**Supplementary materials**

1. PRISMA-P
2. Search strings
3. PICOS table: overview of methods used in 2020 Cochrane review and this review
4. List of all included papers
5. Risk of bias in individual studies
6. **PRISMA-P**

|  |  |  |  |
| --- | --- | --- | --- |
| **Section/topic**  | **#** | **Checklist item**  | **Reported on page #**  |
| **TITLE**  |  |
| Title  | 1 | Identify the report as a systematic review, meta-analysis, or both.  | 1 |
| **ABSTRACT**  |  |
| Structured summary  | 2 | Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.  | 3 |
| **INTRODUCTION**  |  |
| Rationale  | 3 | Describe the rationale for the review in the context of what is already known.  | 4 |
| Objectives  | 4 | Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).  | 4 f. |
| **METHODS**  |  |
| Protocol and registration  | 5 | Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.  | 4 |
| Eligibility criteria  | 6 | Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.  | 4 f., suppl. materials, p. 9 |
| Information sources  | 7 | Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.  | 5 |
| Search  | 8 | Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.  | suppl. materials, p. 5-8 |
| Study selection  | 9 | State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).  | 5 |
| Data collection process  | 10 | Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.  | 5 f. |
| Data items  | 11 | List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.  | 5 |
| Risk of bias in individual studies  | 12 | Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.  | 5 f. |
| Summary measures  | 13 | State the principal summary measures (e.g., risk ratio, difference in means).  | 6 |
| Synthesis of results  | 14 | Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I2) for each meta-analysis.  | 6 |

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|  |  |  |  |
| --- | --- | --- | --- |
| **Section/topic**  | **#** | **Checklist item**  | **Reported on page #**  |
| Risk of bias across studies  | 15 | Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).  | 6 |
| Additional analyses  | 16 | Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.  | 6 |
| **RESULTS**  |  |
| Study selection  | 17 | Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.  | 6, Fig. 1 |
| Study characteristics  | 18 | For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.  | 6 f., Tab. 1 |
| Risk of bias within studies  | 19 | Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).  | 8, Fig. 2, suppl. materials p. 13 |
| Results of individual studies  | 20 | For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.  | individual study results not included because of high number of effect estimates, forest plots available upon request  |
| Synthesis of results  | 21 | Present results of each meta-analysis done, including confidence intervals and measures of consistency.  | 8-10, Tab. 2 |
| Risk of bias across studies  | 22 | Present results of any assessment of risk of bias across studies (see Item 15).  | 11, Tab. 3 |
| Additional analysis  | 23 | Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).  | 11, Fig. 3 |
| **DISCUSSION**  |  |
| Summary of evidence  | 24 | Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).  | 11 |
| Limitations  | 25 | Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).  | 11-13 |
| Conclusions  | 26 | Provide a general interpretation of the results in the context of other evidence, and implications for future research.  | 13 f. |
| **FUNDING**  |  |
| Funding  | 27 | Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.  | 15 |

*From:*  Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit: **www.prisma-statement.org**.

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**2. Search strings**

**Cochrane Central Register of Controlled Trials, in the Cochrane Library**

#1 MeSH descriptor: [Borderline Personality Disorder] explode all trees

#2 borderline next state\*

#3 borderline next personalit\*

#4 "axis II" or "cluster B"

#5 idealization next devaluation

#6 (vulnerable or hyperbolic) next temper\*

#7 (((unstab\* or instab\* or poor or disturb\* or fail\* or weak\* or dysregulat\*) next (self\* or impuls\* or interperson\* or identit\* or relation\* or

emotion\* or a\_ect\*)) and (person\* or character or PD))

#8 impulsiv\* near personalit\*

#9 (self next (injur\* or damag\* or destruct\* or harm\* or hurt\* or mutilat\*))

#10 suicidal next behavio?r

#11 (feel\* next (empt\* or bored\*))

#12 (anger next control\*)

#13 (risk-taking next (behavior or behaviour))

#14 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13

**Medline\_Ovid**

1 Borderline Personality Disorder/

2 ((borderline or border-line) adj3 (state\* or personalit\*)).kf,tw.

3 ("Axis II" or "Cluster B" or flamboyant or "F60.3" or "F60.30" or "F60.31").kf,tw.

4 (idealization adj5 devaluation).kf,tw.

5 ((vulnerable or hyperbolic) adj3 temperament).kf,tw.

6 (((unstab\* or instab\* or poor or disturb\* or fail\* or weak or dysregulat\*) adj3 (self\* or impuls\* or interperson\* or identit\* or relationship\*

or emotion\* or a\_ect\*)) and (personality or character or PD)).kf,tw.

7 (impulsiv\* adj5 (behavio?r or character or personalit\*)).kf,tw.

8 (self adj3 (injur\* or damag\* or destruct\* or harm\* or hurt\* or mutilat\*)).kf,tw.

9 (suicidal adj3 behavio?r).kf,tw.

10 (feel\* adj3 (empt\* or bored\*)).kf,tw.

11 (anger adj5 control\*).kf,tw.

12 (risk-taking adj3 behavio?r).kf,tw.

13 or/1-12

14 randomised controlled trial.pt.

15 controlled clinical trial.pt.

16 randomi#ed.ab.

17 placebo.ab.

18 randomly.ab.

19 trial.ab.

20 groups.ab.

21 drug therapy.fs.

22 or/14-21

23 exp Animals/ not Humans/

24 22 not 23

25 13 and 24

**Embase Ovid**

1 borderline state/

2 ((borderline or border-line) adj3 (personalit\* or state\*)).kw,tw.

3 ("Axis II" or "Cluster B" or flamboyant or "F60.3" or "F60.30" or "F60.31").kw,tw.)

4 (idealization adj5 devaluation).kw,tw.

5 ((vulnerable or hyberbolic) adj3 temperament).kw,tw.

6 (((unstab\* or instab\* or poor or disturb\* or fail\* or weak or dysregulat\*) adj3 (self\* or impuls\* or interperson\* or identit\* or relationship\*

or emotion\* or a\_ect\*)) and (personality or character or PD)).kw,tw.

7 (impulsiv\* adj5 (behavio?r or character or personalit\*)).kw,tw.

8 (self adj3 (injur\* or damag\* or destruct\* or harm\* or hurt\* or mutilat\*)).kw,tw.

9 (suicidal adj3 (behavior or behaviour)).kw,tw.

10 (feel\* adj3 (empt\* or bored\*)).kw,tw.

11 "anger adj5 control\*".kw,tw.

12 (risk-taking adj3 (behavior or behaviour)).kw,tw.

13 or/1-12

14 randomised controlled trial/

15 double blind procedure/

16 crossover procedure/

17 single blind procedure/

18 (random\* or factorial\* or crossover\* or cross-over\* or placebo\* or double-blind\* or doubleblind\* or single-blind\* or singleblind\* or

assign\* or allocat\* or volunteer\*).ab,pt,sh,de,ti.

19 or/14-18

20 13 and 19

**CINAHL EBSCOhost\_(Cumulative Index to Nursing and Allied Health Literature**

S1 (MH "Borderline Personality Disorder")

S2 TX borderline N3 (state\* or personalit\*)

S3 TX "Axis II" OR "Cluster B"

S4 TX idealization N3 devaluation

S5 TX ((vulnerable OR hyperbolic) N3 temperament)

S6 TX (((unstab\* or instab\* or poor or disturb\* or fail\* or weak or dysregulat\*) N3 (self or impuls\* or interperson\* or identit\* or relationship\*

or emotion\* or a\_ect\*)) AND (person\* or character or PD))

S7 TX (impulsiv\* N3 (behavio?r OR character or personalit\*))

S8 TX (feel\* N3 (empt\* OR bored\*))

S9 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8

S10 (MH "randomised Controlled Trials") OR (MH "Random Assignment") OR (MH "Random Sample+")

S11 TX random\* N4 (trial\* OR study OR studies)

S12 TX random\* N4 (allocat\* OR allot\* OR assign\* OR basis OR divid\* OR order)

S13 AB placebo\*

S14 AB trial

S15 (MH "Drug Therapy+")

S16 S10 OR S11 OR S12 OR S13 OR S14 OR S15

S17 S9 AND S16

**PsycINFO Ovid**

1 exp Borderline Personality Disorder/

2 borderline adj3 (personalit\* or state\*).id,ti,ab.

3 ("Axis II" or "Cluster B").id,ti,ab.

4 (idealization adj5 devaluation).ab,id,ti.

5 ((vulnerable or hyperbolic) adj3 temperament).id,ab,ti.

6 (((unstab\* or instab\* or poor or disturb\* or fail\* or weak or dysregulat\*) adj3 (self\* or impuls\* or interperson\* or identit\* or relationship\*

or emotion\* or a\_ect\*)) and (personality or character or PD)).id,ab,ti.

7 (impulsiv\* adj5 (behavio?r or character or personalit\*)).id,ab,ti.

8 (self adj3 (injur\* or damag\* or destruct\* or harm\* or hurt\* or mutilat\*)).id,ab,ti.

9 (suicidal adj3 behavio?r).id,ab,ti.

10 (feel\* adj3 (empt\* or bored\*)).ab,id,ti.

11 "anger adj5 control\*".ab,id,ti.

12 (risk-taking adj3 behavio?r).id,ab,ti.

13 or/1-12

14 exp Clinical Trials/ (

15 (random\* adj allocat\*).ab.

16 randomi?ed.ab.

17 placebo.ab.

18 randomly.ab.

19 trial.ab.

20 groups.ab.

21 drug therapy.sh.

22 exp Animals/ not Humans/

23 or/14-21

24 23 not 22

25 13 and 24

**ERIC EBSCOhost (Education Resources Information Center)**

S23 S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22

S22 TX risk-taking N5 behaviour

S21 TX anger N5 control\*

S20 TX feel\* N3 (empt\* or bored\*)

S19 TX suicidal N3 behavior

S18 TX ( (unstab\* or instab\* or poor or disturb\* or fail\* or weak or dysregulat\*) N3 TX (self or impuls\* or interperson\* or identit\* or

relationship\* or emotion\* or a\_ect\*)) AND TX (personality OR character OR PD)

S17 AB (self AND (injur\* or damag\* or destruct\* or harm or hurt\* or mutilat\*))

S16 AB impulsivity

S15 TI impulsivity

S14 TX impulsiv\* N3 person\*

S13 TX "Axis II" OR "Cluster B"

S12 TX borderline N3 state

S11 TX borderline personality

S10 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9

S9 AB drug

S8 AB trial

S7 AB randomly

S6 AB placebo

S5 AB randomi?ed

S4 AB controlled clinical trial\*

S3 SU controlled clinical trial

S2 TX controlled clinical trial

S1 DE "randomised Controlled Trials"

**BIOSIS Previews Web of Science Clarivate Analytics**

#1 TOPIC: (borderline personality disorder)

#2 TOPIC: ((borderline NEAR/3 (state))

#3 TOPIC: ((borderline NEAR/3 personalit\*))

#4 TOPIC: (("Axis II" OR "Cluster B"))

#5 TOPIC: (idealization NEAR/5 devaluation)

#6 TOPIC: ((vulnerable OR hyperbolic) NEAR/3 temperament\*)

#7 TOPIC: (impulsiv\* NEAR/5 personalit\*)

#8 TOPIC: ((self NEAR/3 (injur\* OR damag\* OR destruct\* OR harm\* OR hurt\* OR mutilat\*)))

#9 TOPIC: ((((unstab\* OR instab\* OR poor OR disturb\* OR fail\* OR weak OR dysregulat\*) NEAR/3 (self\* OR impuls\* OR interperson\* OR identit\* OR relationship\* OR emotion\* OR a\_ect\*)) AND (personality OR character OR PD)))

#10 TOPIC: (suicidal NEAR/3 behavio?r)

#11 TOPIC: (((feel\* NEAR/3 (empt\* OR bored\*))))

#12 TOPIC: ((anger NEAR/5 control\*))

#13 TOPIC: (risk-taking NEAR/3 behavio?r)

#14 #13 OR #12 OR #11 OR #10 OR #9 OR #8 OR #7 OR #6 OR #5 OR #4 OR #3 OR #2 OR #1

#15 TOPIC: (controlled clinical trial)

#16 TOPIC: (randomised controlled trial)

#17 #16 OR #15

#18 #17 AND #14

**Web of Science Core Collection Clarivate Analytics**

#18 #17 AND #14

#17 #16 OR #15

#16 TOPIC: (controlled clinical trial)

#15 TOPIC: (randomised controlled trial)

#14 #13 OR #12 OR #11 OR #10 OR #9 OR #8 OR #7 OR #6 OR #5 OR #4 OR #3 OR #2 OR #1

#13 TITLE: ((risk-taking NEAR/3 behavio?r))

#12 TOPIC: ((risk-taking NEAR/3 behavio?r))

#11 TITLE: ((anger NEAR/5 control\*))

#10 TOPIC: ((feel\* NEAR/3 (empt\* OR bored\*)))

#9 TITLE: ((feel\* NEAR/3 (empt\* OR bored\*)))

#8 TITLE: (suicidal NEAR/3 behavio?r)

#7 TITLE: (impulsivity)

#6 TOPIC: ((((unstab\* OR instab\* OR poor OR disturb\* OR fail\* OR weak OR dysregulat\*) NEAR/3 (self\* OR impuls\* OR interperson\* OR

identit\* OR relationship\* OR emotion\* OR a\_ect\*)) AND (personality OR character OR PD)))

#5 TOPIC: ((vulnerable or hyperbolic) NEAR/3 temperament)

#4 TOPIC: ((idealization NEAR/5 devaluation))

#3 TOPIC: ("axis II" OR "Cluster B")

#2 TOPIC: (borderline NEAR/3 state)

#1 TOPIC: (borderline personality disorder)

**Sociological Abstracts ProQuest**

(((randomised controlled trial) OR (controlled clinical trial) OR SU.exact("CLINICAL TRIALS")) OR AB(randomi?ed) OR AB(randomly) OR AB(placebo) OR AB(trial)) AND\_ ((borderline personality) OR "axis II" OR "Cluster B" OR (idealization AND devaluation) OR ((vulnerable OR hyperbolic) AND temperament) OR (((unstab\* OR instab\* or poor or disturb\* or fail\* or weak or dysregulat\*) AND (self\* or impuls\* or interperson\* or identit\* or relationship\* or emotion\* or a\_ect\*)) AND (personality OR character OR PD)) OR (self AND (injur\* OR damag\* OR destruct\* OR harm OR hurt\* OR mutilat\*)) OR "suicidal behavio?r" OR\_"self destructive behavio?r" OR (feel\* AND (empt\* OR bored\*)))

**LILACS (Latin American and Caribbean Health Science Information Database)**

“Borderline personality disorder”, limits: Controlled clinical study

**ProQuest Dissertations A&I**

(SU(borderline personality disorder) OR\_AB("Axis II") OR\_AB("Cluster B")) AND\_ (("randomised controlled study" OR\_ "controlled clinical study") OR AB(randomi?ed) OR\_AB(placebo) OR AB(randomly))

**OpenGrey:**

“Borderline personality disorder”

**NDLTD**

“Borderline personality disorder”

**DART Europe E-theses portal**

“Borderline personality disorder”

**ANZCTR**

“Borderline personality disorder”

**ClinicalTrials.gov**

“Borderline personality disorder”

**ISRCTN**

“Borderline personality disorder”

**WHO ICTRP:**

“Borderline personality disorder”

**UK Clinical Trials Gateway**

“Borderline personality disorder”

**EU Clinical Trials Register**

“Borderline personality disorder”

**Library HubDiscover (previously COPAC)**

“Borderline personality disorder”

**3. PICOS table: overview of methods used in the 2012 and 2020 Cochrane reviews**

|  |  |  |
| --- | --- | --- |
|  | **this review** | **2020 Cochrane review**1,2 |
| **participants** | adults | adolescents, adults |
| **interventions** | any psychotherapeutic interventions for which evidence is available from at least 2 eligible RCTs  | any psychotherapeutic interventions |
|  | specific treatments (e.g., DBT, DBT-A, DBT-PTSD, DBT skills group only) regarded as separate treatments | broader categories (e.g., DBT and DBT adaptations in same analysis) |
| **comparators** | any kind of unspecific controls in same analysis | separate analyses for TAU and no treatment/WL |
| **outcomes** | post-treatment | post-treatment, follow-up |
|  | primary: BPD severity, self-harm, suicidality, psychosocial functioning; seconary: remaining BPD symptoms, depression, attrition | primary: BPD severity, self-harm, suicidality, psychosocial functioning; secondary: remaining BPD symptoms, depression, attrition, adverse effects |
| **search period** | same as Cochrane review, updated October 2020; update of PubMed and CENTRAL in February 2021 | comprehensive bibliographic searches up to March 2019 |

1 Storebø, Ole Jakob, Jutta M. Stoffers-Winterling, Birgit A. Völlm, Mickey T. Kongerslev, Jessica T. Mattivi, *et al*. Psychological Therapies for People with Borderline Personality Disorder. *Cochrane Database Syst Rev* 2020; **5**: CD012955

2 Storebø, Ole Jakob, Jutta M. Stoffers‐Winterling, Birgit A. Völlm, Mickey T. Kongerslev, Jessica T. Mattivi et al. Psychological Therapies for People with Borderline Personality Disorder. Cochrane Database Syst Rev 2018; 2: CD012955

**4. List of included primary studies**

1 Bateman A, Fonagy P. Effectiveness of partial hospitalization in the treatment of borderline personality disorder: A randomized controlled trial. *Am J Psychiatry* 1999; **156**: 1563–9.

2 Bateman A, Fonagy P. Randomized controlled trial of outpatient mentalization-based treatment versus structured clinical management for borderline personality disorder. *Am J Psychiatry* 2009; **166**: 1355–64.

3 Bellino S, Rinaldi C, Bogetto F. Adaptation of interpersonal psychotherapy to borderline personality disorder: a comparison of combined therapy and single pharmacotherapy. *Can J Psychiatry - Rev Can Psychiatr* 2010; **55**: 74–81.

4 Blum N. Systems Training for Emotional Predictability and Problem Solving (STEPPS) for outpatients with borderline personality disorder: A randomized controlled trial and 1-year follow-up (American Journal of Psychiatry (2008) 165 (468-478) DOI: 10.1176/appi.ajp.2007.07071079). *Am J Psychiatry* 2008; **165**: 777.

5 Bos EH, van Wel EB, Appelo MT, Verbraak MJPM. A randomized controlled trial of a Dutch version of systems training for emotional predictability and problem solving for borderline personality disorder. *J Nerv Ment Dis* 2010; **198**: 299–304.

6 Carter G, Willcox C, Lewin T, Conrad A, Bendit N. Hunter DBT project: randomized controlled trial of dialectical behaviour therapy in women with borderline personality disorder. *Aust N Z J Psychiatry* 2010; **44**: 162–73.

7 Davidson K, Norrie J, Tyrer P, Gumley A, Tata P, Murray H, *et al.* The effectiveness of cognitive behavior therapy for borderline personality disorder: Results from the borderline personality disorder study of cognitive therapy (BOSCOT) trial. *J Personal Disord* 2006; **20**: 450–65.

8 Gratz KL, Gunderson JG. Preliminary Data on an Acceptance-Based Emotion Regulation Group Intervention for Deliberate Self-Harm Among Women With Borderline Personality Disorder. *Behav Ther* 2006; **37**: 25–35.

9 Gregory RJ, Chlebowski S, Kang D, Remen AL, Soderberg MG, Stepkovitch J, *et al.* A controlled trial of psychodynamic psychotherapy for co-occurring borderline personality disorder and alcohol use disorder. *Psychotherapy* 2008; **45**: 28–41.

10 Koons CR, Robins CJ, Tweed JL, Lynch TR, Gonzalez AM, Morse JQ, *et al.* Efficacy of dialectical behavior therapy in women veterans with borderline personality disorder. *Behav Ther* 2001; **32**: 371–90.

11 Linehan MM, Armstrong HE, Suarez A, Allmon D, Heard HL. Cognitive-behavioral treatment of chronically parasuicidal borderline patients. *Arch Gen Psychiatry* 1991; **48**: 1060–4.

12 Linehan MM, Tutek DA, Heard HL, Armstrong HE. Interpersonal outcome of cognitive behavioral treatment for chronically suicidal borderline patients. *Am J Psychiatry* 1994; **151**: 1771–6.

13 Linehan MM, Comtois KA, Murray AM, Brown MZ, Gallop RJ, Heard HL, *et al.* Two-year randomized controlled trial and follow-up of dialectical behavior therapy vs therapy by experts for suicidal behaviors and borderline personality disorder. *Arch Gen Psychiatry* 2006; **63**: 757–66.

14 Soler J, Pascual JC, Tiana T, Cebria A, Barrachina J, Campins MJ, *et al.* Dialectical behaviour therapy skills training compared to standard group therapy in borderline personality disorder: A 3-month randomised controlled clinical trial. *Behav Res Ther* 2009; **47**: 353–8.

15 Van Den Bosch LMC, Koeter MWJ, Stijnen T, Verheul R, Van Den Brink W. Sustained efficacy of dialectical behaviour therapy for borderline personality disorder. *Behav Res Ther* 2005; **43**: 1231–41.

16 Weinberg I, Gunderson JG, Hennen J, Cutter Jr CJ. Manual assisted cognitive treatment for deliberate self-harm in borderline personality disorder patients. *J Personal Disord* 2006; **20**: 482–92.

17 Zanarini MC, Frankenburg FR. A preliminary, randomized trial of psychoeducation for women with borderline personality disorder. *J Personal Disord* 2008; **22**: 284–90.

18 Bianchini V, Cofini V, Curto M, Lagrotteria B, Manzi A, Navari S, *et al.* Dialectical behaviour therapy (DBT) for forensic psychiatric patients: An Italian pilot study. *Crim Behav Ment Health CBMH* 2019; **29**: 122–30.

19 Davidson KM, Brown TM, James V, Kirk J, Richardson J. Manual-assisted cognitive therapy for self-harm in personality disorder and substance misuse: a feasibility trial. *Psychiatr Bull* 2014; **38**: 108–11.

20 Feigenbaum JD, Fonagy P, Pilling S, Jones A, Wildgoose A, Bebbington PE. A real-world study of the effectiveness of DBT in the UK National Health Service. *Br J Clin Psychol* 2012; **51**: 121–41.

21 Gratz KL, Tull MT, Levy R. Randomized controlled trial and uncontrolled 9-month follow-up of an adjunctive emotion regulation group therapy for deliberate self-harm among women with borderline personality disorder. *Psychol Med* 2014; **44**: 2099–112.

22 Jorgensen CR, Boye R, Andersen D, Dossing Blaabjerg AH, Freund C, Jordet H, *et al.* Eighteen months post-treatment naturalistic follow-up study of mentalization-based therapy and supportive group treatment of borderline personality disorder: Clinical outcomes and functioning. *Nord Psychol* 2014; **66**: 254–73.

23 Kramer U, Pascual-Leone A, Berthoud L, de Roten Y, Marquet P, Kolly S, *et al.* Assertive Anger Mediates Effects of Dialectical Behaviour-informed Skills Training for Borderline Personality Disorder: A Randomized Controlled Trial. *Clin Psychol Psychother* 2016; **23**: 189–202.

24 Kredlow MA, Szuhany KL, Lo S, Xie H, Gottlieb JD, Rosenberg SD, *et al.* Cognitive behavioral therapy for posttraumatic stress disorder in individuals with severe mental illness and borderline personality disorder. *Psychiatry Res* 2017; **249**: 86–93.

25 Laurenssen EMP, Luyten P, Kikkert MJ, Westra D, Peen J, Soons MBJ, *et al.* Day hospital mentalization-based treatment v. specialist treatment as usual in patients with borderline personality disorder: randomized controlled trial. *Psychol Med* 2018; : 1–8.

26 McMain SF, Guimond T, Barnhart R, Habinski L, Streiner DL. A randomized trial of brief dialectical behaviour therapy skills training in suicidal patients suffering from borderline disorder. *Acta Psychiatr Scand* 2017; **135**: 138–48.

27 Mohamadizadeh L, Makvandi B, Pasha R, Bakhtiarpour S, Hafezi F. Comparing of the effect of Dialectical Behavior Therapy (DBT) and Schema Therapy (ST) on reducing mood activity and suicidal thoughts in patients with borderline personality disorder. *Acta Medica Mediterr* 2017; **2017**: 1025–31.

28 Priebe S., Bhatti N., Barnicot K., Bremner S., Gaglia A., Katsakou C., *et al.* Effectiveness and cost-effectiveness of dialectical behaviour therapy for self-harming patients with personality disorder: A pragmatic randomised controlled trial. *Psychother Psychosom* 2012; **81**: 356–65.

29 Stanley B. Treating Suicidal Behavior and Self-Mutilation in People With Borderline Personality Disorder - Study Results - ClinicalTrials.gov. 2017. (https://clinicaltrials.gov/ct2/show/results/NCT00533117).

30 Zanarini MC, Conkey LC, Temes CM, Fitzmaurice GM. Randomized Controlled Trial of Web-Based Psychoeducation for Women With Borderline Personality Disorder. *J Clin Psychiatry* 2018; **79**. doi:10.4088/JCP.16m11153.

31 Bozzatello P, Bellino S. Interpersonal Psychotherapy as a Single Treatment for Borderline Personality Disorder: A Pilot Randomized-Controlled Study. *Front Psychiatry* 2020; **11**: 578910.

32 Majdara E, Rahimmian I, Talepassand S, Gregory R. A Randomized Trial of Dynamic Deconstructive Psychotherapy in Iran for Borderline Personality Disorder. *J Am Psychoanal Assoc* 2019; **67**: NP1‐NP7.

**5. Risk of bias in primary studies**

