50%) | RR 1.1 (0.61 to 1.99) | 50 more per 1000 (from 195 fewer to 495 more) | VERY LOW | IMPORTANT |
| Discontinuation (follow-up mean 12 weeks; assessed with: Number of participants lost to follow-up) | | | | | | | | | | | | |
| 1 | randomised trials | serious ¹ | no serious inconsistency | no serious indirectness | very serious ² | none | 6/20 (30%) | 3/20 (15%) | RR 2 (0.58 to 6.91) | 150 more per 1000 (from 63 fewer to 887 more) | VERY LOW | CRITICAL |

¹ Risk of bias is high or unclear across multiple domains

² 95% CI crosses line of no effect and thresholds for both clinically important benefit and harm

Cognitive behavioural conjoint therapy versus psychoeducational sessions for the support of partners of adults with PTSD

| Quality assessment | | | | | | | No of patients | | Effect | | Quality | Importance |
|--|--------|--------------|---------------|--------------|-------------|----------------------|--|----------------------------|-------------------|----------|---------|------------|
| No of studies | Design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Cognitive behavioural conjoint therapy | Psychoeducational sessions | Relative (95% CI) | Absolute | | |
| Family member/carer anxiety at endpoint (follow-up mean 12 weeks; measured with: STAI-state change score; Better indicated by lower values) | | | | | | | | | | | | |

| Quality assessment | | | | | | | No of patients | | Effect | | Quality | Importance |
|---|-------------------|---------------------------|--------------------------|-------------------------|---------------------------|----------------------|--|----------------------------|-------------------|---|----------|------------|
| No of studies | Design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Cognitive behavioural conjoint therapy | Psychoeducational sessions | Relative (95% CI) | Absolute | | |
| 1 | randomised trials | very serious ¹ | no serious inconsistency | no serious indirectness | serious ² | none | 22 | 21 | - | SMD 0.12 higher (0.48 lower to 0.72 higher) | VERY LOW | CRITICAL |
| Family member/carer anxiety at 3-month follow-up (follow-up mean 3 months; measured with: STAI-state change score; Better indicated by lower values) | | | | | | | | | | | | |
| 1 | randomised trials | very serious ¹ | no serious inconsistency | no serious indirectness | serious ³ | none | 21 | 20 | - | SMD 0.44 lower (1.06 lower to 0.18 higher) | VERY LOW | CRITICAL |
| Family member/carer depression at endpoint (follow-up mean 12 weeks; measured with: CES-D change score; Better indicated by lower values) | | | | | | | | | | | | |
| 1 | randomised trials | very serious ¹ | no serious inconsistency | no serious indirectness | very serious ⁴ | none | 22 | 21 | - | SMD 0.03 lower (0.63 lower to 0.57 higher) | VERY LOW | CRITICAL |
| Family member/carer depression at 3-month follow-up (follow-up mean 3 months; measured with: CES-D change score; Better indicated by lower values) | | | | | | | | | | | | |
| 1 | randomised trials | very serious ¹ | no serious inconsistency | no serious indirectness | very serious ⁴ | none | 21 | 20 | - | SMD 0.1 lower (0.71 lower to 0.51 higher) | VERY LOW | CRITICAL |
| Relationship improvement at endpoint (follow-up mean 12 weeks; measured with: DAS change score; Better indicated by higher values) | | | | | | | | | | | | |
| 1 | randomised trials | very serious ¹ | no serious inconsistency | no serious indirectness | serious ³ | none | 22 | 21 | - | SMD 0.49 higher (0.12 lower to | VERY LOW | IMPORTANT |

| Quality assessment | | | | | | | No of patients | | Effect | | Quality | Importance |
|--|-------------------|---------------------------|--------------------------|-------------------------|---------------------------|----------------------|--|----------------------------|-----------------------|---|----------|------------|
| No of studies | Design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Cognitive behavioural conjoint therapy | Psychoeducational sessions | Relative (95% CI) | Absolute | | |
| | | | | | | | | | | 1.09 higher) | | |
| Relationship improvement at 3-month follow-up (follow-up mean 3 months; measured with: DAS change score; Better indicated by higher values) | | | | | | | | | | | | |
| 1 | randomised trials | very serious ¹ | no serious inconsistency | no serious indirectness | very serious ⁴ | none | 21 | 20 | - | SMD 0.1 higher (0.52 lower to 0.71 higher) | VERY LOW | IMPORTANT |
| Discontinuation (follow-up mean 12 weeks; assessed with: Number of participants lost to follow-up) | | | | | | | | | | | | |
| 1 | randomised trials | serious ¹ | no serious inconsistency | no serious indirectness | very serious ⁴ | none | 7/29 (24.1%) | 7/28 (25%) | RR 0.97 (0.39 to 2.4) | 7 fewer per 1000 (from 153 fewer to 350 more) | VERY LOW | CRITICAL |

¹ Risk of bias is high or unclear across multiple domains

² 95% CI crosses both line of no effect and threshold for clinically important harm

³ 95% CI crosses both line of no effect and threshold for clinically important benefit

⁴ 95% CI crosses line of no effect and thresholds for both clinically important benefit and harm

Psychological: Self-help (without support)

Self-help (without support) versus waitlist for the support of partners of adults with PTSD

| Quality assessment | | | | | | | No of patients | | Effect | | Quality | Importance |
|---|-------------------|----------------------|--------------------------|-------------------------|----------------------|----------------------|-----------------------------|----------|-------------------|--|---------|------------|
| No of studies | Design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Self-help (without support) | Waitlist | Relative (95% CI) | Absolute | | |
| Family/carer mental health (follow-up mean 5 weeks; measured with: BSI change score; Better indicated by lower values) | | | | | | | | | | | | |
| 1 | randomised trials | serious ¹ | no serious inconsistency | no serious indirectness | serious ² | none | 22 | 19 | - | SMD 0.64 lower (1.27 to 0.01 lower) | LOW | CRITICAL |
| Relationship satisfaction (follow-up mean 5 weeks; measured with: DAS-7 change score; Better indicated by higher values) | | | | | | | | | | | | |
| 1 | randomised trials | serious ¹ | no serious inconsistency | no serious indirectness | serious ³ | none | 22 | 19 | - | SMD 0.47 higher (0.15 lower to 1.1 higher) | LOW | IMPORTANT |

¹ Risk of bias was high or unclear across multiple domains

² OIS not met (N<400)

³ 95% CI crosses both line of no effect and threshold for clinically important benefit

Appendix G – Health economic evidence study selection

Health economic evidence study selection for “For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?” and “For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?”

A global health economics search was undertaken for all areas covered in the guideline. The flow diagram of economic article selection across all reviews is provided in Appendix A of Supplementary Material – Methods Chapter’.

Appendix H – Health economic evidence tables

Health economic evidence tables for “For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?” and “For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?”

No health economic evidence was identified for these reviews.

Appendix I – Health economic evidence profiles

Health economic evidence profiles for “For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?” and “For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?”

No health economic evidence was identified for these reviews and no economic analysis was undertaken.

Appendix J – Health economic analysis

Health economic analysis for “For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?” and “For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?”

No health economic analysis was conducted for these reviews.

Appendix K – Excluded studies

Clinical studies

Excluded studies for “For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?”

Psychological: Parent training/Family therapy

| Study ID | Search | Reason for exclusion | Ref 1 | Ref 2 |
|--------------|------------|-------------------------------|--|-------|
| Swenson 2010 | Handsearch | Intervention outside protocol | Swenson CC, Schaeffer CM, Henggeler SW, Faldowski R, Mayhew AM. Multisystemic Therapy for Child Abuse and Neglect: a randomized effectiveness trial. Journal of Family Psychology. 2010 Aug;24(4):497. | |

Excluded studies for “For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?”

Psychological: Self-help (without support)

| Study ID | Search | Reason for exclusion | Ref 1 | Ref 2 |
|---------------|--|------------------------------|---|-------|
| Interian 2016 | RQ 1.1-1.2 & 2.1-2.2 (searches combined) | Outcomes are not of interest | Interian, A., Kline, A., Perlick, D., Dixon, L., Feder, A., Weiner, M. D., Goldstein, M. F., Hennessy, K., Hill, L. S., Losonczy, M. (2016) Randomized controlled trial of a brief Internet-based intervention for families of Veterans with posttraumatic stress disorder, Journal of Rehabilitation Research and Development, 53, 629-640 | |

Psychosocial: Psychoeducation and supportive intervention

| Study ID | Search | Reason for exclusion | Ref 1 | Ref 2 |
|------------|--|------------------------|--|-------|
| Sones 2015 | RQ 1.1-1.2 & 2.1-2.2 (searches combined) | Sample size (N<10/arm) | Sones, H., Madsen, J., Jakupcak, M., Thorp, S. (2015) Evaluation of an educational group therapy program for female partners of veterans | |

| Study ID | Search | Reason for exclusion | Ref 1 | Ref 2 |
|----------|--------|----------------------|---|-------|
| | | | diagnosed with PTSD: A pilot study, Couple and Family Psychology: Research and Practice, 4, 150-160 | |

Psychosocial: Practical support

| Study ID | Search | Reason for exclusion | Ref 1 | Ref 2 |
|-------------|--|---|---|-------|
| Kynoch 2016 | RQ 1.1-1.2 & 2.1-2.2 (searches combined) | Systematic review with no new useable data and any meta-analysis results not appropriate to extract | Kynoch, K., Anne, C., Fiona, C., Annie, M. (2016) The effectiveness of interventions to meet family needs of critically ill patients in an adult intensive care unit: A systematic review update, JBI Database of Systematic Reviews and Implementation Reports, 14, 3, 179-232 | |

Appendix L – Research recommendations

Research recommendations for “For family members (including children and carers) of people at risk of PTSD, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?” and “For family members (including children and carers) of people with clinically important post-traumatic stress symptoms, do specific psychological, psychosocial or other non-pharmacological interventions result in an improvement in their mental health and wellbeing, a reduction in burden and improved social and occupational outcomes?”

No research recommendations for this review question.