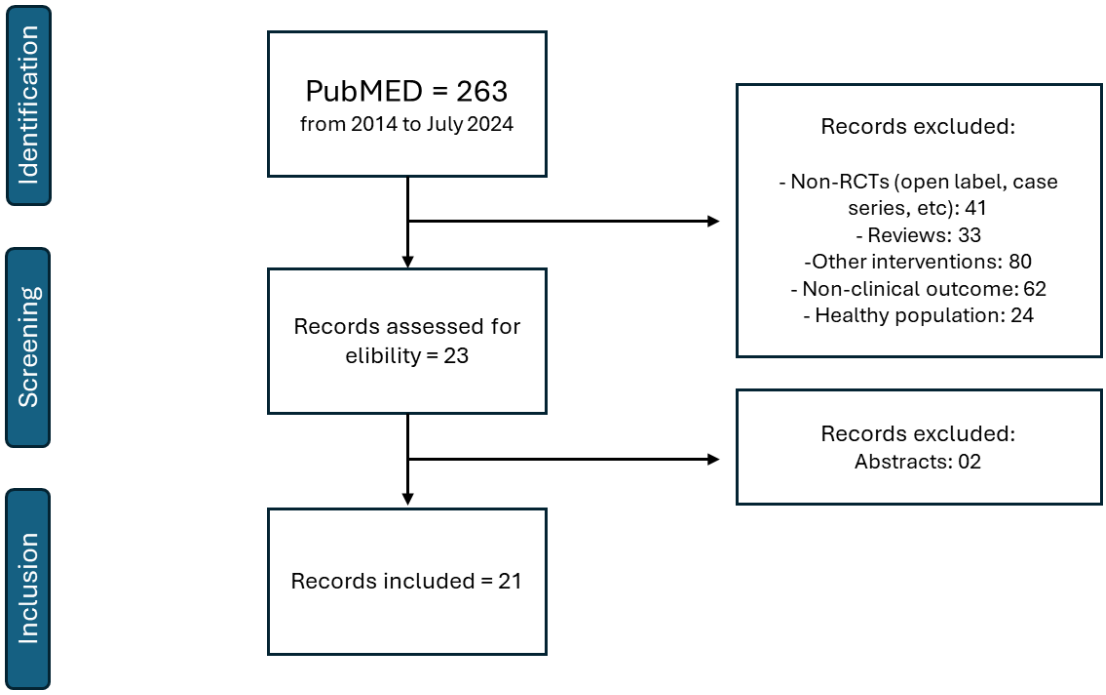
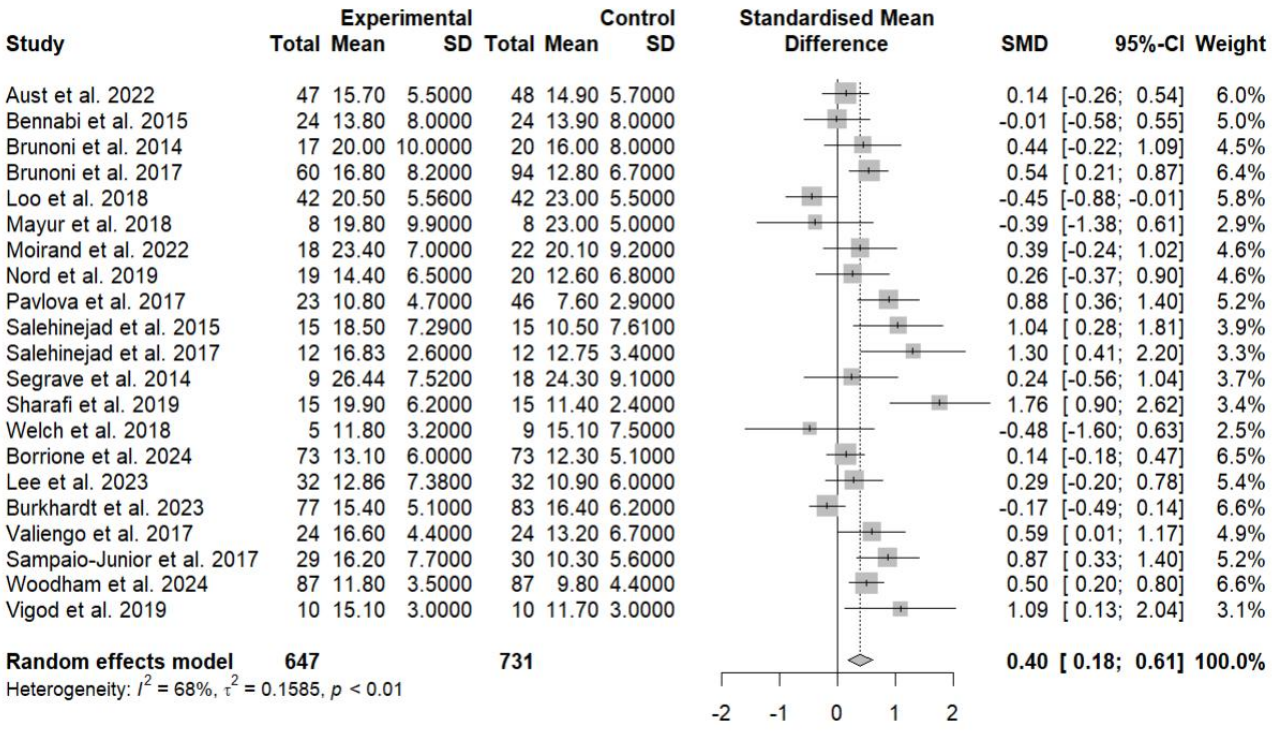
http://doi.org/10.47626/1516-4446-2024-3989
Challenges and future directions of transcranial direct current stimulation for depression: insights from a systematic review and meta-analysis – da Silva PHR et al.

Supplementary Figure S1 Flowchart of the article selection process



Supplementary Figure S2 Comparison between transcranial direct current stimulation and placebo



The values for the experimental (active tDCS) and control (sham tDCS) groups represent the endpoint scores as reported in each study. For Loo et al., 2018, which evaluated tDCS efficacy in both bipolar and unipolar depression, the mean of both groups was used as the primary outcome measure.

http://doi.org/10.47626/1516-4446-2024-3989

Supplementary Material S3 Meta-regression analysis

Stimulation parameters

Electrode size

	Estimate	SE	z-value	p-value	95%CI
Intercept	1.21	0.58	2.10	0.035	0.08-2.34
Electrode size	-0.03	0.02	-1.44	0.15	-0.06-0.01

SE = standard error.

Current density

	Estimate	SE	z-value	p-value	95%CI
Intercept	0.28	0.25	1.10	0.27	-0.21-0.78
Density	0.22	0.42	0.52	0.60	-0.61-1.05

SE = standard error.

Cathode placement

	Estimate	SE	z-value	p-value	95%CI
F3	0.46	0.14	3.40	0.0007	-0.20-0.74
Fp2	-0.02	0.38	-0.06	0.95	-0.78-0.73
F8	-0.64	0.40	-1.61	0.10	-1.42-0.13
F5	0.07	0.48	0.16	0.87	-0.86-1.01
Deltoid	-0.20	0.55	-0.37	0.71	-1.28-0.88

SE = standard error.

Treatment duration

Number of sessions

	Estimate	SE	z-value	p-value	95%CI
Intercept	0.60	0.24	2.50	0.01	0.13-1.08
Number of sessions	-0.01	0.01	-0.95	0.34	-0.04-0.01

SE = standard error.

Number of weeks

	Estimate	SE	z-value	p-value	95%CI
Intercept	0.56	0.24	2.34	0.02	0.09-1.04
Number of weeks	-0.03	0.04	-0.78	0.44	-0.12-0.05

SE = standard error.

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Study Design

Combined protocol—tDCS and another therapy initiated together

	Estimate	SE	z-value	p-value	95%CI
Intercept	0.66	0.20	3.24	0.001	0.26-1.06
Protocol	-0.22	0.14	-1.54	0.12	-0.50-0.06

SE = standard error; tDCS = transcranial direct current stimulation.

Home-based tDCS

	Estimate	SE	z-value	p-value	95%CI
Intercept	0.42	0.13	3.31	0.0009	0.17-0.67
Home-based	-0.11	0.30	-0.36	0.72	-0.69-0.48

SE = standard error; tDCS = transcranial direct current stimulation.

Diagnosis

	Estimate	SE	z-value	p-value	95%CI
Intercept	0.48	0.63	0.76	0.45	-0.76-1.72
Diagnosis	-0.10	0.57	-0.17	0.86	-1.21-1.02

SE = standard error.

TRD

	Estimate	SE	z-value	p-value	95%CI
Intercept	0.51	0.22	2.2	0.02	0.06 - 0.9
TRD	-0.23	0.26	-0.88	0.37	-0.7 - 0.2

SE = standard error; TRD = treatment-resistant depression.

http://doi.org/10.47626/1516-4446-2024-3989

Supplementary Table S1 Assessment of risk of bias

Author	Year	Rand/Allocation	Blinding (participants/ personnel)	Missing data	Blinding of outcome assessment	Selective reporting	Overall bias
Segrave et al.	2014	Low	Low	Low	Low	Low	Low
Brunoni et al.	2014	Low	Low	Some concerns (1)	Low	Low	Low
Bennabi et al	2015	Low	Low	Some concerns (2)	Low	High (3)	Some concerns
Salehinejad et al.	2015	Low	Some concerns (4)	Some concerns (2)	Some concerns (5)	Some concerns (6)	High
Valiengo et al.	2017	Low	Low	Low	Low	Low	Low
Brunoni et al.	2017	Low	Low	Low	Low	Low	Low
Pavlova et al	2017	Some concerns (7)	Some concerns (8)	Low	Some concerns (9)	Some concerns (6)	High
Salehinejad et al.	2017	Low	Some concerns (4)	Some concerns (2)	Some concerns (5)	Some concerns (6)	High
Sampaio-Junior et al.	2018	Low	Low	Low	Low	Low	Low
Loo et al.	2018	Low	Low	Low	Low	Low	Low
Mayur et al.	2018	Some concerns (10)	Some concerns (4)	Some concerns (6)	Some concerns (11)	High (12)	High
Nord et al.	2019	Low	Low	Low	Some concerns (4)	Low	Low
Sharafi et al.	2019	Low	Low	Low	Some concerns (11)	Some concerns (6)	Some concerns
Welch et al.	2019	Some concerns (10)	Some concerns (4)		Some concerns (7)	High (12)	High
Vigod et al.	2019	Low	Low	Low	Low	Low	Low
Aust et al.	2020	Low	Low	Low	Low	Low	Low
Moirand et al.	2022	Low	Low	Low	Low	Low	Low
Lee et al.	2023	Some concerns (10)	Low	Low	Low	High (13)	High
Burkhardt et al.	2023	Low	Low	Low	Low	Low	Low
Borrione et al.	2024	Low	Low	Low	Low	Low	Low
Woodham et al.	2024	Low	Low	Low	Low	Low	Low

1. High attrition rate; 2. Dropouts not described; 3. Deviations in study protocol reported in clinicaltrials.gov (primary endpoint and scale changed, long-term follow-up not reported); 4. Blinding not described; 5. Primary scale not defined; 6. Study not pre-registered; 7. Unclear description of procedures; 8. Device was single-blinded; 9. Duration of active protocol not blinded; 10. Randomized allocation not well described; 11. Not well described; 12. Primary outcome not described; 13. No specification on whether the aggregated analysis included dropouts (ITT [intent-to-treat] analysis).