

Online-only supplementary material

Appendix 1 Literature search

The full search strings used on **PUBMED/Medline** were:

Accelerated Transcranial Magnetic Stimulation:

((('accelerated transcranial magnetic stimulation' OR 'aTMS')) AND ('major depression disorder' OR 'mdd' OR 'major depression' OR 'depression' OR 'depress *')) AND ('review'[TIAB] OR 'systematic review'[TIAB] OR 'metaanalysis'[TIAB] OR 'meta- analysis'[TIAB]))

Deep Brain Stimulation:

((('deep brain stimulation' OR 'dbs')) AND ('major depression disorder' OR 'mdd' OR 'major depression' OR 'depression' OR 'depress *')) AND ('review'[TIAB] OR 'systematic review'[TIAB] OR 'metaanalysis'[TIAB] OR 'meta-analysis'[TIAB]))

Deep Transcranial Magnetic Stimulation:

((('deep transcranial magnetic stimulation' OR 'dTMS')) AND ('major depression disorder' OR 'mdd' OR 'major depression' OR 'depression' OR 'depress *')) AND ('review'[TIAB] OR 'systematic review'[TIAB] OR 'metaanalysis'[TIAB] OR 'meta-analysis'[TIAB]))

Electroconvulsive therapy:

((('electroconvulsotherapy' OR 'ECT' OR 'electroconvulsive therapy')) AND ('major depression disorder' OR 'mdd' OR 'major depression' OR 'depression' OR 'depress*')) AND ('review'[TIAB] OR 'systematic review'[TIAB] OR 'metaanalysis'[TIAB] OR 'meta- analysis'[TIAB]))

Magnetic Seizure Therapy:

((('magnetic seizure therapy' OR 'mst')) AND ('major depression disorder' OR 'mdd' OR 'major depression' OR 'depression' OR 'depress*')) AND ('review'[TIAB] OR 'systematic review'[TIAB] OR 'metaanalysis'[TIAB] OR 'meta-analysis'[TIAB]))

Priming Transcranial Magnetic Stimulation:

((('priming transcranial magnetic stimulation' OR 'pTMS')) AND ('major depression disorder' OR 'mdd' OR 'major depression' OR 'depression' OR 'depress *')) AND ('review'[TIAB] OR 'systematic review'[TIAB] OR 'metaanalysis'[TIAB] OR 'meta- analysis'[TIAB]))

Transcranial Alternating Current Stimulation:

((('transcranial alternating current stimulation' OR 'tacs')) AND ('major depression disorder' OR 'mdd' OR 'major depression' OR 'depression' OR 'depress*')) AND ('review'[TIAB] OR 'systematic review'[TIAB] OR 'metaanalysis'[TIAB] OR 'meta-analysis'[TIAB])

Transcranial Direct Current Stimulation:

((('transcranial direct current stimulation OR tdcS OR transcranial electric stimulation')) AND ('major depression disorder' OR 'mdd' OR 'major depression' OR 'depression' OR 'depress*')) AND ('review'[TIAB] OR 'systematic review'[TIAB] OR 'metaanalysis'[TIAB] OR 'meta-analysis'[TIAB])

High-Frequency Transcranial Magnetic Stimulation, Low-Frequency Transcranial Magnetic Stimulation and Theta-burst Stimulation:

((('transcranial magnetic stimulation' OR 'tms' OR 'repetitive transcranial magnetic stimulation' OR 'rtms' OR 'theta burst stimulation' OR 'theta-burst stimulation' OR 'TBS')) AND ('major depression disorder' OR 'mdd' OR 'major depression' OR 'depression' OR 'depress *')) AND ('review'[TIAB] OR 'systematic review'[TIAB] OR 'metaanalysis'[TIAB] OR 'meta-analysis'[TIAB]))

Transcranial Pulsed Current Stimulation:

((('transcranial pulsed current stimulation' OR 'tpcs')) AND ('major depression disorder' OR 'mdd' OR 'major depression' OR 'depression' OR 'depress*')) AND ('review'[TIAB] OR 'systematic review'[TIAB] OR 'metaanalysis'[TIAB] OR 'meta-analysis'[TIAB])

Transcranial Random Noise Stimulation:

((('transcranial random noise stimulation' OR 'trns')) AND ('major depression disorder' OR 'mdd' OR 'major depression' OR 'depression' OR 'depress*')) AND ('review'[TIAB] OR 'systematic review'[TIAB] OR 'metaanalysis'[TIAB] OR 'meta-analysis'[TIAB])

Transcutaneous Vagal Nerve Stimulation:

((('transcutaneous vagal nerve stimulation' OR 'tvns')) AND ('major depression disorder' OR 'mdd' OR 'major depression' OR 'depression' OR 'depress*')) AND ('review'[TIAB] OR 'systematic review'[TIAB] OR 'metaanalysis'[TIAB] OR 'meta-analysis'[TIAB])

Vagus Nerve Stimulation:

((('vagus nerve stimulation' OR 'vns')) AND ('major depression disorder' OR 'mdd' OR 'major depression' OR 'depression' OR 'depress*')) AND ('review'[TIAB] OR 'systematic review'[TIAB] OR 'metaanalysis'[TIAB] OR 'meta-analysis'[TIAB])

Appendix 2 Quality of evidence of the techniques according to GRADEpro system

Question: tDCS compared to sham for depression

Certainty assessment							№ of patients		Effect		Certainty
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	High-frequency rTMS	Sham	Relative (95% CI)	Absolute (95% CI)	

Razza, LB. et al., 2020 (continuous)

23	randomized trials	not serious	not serious	not serious	not serious	none	591	501	-	SMD 0.46 SD higher (0.22 higher to 0.7 higher)	⊕⊕⊕⊕ HIGH
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Razza, LB. et al., 2020 (response)

18	randomized trials	not serious	not serious	not serious	not serious	none	197/591 (33.3%)	83/501 (16.6%)	OR 2.28 (1.52 to 3.42)	146 more per 1.000 (from 66 more to 239 more)	⊕⊕⊕⊕ HIGH
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Razza, LB et al., 2020 (remission)

18	randomized trials	not serious	not serious	not serious	not serious	none	113/591 (19.1%)	49/501 (9.8%)	OR 2.12 (1.42 to 3.16)	89 more per 1.000 (from 36 more to 157 more)	⊕⊕⊕⊕ HIGH
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Question: High-frequency rTMS compared to sham for depression

Certainty assessment							№ of patients		Effect		Certainty
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	high-frequency rTMS	sham	Relative (95% CI)	Absolute (95% CI)	

Mutz J. et al., 2019 (response)

40	randomized trials	Not serious	not serious	not serious	not serious	strong association	433/1238 (35.0%)	-/1238	OR 3.17 (2.29 to 4.37)	0 fewer per 1000 (from 0 fewer to 0 fewer)	⊕⊕⊕⊕ HIGH
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Mutz J et al., 2019 (remission)

31	randomized trials	Not serious	not serious	not serious	not serious	none	219/1093 (20.0%)	-/1093	OR 2.67 (1.79 to 4.00)	0 fewer per 1.000 (from 0 fewer to 0 fewer)	⊕⊕⊕⊕ HIGH
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Mutz J. et al., 2019 (continuous)

37	randomized trials	Not serious	not serious	not serious	not serious	strong association	1006	896	-	SMD 0.54 SD higher (0.76 lower to 0.33 lower)	⊕⊕⊕⊕ HIGH
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<http://dx.doi.org/10.1590/1516-4446-2020-1169>

Appraising the effectiveness of electrical and magnetic brain stimulation techniques in acute major depressive episodes: an umbrella review of meta-analyses of randomized controlled trials - Razza LB et al.

Question: Low-frequency rTMS over the right DLPFC compared to sham for depression

Certainty assessment							Nº of patients		Effect		Certainty
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	low-frequency rTMS	sham	Relative (95% CI)	Absolute (95% CI)	
Berlim M. et al 2013 (response) - LF-rTMS rDLPFC											
8	randomized trials	not serious	not serious	not serious	serious ^a	none	50/131 (38.2%)	20/132 (15.2%)	OR 3.35 (1.34 to 8.02)	4 fewer per 1,000 (from 6 fewer to 2 fewer)	⊕⊕⊕○ MODERATE

Berlim M et al. 2013 (remission) - LF-rTMS rDLPFC

6	randomized trials	not serious	not serious	not serious	serious ^a	none	35/101 (25.5%)	10/103 (9.7%)	OR 4.76 (2.13 to 10.64)	241 more per 1,000 (from 89 more to 437 more)	⊕⊕⊕○ MODERATE
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Explanations

a. Small sample size

Question: Bilateral rTMS compared to sham for depression

Certainty assessment							Nº of patients		Effect		Certainty
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	bilateral rTMS	sham	Relative (95% CI)	Absolute (95% CI)	
Brunoni, AR et al 2017 (response)											
11	randomized trials	not serious	not serious	not serious	not serious	strong association	54/269 (20.1%)	20/215 (9.3%)	OR 3.96 (2.37 to 6.60)	196 more per 1,000 (from 103 more to 311 more)	⊕⊕⊕⊕ HIGH

Brunoni, AR et al 2017 (remission)

8	randomized trials	not serious	not serious	not serious	not serious	none	25/228 (11.0%)	3/173 (1.7%)	OR 4.22 (1.96 to 9.05)	52 more per 1,000 (from 16 more to 120 more)	⊕⊕⊕⊕ HIGH
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Question: Intermittent TBS compared to sham for depression

Certainty assessment							Nº of patients		Effect		Certainty
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	intermittent TBS	sham	Relative (95% CI)	Absolute (95% CI)	
Mutz J. et al, 2019 (response)											
3	randomized trials	not serious	not serious	not serious	very serious ^{a,b,c}	none	14/42 (33.3%)	8/47 (17.0%)	OR 3.20 (1.45 to 7.08)	226 more per 1,000 (from 59 more to 422 more)	⊕⊕○○ LOW

Mutz J. et al, 2018 (response)

2	randomized trials	not serious	not serious	not serious	very serious ^{a,b,c}	none	2/37 (5.4%)	0/40 (0.0%)	OR 3.30 (1.38 to 7.9)	0 fewer per 1,000 (from 0 fewer to 0 fewer)	⊕⊕○○ LOW
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http://dx.doi.org/10.1590/1516-4446-2020-1169

Appraising the effectiveness of electrical and magnetic brain stimulation techniques in acute major depressive episodes: an umbrella review of meta-analyses of randomized controlled trials - Razza LB et al.

Certainty assessment							No of patients		Effect		Certainty
No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	intermittent TBS	sham	Relative (95% CI)	Absolute (95% CI)	
Mutz J. et al, 2018 (response)											
2	randomized trials	not serious	not serious	not serious	very serious ^{a,b}	none	37	40	-	SMD 0.41 SD higher (0.35 lower to 1.17 lower)	⊕⊕○○ LOW

Explanations

- a. Few studies
- b. Small sample size
- c. Width of the confidence interval

Question: Bilateral TBS compared to sham for depression

Certainty assessment							No of patients		Effect		Certainty
No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	bilateral TBS	sham	Relative (95% CI)	Absolute (95% CI)	
Mutz J. et al, 2019 (response)											
2	randomized trials	not serious	not serious	not serious	very serious ^{a,b}	none	15/35 (42.9%)	5/32 (15.6%)	OR 4.44 (1.47 to 13.41)	295 more per 1,000 (from 58 fewer to 557 more)	⊕⊕○○ LOW

Explanations

- a. Few patients per arm
- b. Width of the confidence interval

Question: Deep TMS compared to sham for depression

Certainty assessment							No of patients		Effect		Certainty
No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	deep TMS	sham	Relative (95% CI)	Absolute (95% CI)	
Mutz J. et al., 2019 (response)											
2	randomized trials	not serious	not serious	not serious	very serious ^{a,b}	none	49/126 (38.9%)	37/136 (27.2%)	OR 1.87 (0.78 to 4.49)	139 more per 1,000 (from 46 fewer to 355 more)	⊕⊕○○ LOW

Mutz J. et al., 2019 (remission)

2	randomized trials	not serious	not serious	not serious	very serious ^a	none	38/126 (30.2%)	22/136 (16.2%)	OR 2.21 (0.95 to 5.18)	137 more per 1,000 (from 7 more to 338 more)	⊕⊕○○ LOW
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Mutz J. et al., 2019 (continuous)

2	randomized trials	not serious	not serious	not serious	very serious ^a	none	114	117	-	Hedge's g 0.36 lower (1.22 lower to 0.5 lower)	⊕⊕○○ LOW
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Explanations

- a. Few studies
- b. Small sample size

Question: Synchronized TMS compared to sham for depression

Certainty assessment							Nº of patients		Effect		Certainty
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	synchronized TMS	sham	Relative (95% CI)	Absolute (95% CI)	
Mutz J. et al., 2019 (response)											
2	randomized trials	not serious	not serious	not serious	very serious ^{a,b}	none	36/89 (40.4%)	20/77 (26.0%)	OR 2.09 (0.76 to 5.77)	163 more per 1,000 (from 49 fewer to 410 more)	⊕⊕○○ LOW
Mutz J. et al., 2019 (remission)											
2	randomized trials	not serious	not serious	not serious	very serious ^{a,b}	none	21/89 (23.6%)	11/77 (14.3%)	OR 1.59 (0.52 to 4.81)	67 more per 1,000 (from 63 fewer to 302 more)	⊕⊕○○ LOW
Mutz J. et al., 2019 (continuous)											
2	randomized trials	not serious	not serious	not serious	very serious ^{a,b}	none	89	89	-	Hedge's g 0.57 lower (1.43 lower to 0.29 higher)	⊕⊕○○ LOW

Explanations

- a. Few studies
- b. Small sample size

Question: Accelerated TMS compared to sham for depression

Certainty assessment							Nº of patients		Effect		Certainty
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	accelerated TMS	sham	Relative (95% CI)	Absolute (95% CI)	
Sonmez et al., 2019 (response)											
3	randomized trials	not serious	not serious	not serious	very serious ^a	none			OR 3.13 (0.98 to 9.98)	3 fewer per 1,000 (from 10 fewer to 1 fewer)	⊕⊕○○ LOW
Sonmez et al., 2019 (continuous)											
3	randomized trials	not serious	not serious	not serious	very serious ^a	strong association	89	89	-	Hedges' g 0.39 higher (0.005 higher to 0.78 higher)	⊕⊕⊕○ MODERATE

Explanations

- a. Small sample size

<http://dx.doi.org/10.1590/1516-4446-2020-1169>

Appraising the effectiveness of electrical and magnetic brain stimulation techniques in acute major depressive episodes: an umbrella review of meta-analyses of randomized controlled trials - Razza LB et al.

Question: Low-frequency rTMS over the left DLPFC compared to sham for depression

Certainty assessment							№ of patients		Effect		Certainty
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	low-frequency rTMS	sham	Relative (95% CI)	Absolute (95% CI)	
Mutz J. et al, 2019 (response) - low-frequency, left-sided rTMS											
4	randomized trials	not serious	not serious	not serious	very serious ^a	none	1/29 (3.4%)	0/29 (0.0%)	OR 1.10 (0.21 to 5.87)	0 fewer per 1,000 (from 0 fewer to 0 fewer)	⊕⊕○○ LOW
Mutz J. et al, 2018 (remission) - low-frequency, left-sided rTMS											
3	randomized trials	not serious	not serious	not serious	very serious ^a	none	0/29 (0.0%)	0/29 (0.0%)	OR 1.02 (0.17 to 6.02)	0 fewer per 1,000 (from 0 fewer to 0 fewer)	⊕⊕○○ LOW
Mutz J. et al, 2018 (Continuous Treatment Effects) - low-frequency, left-sided rTMS											
2	randomized trials	not serious	not serious	not serious	very serious ^a	none	-	-	-	SMD 0.03 lower (0.76 lower to 0.81 higher)	⊕⊕○○ LOW

Explanations

a. Few patients per arm

Question: ECT compared to sham for depression

Certainty assessment							№ of patients		Effect		Certainty
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	synchronized TMS	sham	Relative (95% CI)	Absolute (95% CI)	
UK ECT group, 2003 (continuous)											
6	randomized trials	not serious	not serious	not serious	very serious ^a	strong association	140	116	-	Standardized effect size 0.908 lower (1.27 lower to 0.537 lower)	⊕⊕⊕○ MODERATE



Explanations

a. Small sample size

<http://dx.doi.org/10.1590/1516-4446-2020-1169>

Appraising the effectiveness of electrical and magnetic brain stimulation techniques in acute major depressive episodes: an umbrella review of meta-analyses of randomized controlled trials - Razza LB et al.

Question: DBS compared to sham for depression

Certainty assessment							Nº of patients		Effect		Certainty
No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	accelerated TMS	sham	Relative (95% CI)	Absolute (95% CI)	
Kisely S. et al., 2018 (response)											
2	randomized trials	not serious	not serious	not serious	very serious ^a	none	-32	-30	OR 4.85 (0.52 to 45.32)	0 fewer per 1,000 (from 0 fewer to 0 fewer)	 LOW
Kisely S. et al., 2018 (continuous)											
2	randomized trials	not serious	not serious	not serious	very serious ^a	none	32	30	-	SMD 0.46 SD lower (1.78 lower to 0.87 lower)	 LOW

Explanations

a. Small sample size

CI: Confidence interval; OR: Odds ratio; RR: Risk ratio; SMD: Standardized mean difference

Appendix 3 Methodological quality of all included meta-analyses according to AMSTAR2

AMSTAR 2 Results

Article Name:

Razza et al. 2020 is a High quality review

1. Did the research questions and inclusion criteria for the review include the components of PICO? Yes
 Yes
 Yes
 Yes
 Yes

2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol? YesYesYesYesYesYesYesYes

3. Did the review authors explain their selection of the study designs for inclusion in the review? Yes
 Yes

4. Did the review authors use a comprehensive literature search strategy? Partial Yes
 Yes
 Yes
 Yes

Yes

5. Did the review authors perform study selection in duplicate? Yes
Yes

6. Did the review authors perform data extraction in duplicate? Yes
Yes

7. Did the review authors provide a list of excluded studies and justify the exclusions? Yes
Yes
Yes

8. Did the review authors describe the included studies in adequate detail? Partial Yes
Yes
Yes
Yes
Yes
Yes
Yes
Yes

9. Did the review authors use a satisfactory technique for assessing the risk of bias (RoB) in individual studies that were included in the review? Yes
RCT

NRSI

Yes
Yes
Yes
Yes

10. Did the review authors report on the sources of funding for the studies included in the review? No

11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results? Yes
RCT

NRSI

Yes
Yes

Yes

12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis? Yes
Yes
Yes

13. Did the review authors account for RoB in individual studies when interpreting/ discussing the results of the review? Yes
Yes

14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review? Yes
Yes

15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review? Yes
Yes

16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review? Yes
Yes

AMSTAR 2 Results

Article Comparative efficacy and acceptability of non-surgical brain stimulati

Mutz et al 2019 is a Moderate quality review

1. Did the research questions and inclusion criteria for the review include the components of PICO?	Yes Yes Yes Yes
2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol?	YesYesYesYesYes
3. Did the review authors explain their selection of the study designs for inclusion in the review?	Yes Yes
4. Did the review authors use a comprehensive literature search strategy?	Yes Yes Yes
5. Did the review authors perform study selection in duplicate?	Yes Yes
6. Did the review authors perform data extraction in duplicate?	Yes Yes
7. Did the review authors provide a list of excluded studies and justify the exclusions?	No
8. Did the review authors describe the included studies in adequate detail?	Yes Yes Yes Yes Yes
9. Did the review authors use a satisfactory technique for assessing the risk of bias (RoB) in individual studies that were included in the review? RCT	Yes
NRSI	0

Yes
Yes

10. Did the review authors report on the sources of funding for the studies included in the review?	No
11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results?	
RCT	Yes
NRSI	0 Yes Yes
12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis?	Yes
13. Did the review authors account for RoB in individual studies when interpreting/ discussing the results of the review?	Yes Yes
14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review?	Yes Yes
15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review?	No
16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?	Yes Yes

AMSTAR 2 ResultsArticle Name: **Berlim et al. (2013) is a Low quality review**

1. Did the research questions and inclusion criteria for the review include the components of PICO? Yes
Yes
Yes
Yes
Yes

2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol? No

3. Did the review authors explain their selection of the study designs for inclusion in the review? Yes
Yes

4. Did the review authors use a comprehensive literature search strategy? Partial Yes
Yes
Yes
Yes
Yes

Yes

5. Did the review authors perform study selection in duplicate? No

6. Did the review authors perform data extraction in duplicate? No

7. Did the review authors provide a list of excluded studies and justify the exclusions? Yes
Yes
Yes

8. Did the review authors describe the included studies in adequate detail? Yes
Yes

Yes
 Yes
 Yes
 Yes
 Yes
 Yes
 Yes
 Yes
 Yes

9. Did the review authors use a satisfactory technique for assessing the risk of bias (RoB) in individual studies that were included in the review?

RCT Yes

NRSI

Yes
 Yes
 Yes
 Yes

10. Did the review authors report on the sources of funding for the studies included in the review?

No

11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results?

RCT Yes

NRSI

Yes

12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis?

No

13. Did the review authors account for RoB in individual studies when interpreting/ discussing the results of the review?

No

14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review?

Yes
 Yes

15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review?

Yes
 Yes

16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?

Yes
 Yes

AMSTAR 2 Results

Article Name:

You are currently logged on as Guest. You need to be logged on as a member to submit your score.

Log On

Brunoni et al. (2017) is a High quality review

1. Did the research questions and inclusion criteria for the review include the components of PICO?	Yes Yes Yes Yes Yes
2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol?	YesYesYesYesYesYesYesYes
3. Did the review authors explain their selection of the study designs for inclusion in the review?	Yes Yes
4. Did the review authors use a comprehensive literature search strategy?	Partial Yes Yes Yes Yes Yes
5. Did the review authors perform study selection in duplicate?	Yes Yes
6. Did the review authors perform data extraction in duplicate?	Yes Yes
7. Did the review authors provide a list of excluded studies and justify the exclusions?	Yes Yes Yes
8. Did the review authors describe the included studies in adequate detail?	Partial Yes Yes

<http://dx.doi.org/10.1590/1516-4446-2020-1169>

Appraising the effectiveness of electrical and magnetic brain stimulation techniques in acute major depressive episodes: an umbrella review of meta-analyses of randomized controlled trials - Razza LB et al.

Yes
Yes
Yes
Yes

9. Did the review authors use a satisfactory technique for assessing the risk of bias (RoB) in individual studies that were included in the review?

RCT

Yes

NRSI

Yes
Yes
Yes
Yes

10. Did the review authors report on the sources of funding for the studies included in the review?

No

11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results?

RCT

Yes

NRSI

Yes
Yes
Yes

12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis?

Yes
Yes
Yes

13. Did the review authors account for RoB in individual studies when interpreting/ discussing the results of the review?

Yes
Yes

14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review?

Yes
Yes

15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review?

Yes
Yes

16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?

Yes
Yes

AMSTAR 2 Results

Article Name:

Sonmez et al. (2018) is a High quality review

1. Did the research questions and inclusion criteria for the review include the components of PICO?	Yes Yes Yes Yes Yes
2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol?	YesYesYesYesYesYesYesYes
3. Did the review authors explain their selection of the study designs for inclusion in the review?	Yes Yes
4. Did the review authors use a comprehensive literature search strategy?	Partial Yes Yes Yes Yes
5. Did the review authors perform study selection in duplicate?	Yes Yes
6. Did the review authors perform data extraction in duplicate?	Yes Yes
7. Did the review authors provide a list of excluded studies and justify the exclusions?	Yes Yes Yes
8. Did the review authors describe the included studies in adequate detail?	Partial Yes Yes Yes

<http://dx.doi.org/10.1590/1516-4446-2020-1169>

Appraising the effectiveness of electrical and magnetic brain stimulation techniques in acute major depressive episodes: an umbrella review of meta-analyses of randomized controlled trials - Razza LB et al.

Yes
Yes
Yes

Yes
Yes

9. Did the review authors use a satisfactory technique for assessing the risk of bias (RoB) in individual studies that were included in the review?

RCT

Yes

NRSI

Yes
Yes
Yes
Yes

10. Did the review authors report on the sources of funding for the studies included in the review?

No

11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results?

RCT

Yes

NRSI

Yes
Yes
Yes

12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis?

Yes

13. Did the review authors account for RoB in individual studies when interpreting/ discussing the results of the review?

Yes
Yes

14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review?

Yes
Yes

15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review?

Yes
Yes

16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?

Yes

AMSTAR 2 Results

Article Name:

UK ECT group, 2003 is a Moderate quality review

1. Did the research questions and inclusion criteria for the review include the components of PICO?	Yes Yes Yes Yes Yes Yes
2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol?	No
3. Did the review authors explain their selection of the study designs for inclusion in the review?	Yes Yes
4. Did the review authors use a comprehensive literature search strategy?	Partial Yes Yes Yes Yes
5. Did the review authors perform study selection in duplicate?	Yes Yes
6. Did the review authors perform data extraction in duplicate?	Yes Yes
7. Did the review authors provide a list of excluded studies and justify the exclusions?	Partial Yes Yes
8. Did the review authors describe the included studies in adequate detail?	Yes Yes Yes

Yes
 Yes
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 Yes
 Yes
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NRSI

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NRSI

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 Yes

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Yes
 Yes

AMSTAR 2 Results

Article Name: A systematic review and meta-analysis of deep brain stimulation for d

Kisely et al 2018 is a Moderate quality review

1. Did the research questions and inclusion criteria for the review include the components of PICO?	Yes Yes Yes Yes Yes Yes
2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol?	YesYesYesYes
3. Did the review authors explain their selection of the study designs for inclusion in the review?	Yes Yes
4. Did the review authors use a comprehensive literature search strategy?	Yes Yes Yes
5. Did the review authors perform study selection in duplicate?	Yes Yes
6. Did the review authors perform data extraction in duplicate?	Yes Yes
7. Did the review authors provide a list of excluded studies and justify the exclusions?	Yes Yes
8. Did the review authors describe the included studies in adequate detail?	Yes Yes Yes Yes Yes Yes
9. Did the review authors use a satisfactory technique for assessing the risk of bias (RoB) in individual studies that were included in the review?	
RCT	Yes
NRSI	0 Yes Yes

10. Did the review authors report on the sources of funding for the studies included in the review?	No
11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results?	
RCT	Yes
NRSI	0 Yes Yes Yes
12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis?	Yes Yes
13. Did the review authors account for RoB in individual studies when interpreting/ discussing the results of the review?	Yes Yes
14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review?	No Yes
15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review?	No
16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?	Yes Yes