Supplementary material

The following material accompanies the article *Comparative efficacy and acceptability of non-surgical brain stimulation in adult major depressive episodes: Systematic review and network meta-analysis*

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1. Treatment modalities

Electroconvulsive therapy

Electroconvulsive therapy (ECT) was first introduced in 1938[1] and works by passing an electrical current through the brain, thereby inducing a generalised seizure. It is considered the treatment of choice for patients with suicidal ideation or severe psychotic symptoms who require a rapid clinical response. The technology has changed considerably over the past decades, for instance, rectangular brief or ultra-brief pulse rather than sine-wave stimulation are now typically used. Electrode placement and electrical dosage are the treatment parameters most frequently studied in an attempt to optimise the clinical outcomes of ECT.

Bitemporal ECT.

The bitemporal (BT; also referred to as bilateral or bifrontotemporal) application of ECT in which electrodes are placed bilaterally over the temporal cortex is the most widely studied protocol. While clinical trials have shown BT ECT to be highly effective in treating major depressive episodes[2,3], significant concerns remain about adverse cognitive effects.

Right unilateral ECT.

To provide a more tolerable alternative to BT ECT, right unilateral (RUL) ECT was introduced. One electrode is placed over the right temporal cortex at the same location that is used for BT ECT. The other electrode is placed on the crown of the head. RUL ECT is delivered at either low to moderate (1–2.5×seizure threshold) or high (4–8×seizure threshold) electrical dosage.

Bifrontal ECT.

While most clinical trials have focused on BT ECT and RUL ECT, bifrontal (BF) ECT – the electrode placement that was used originally at the time when ECT was first introduced[4] – has received less attention. It was re-introduced in the 1970s[5,6] and became more prominent in the 1990s[7] because of its potential to achieve therapeutic outcomes comparable to BT ECT, while resulting in fewer adverse cognitive effects comparable to RUL ECT[8]. BF ECT may, for instance, affect verbal and nonverbal memory less because it avoids directly stimulating the temporal cortex. The electrodes are placed approximately 5cm above the lateral angle of each hemisphere targeting the frontal cortex.

Transcranial magnetic stimulation

Transcranial magnetic stimulation (TMS) was originally introduced in 1985[9] as a tool for investigating and mapping the functional integrity of the motor cortex. It utilises intense, rapidly-changing electromagnetic fields, which are generated by a coil of wire near the scalp. TMS allows for a mostly undistorted induction of an electrical current to alter neural activity in relatively focal, superficial areas of the brain. Standard TMS involves single or paired pulses.

Repetitive TMS.

Delivering TMS pulses in a repeated fashion is referred to as repetitive transcranial magnetic stimulation (rTMS) and enables the prolonged modulation of neural activity. Depending on the stimulation frequency that is being used, rTMS can either increase or decrease cortical excitability. The prevailing hypothesis is that high-frequency (>5Hz) stimulation is excitatory and causes neural depolarisation, whereas low-frequency (≤1Hz) stimulation inhibits neural firing in tissue underneath the coil[10].

The antidepressant efficacy of rTMS has been investigated since the beginning of the 1990s[11]. It avoids many of the safety and tolerability concerns associated with pharmacological interventions or more conventional somatic treatments such as ECT. In 2008, the US Food and Drug Administration (FDA) cleared the first rTMS device for the treatment of individuals with major depressive disorder who did not respond to at least one course of drug treatment in the current episode[12]. Its clinical utilisation has since increased[13]. The rationale for using rTMS to treat depressive illness comes from clinical symptoms and studies suggesting functional decrements in prefrontal regions of the brain and in the limbic system. Most pertinently, findings of neuroimaging studies suggest a role of the prefrontal cortex in the pathophysiology of depression, characterised by hypoactivity in the left dorsolateral prefrontal cortex (DLPFC) and hyperactivity in the right DLPFC[14,15].

The most frequently studied rTMS protocol is high-frequency stimulation of the left DLPFC (HF-L rTMS). However, stimulation at high frequencies can be uncomfortable, particularly during the initial stimulation period before patients adjust to the treatment. Low-frequency rTMS of the right DLPFC (LF-R rTMS) might minimise the occurrence of undesired effects such as transient headaches and scalp discomfort. It might also result in fewer adverse events, for instance, by lowering the risk of seizures[16], and could also be offered to patients at risk of epilepsy[17]. While most studies have examined the efficacy of unilateral stimulation of the left or the right DLPFC,

three bilateral applications of rTMS (BL rTMS) have been developed: (1) simultaneous stimulation of the left and right DLPFC, (2) stimulation of the right DLPFC followed by stimulation of the left DLPFC and (3) stimulation of the left DLPFC followed by stimulation of the right DLPFC. These protocols were hypothesised to act through potentially additive or synergistic mechanisms[18]. Moreover, some patients may be responsive only to unilateral left stimulation while others may selectively respond to unilateral right stimulation. The likelihood for a clinical response may increase by providing both types of stimulation to every patient[19].

High-frequency stimulation of the right DLPFC (HF-R rTMS) and low-frequency stimulation of the left DLPFC (LF-L rTMS) have also been investigated in a small number of studies, although the merit of these protocols is unclear.

Accelerated TMS.

It has been suggested that a more rapid clinical response to rTMS can be achieved by providing multiple treatment sessions per day[20]. Using an accelerated rTMS (aTMS) protocol may also reduce the overall treatment duration.

Priming TMS.

Priming TMS (pTMS) involves preceding LF-R rTMS with a brief period of low-intensity high-frequency stimulation and has been shown to enhance the neural response to LF-R rTMS in the motor cortex[21]. It might also constitute a promising treatment protocol for major depressive episodes.

Deep TMS.

Deep TMS (dTMS) was FDA-approved in 2013 and involves a different coil configuration (H-coil rather than figure-of-eight or circular coils). While dTMS is less focal than conventional rTMS[22], it allows for the stimulation of larger brain volumes and deeper structures of the brain[23] that are perhaps more directly relevant to the pathophysiology of certain subtypes of depression[24].

Theta burst stimulation.

Another modification of standard rTMS is theta burst stimulation (TBS). It was first introduced as a tool to study the human motor cortex[25] but is now being investigated as a novel treatment approach for major depressive episodes. TBS is a patterned form of rTMS pulse delivery. More specifically, TBS delivers bursts of three at a high frequency (50Hz) with an inter-burst interval of

5Hz. Two different protocols have been developed: continuous theta burst stimulation (cTBS), which delivers 300 or 600 pulses without interruption, and intermittent theta burst stimulation (iTBS), which delivers 30 pulses every 10 seconds for a duration of 190 seconds, totalling 600 pulses[26]. It has been suggested that cTBS reduces cortical excitability while iTBS increases it, mimicking the processes of long-term potentiation and long-term depression, respectively[25].

Unilateral iTBS of the left DLPFC, unilateral cTBS of the right DLPFC and bilateral stimulation protocols have been examined as novel treatment modalities for major depressive episodes. The main advantages of TBS are its reduced administration time (typically <5 minutes compared to ~37.5 minutes with HF-L rTMS) and the lower intensity needed to produce lasting neurophysiological effects. TBS is typically administered at 80% resting motor threshold and might hence be more comfortable than stimulation at higher intensities that is oftentimes used with standard rTMS.

Synchronised TMS.

Magnetic low-field synchronised transcranial magnetic stimulation (sTMS) involves rotating spherical neodymium magnets located sagittal along the midline of the scalp delivering stimulation synchronised to an individual's alpha frequency[27]. The magnets are positioned to provide a global magnetic field distributed broadly across the midline cortical surface, with one magnet over the frontal polar region, a second magnet over the top of the head and a third magnet over the parietal region. The rationale for using sTMS at an individual's alpha frequency is the observation that one mechanism of action of rTMS is the entrainment of oscillatory activity to the programmed frequency of stimulation, thereby resetting thalamo-cortical oscillators and restoring endogenous oscillatory activity[28]. sTMS may be associated with fewer undesired effects than classical rTMS because it does not cause neural depolarisation. It also uses less energy than conventional rTMS and might therefore be less costly.

Magnetic seizure therapy

Magnetic seizure therapy (MST) utilises magnetic fields to induce a generalised seizure. It was first introduced in 2000 as a treatment for major depression[29]. Because it is a more focal intervention than ECT that targets the prefrontal cortex instead of the temporal cortex it might have a more favourable tolerability profile than BT and RUL ECT.

Transcranial electrical stimulation

Access and costs are among the major impediments to more widespread use of standard rTMS, although costs might be lower for TBS and sTMS. A less expensive non-invasive neuromodulation technique is transcranial electrical stimulation. Its most frequently used protocol, transcranial direct current stimulation (tDCS), was reappraised as a tool in research through the works of Priori et al.[30] and Nitsche and Paulus[31].

Transcranial direct current stimulation.

tDCS involves the application of a low-amplitude electrical direct current through surface scalp electrodes targeting superficial areas of the brain. While it does not directly trigger action potentials, it has been shown to modulate cortical excitability by shifting the neural membrane resting potential; these effects can outlast the electrical stimulation period[32]. The direction of such excitability changes may depend on the polarity of the stimulation: anodal stimulation is hypothesised to cause depolarisation and to increase neural excitability, whereas cathodal stimulation would cause hyperpolarisation and decrease cortical excitability[33,34]. tDCS is currently being investigated as a potential treatment for a range of psychiatric disorders (for a recent review, see Kekic et al.[35]), including major depressive episodes.

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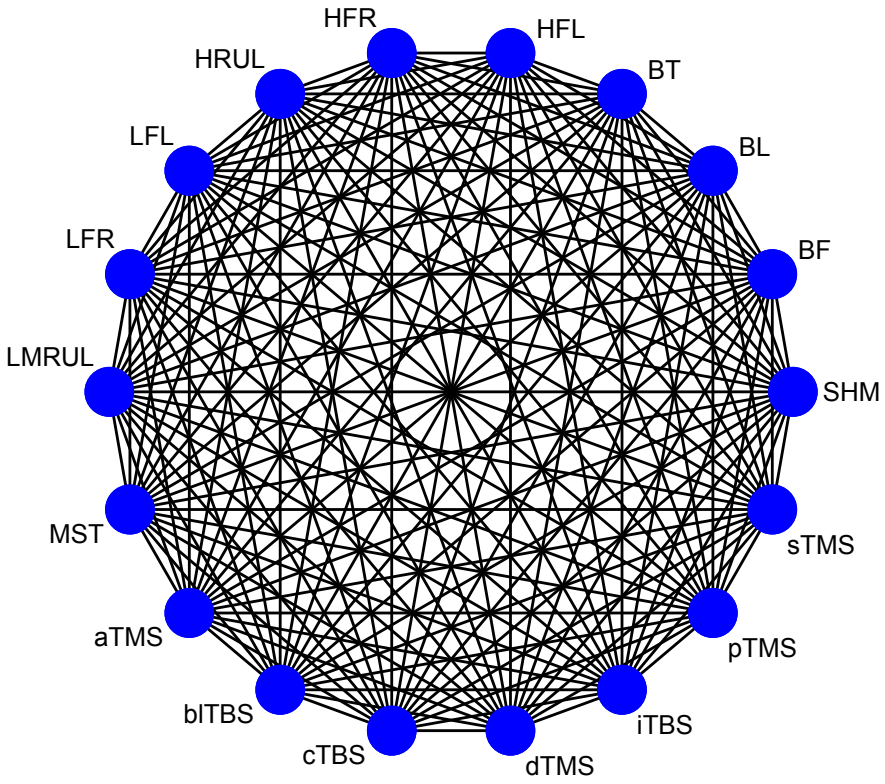
2. Network of eligible treatment comparisons



Supplementary Figure 1. **Network plot of eligible treatment comparisons**. aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.

3. Literature search strategy

The following search terms were used for the Embase, MEDLINE and PsycINFO electronic databases, limiting searches to studies in humans and English-language publications.

1. Embase:

((‘bipolar disorder’ OR ‘depress*’) AND (‘transcranial direct current stimulation’ OR ‘tDCS’ OR ‘transcranial magnetic stimulation’ OR ‘TMS’ OR ‘theta burst stimulation’ OR ‘TBS’ OR ‘electroconvulsive therapy’ OR ‘ECT’ OR ‘magnetic seizure therapy’ OR ‘MST’ OR ‘sTMS’ OR ‘dTMS’) AND (‘random*’ OR ‘placebo*’ OR ‘double-blind’)).

2. PubMed/MEDLINE:

((“bipolar disorder” OR “depress$”) AND (“transcranial direct current stimulation” OR “tDCS” OR “transcranial magnetic stimulation” OR “TMS” OR “theta burst stimulation” OR “TBS” OR “electroconvulsive therapy” OR “ECT” OR “magnetic seizure therapy” OR “MST” OR “sTMS” OR “dTMS”) AND (“random$” OR “placebo$” OR “double-blind”)).

3. PsycINFO:

((bipolar disorder OR depress*) AND (transcranial direct current stimulation OR tDCS OR transcranial magnetic stimulation OR TMS OR theta burst stimulation OR TBS OR electroconvulsive therapy OR ECT OR magnetic seizure therapy OR MST OR sTMS OR dTMS) AND (random* OR placebo* OR double-blind)) ab, kw, ti.

We also screened the reference lists of all included trials and those of several systematic reviews and meta-analyses (see below) for original data publications.

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4. Trial characteristics

Supplementary Table 1. **Characteristics of included trials.**

Study (first author)	Study arms (included)	Study arms (total)	Treatment	Randomised (female)	Age (SD)	Crossover	Diagnosis	Exclude psychosis	Hospital status	Diagnostic manual	Treatment resistance	Depression severity (SD)	Treatment strategy	Rating scale
Abrams 1991	2	2	BT	18 (0)	61 (7.5)	No	MDD	NA	Inpatient	DSM-III	NA	24.4 (NA)	Monotherapy	HDRS-15
			LMRUL	20 (0)								28.3 (NA)		
Anderson 2007	2	2	HFL	13 (7)	48 (8)	No	MDD	No	Outpatient	DSM-IV	Mixed	26.7 (3.6)	Mixed	MADRS
			SHM	16 (9)	46 (12)							27.7 (7.1)		
Avery 1999	2	2	HFL	4 (4)	44.3 (10.1)	No	Mixed	Yes	Outpatient	DSM-IV	Yes	21.3 (6.7)	Mixed	HDRS-21
			SHM	2 (1)	45 (7.1)							19.5 (8.1)		
Avery 2006	2	2	HFL	35 (21)	44.3 (10.3)	No	MDD	Yes	NA	DSM-IV	Yes	23.5 (3.9)	Mixed	HDRS-17
			SHM	33 (16)	44.2 (9.7)							23.5 (2.9)		
Baeken 2013	2	2	aTMS	10 (7)	51.8 (12.1)	Yes	MDD	Yes	Mixed	ICD-10/DSM-IV	Yes	24.8 (7.1)	Monotherapy	HDRS-17
			SHM	11 (5)	47.3 (13.7)							26.5 (8.7)		
Bakim 2012	3(*)	3	HFL[1]	23 (20)	40.8 (9)	No	MDD	Yes	Outpatient	DSM-IV	Yes	23.6 (3.2)	Augmentation	HDRS-17
			SHM	12 (11)	44.4 (10.2)							25.6 (3.8)		
Berman 2000	2	2	HFL	10 (2)	45.2 (9.5)	No	Mixed	No	Mixed	DSM-IV	Yes	37.1 (9.7)	Monotherapy	HDRS-25
			SHM	10 (4)	39.4 (10.8)							37.3 (8.5)		
Beynel 2014	2	2	iTBS	5 (3)	55 (12.8)	No	BD	NA	Mixed	DSM-IV-TR	Yes	32 (5)	Augmentation	MADRS
			SHM	7 (3)	47.4 (10.9)							30 (6)		
Bjolseth 2015	2	2	BF	36 (18)	74.1 (6.6)	No	Mixed	No	Inpatient	DSM-IV-TR	Yes	23 (4)	Augmentation	HDRS-17
			LMRUL	37 (21)	75.5 (6)							23.4 (4.9)		
Blumberger 2012a	3	3	BL	28 (14)	58 (12.5)	No	MDD	Yes	Outpatient	DSM-IV	Yes	25.1 (3.8)	Mixed	HDRS-17
			HFL	24 (12)	48.9 (13.4)							26 (3.3)		
			SHM	22 (14)	45.8 (13.4)							25.2 (2.8)		
Blumberger 2012b	2	2	tDCS	13 (10)	45.3 (11.6)	No	MDD	Yes	Outpatient	DSM-IV	Yes	24.9 (3.1)	Mixed	HDRS-17
			SHM	11 (10)	49.7 (9.4)							24.1 (2.9)		
Blumberger 2016	3	3	HFL	40 (30)	46.5 (14.1)	No	MDD	NA	NA	DSM-IV	Yes	26 (3.4)	Mixed	HDRS-17
			BL	40 (23)	46.4 (12.5)							24.1 (3.2)		
			SHM	41 (24)	48.1 (12)							25.5 (3.6)		
Blumberger 2018	2	2	iTBS	209 (127)	41.6 (10.8)	No	MDD	Yes	Outpatient	NA	Yes	23.6 (4.3)	Mixed	HDRS-17
			HFL	205 (119)	43.2 (12.2)							23.5 (4.4)		
Boggio 2008	3(*)	3	tDCS	21 (14)	51.6 (7.7)	No	MDD	Yes	NA	DSM-IV	Mixed	21.1 (4.4)	Monotherapy	HDRS-21
			SHM[2]	19 (13)	46.5 (7.1)							21.8 (4.7)		
Bortolomasi 2007	2	2	HFL	12 (7)	55.6 (15.4)	No	Mixed	No	Inpatient	DSM-IV	Yes	25.2 (7.8)	Mixed	HDRS-24
			SHM	7 (4)								21.6 (2.2)		
Boutros 2002	2	2	HFL	12 (4)	49.5 (8)	No	MDD	No	Outpatient	DSM-IV	Yes	34.4 (10.1)	Mixed	HDRS-25
			SHM	10 (1)	52 (7)							31.7 (4.9)		
Brandon 1984	2	2	BT	53 (32)	55.4 (NA)	No	NA	NA	Inpatient	NA	NA	44.5 (14.5)	Monotherapy	HDRS-17

			SHM	42 (29)	53 (NA)							39.6 (16.5)		
Brunoni 2013	2	2	tDCS	30 (21)	41 (12)	No	MDD	Yes	Outpatient	DSM-IV	Mixed	21 (3.8)	Monotherapy	HDRS-17
			SHM	30 (20)	46.4 (14)							22 (4.2)		
Brunoni 2017	2	2	tDCS	94 (41)	44.6 (11.8)	No	MDD	Yes	Outpatient	DSM-5	Mixed	27.4 (7)	Monotherapy	HDRS-17
			SHM	60 (30)	40.9 (12.9)							28.1 (6.8)		
Chen 2013	2	2	HFL	10 (7)	44.1 (4.4)	No	MDD	No	Inpatient	DSM-IV	Yes	23.5 (1.9)	Augmentation	HDRS-17
			SHM	11 (4)	47.3 (3.5)							24.9 (1.9)		
Chistyakov 2015	2	2	cTBS	15 (10)	52.7 (11.1)	Yes	Mixed	Yes	Inpatient	DSM-IV	Yes	26.7 (3.9)	Mixed	HDRS-21
			SHM	14 (8)	50.9 (17.3)							24.8 (3.2)		
Concerto 2015	2	2	HFL	15 (6)	51 (6.5)	No	MDD	Yes	Outpatient	DSM-IV-TR	Yes	NA	Augmentation	HDRS-21
			SHM	15 (7)	53 (6.7)							NA		
Dell'Osso 2015	3(*)	3	HFL	13 (5)	52.1 (14.1)	No	Mixed	NA	Mixed	DSM-IV-TR	Yes	18.2 (3)	Augmentation	HDRS-21
			LFR[1]	20 (11)	50.2 (8.5)							21.1 (2.8)		
Duprat 2016	2	2	iTBS	22 (16)	40.1 (11.5)	Yes	MDD	Yes	Mixed	ICD-10/DSM-IV	Yes	21.1 (5)	Monotherapy	HDRS-17
			SHM	25 (17)	43.2 (12.2)							21.5 (6.2)		
Eschweiler 2000	2	2	HFL	5 (NA)	NA	Yes	MDD	No	NA	DSM-IV	No	27.4 (4.6)	Augmentation	HDRS-21
			SHM	5 (NA)	NA							20.2 (3.8)		
Eschweiler 2007	2	2	BF	46 (28)	56.8 (13.1)	No	Mixed	No	NA	ICD-10/DSM-IV	Yes	27.6 (NA)	Augmentation	HDRS-21
			LMRUL	46 (25)	52.4 (15.6)							28 (NA)		
Fitzgerald 2003	3	3	LFR	20 (7)	45.6 (11.5)	No	Mixed	No	Outpatient	DSM-IV	Yes	37.7 (8.4)	Mixed	MADRS
			HFL	20 (8)	42.2 (9.8)							36.1 (7.5)		
			SHM	20 (11)	49.2 (14.2)							35.7 (8.1)		
Fitzgerald 2006	2	2	BL	25 (15)	46.8 (10.7)	No	Mixed	No	Outpatient	DSM-IV	Yes	22.5 (7.4)	Mixed	HDRS-17
			SHM	25 (16)	43.7 (10.2)							19.8 (4.4)		
Fitzgerald 2007	2	2	HFL	15 (8)	42.4 (11.2)	No	MDD	NA	NA	DSM-IV	Yes	34.5 (4.9)	Augmentation	MADRS
			LFR	11 (5)	39.6 (10)							33.3 (3.8)		
Fitzgerald 2008	2	2	pTMS	30 (20)	45.7 (10.8)	No	Mixed	NA	Outpatient	DSM-IV	Yes	33.3 (5.8)	NA	MADRS
			LFR	30 (13)	44.8 (11.4)							33.3 (5.8)		
Fitzgerald 2009	2	2	HFL	16 (8)	42.1 (9.3)	Yes	NA	NA	Outpatient	DSM-IV	Yes	19.8 (4.6)	Mixed	HDRS-17
			LFR	11 (3)	46.5 (11.4)							20.3 (6.2)		
Fitzgerald 2011	2	3	BL	71 (52)	45.7 (13.7)	No	Mixed	NA	Inpatient	DSM-IV	Yes	21.2 (5.6)	Mixed	HDRS-17
			LFR	71 (47)	47.9 (14.1)							21.8 (4.7)		
Fitzgerald 2012	3	3	HFL	24 (15)	43.4 (12.7)	No	MDD	No	NA	DSM-IV	Yes	23.7 (3.8)	Mixed	HDRS-17
			BL	22 (14)	40.5 (15.5)							24.3 (3.6)		
			SHM	20 (8)	44.9 (15.7)							22.8 (2.1)		
Fitzgerald 2013	2	2	pTMS	91 (59)	46.7 (14.2)	No	Mixed	No	Inpatient	NA	Yes	19.5 (4.4)	Mixed	HDRS-17
			BL	88 (66)	48.5 (15.9)							19.8 (5)		
Fitzgerald 2016	2	2	BL	23 (13)	46.3 (12.6)	No	BD	NA	Outpatient	DSM-IV	Yes	23.2 (4)	Mixed	HDRS-17
			SHM	23 (13)	49.7 (11)							23 (5.1)		
Fitzgerald 2018a	2	2	MST	21 (8)	44.6 (14.8)	No	Mixed	No	NA	DSM-IV	Yes	27.1 (4.6)	NA	HDRS-17
			LMRUL	19 (13)	47.2 (16.1)							26.7 (4.9)		

Fitzgerald 2018b	2	2	aTMS	60 (33)	48.2 (14.4)	No	Mixed	NA	Outpatient	DSM-IV	Yes	23 (4.1)	NA	HDRS-17
			HFL	59 (33)	49.9 (13.3)							23.3 (4.5)		
Fregni 2006a	2	2	tDCS	5 (NA)	42.7 (10)	No	NA	NA	NA	NA	NA	NA	Monotherapy	HDRS-17
			SHM	5 (NA)								NA		
Fregni 2006b	2	2	tDCS	9 (5)	47.6 (10.4)	No	MDD	Yes	Outpatient	NA	NA	23.6 (5)	Monotherapy	HDRS-17
			SHM	9 (6)	45.3 (9.3)							25.9 (4.3)		
Garcia-Toro 2001	2	2	HFL	20 (7)	51.5 (15.9)	No	MDD	No	NA	DSM-IV	Yes	27.1 (6.7)	Augmentation	HDRS-21
			SHM	20 (8)	50 (11)							25.6 (4.9)		
George 1997	2	2	HFL	7 (6)	42.4 (15.5)	Yes	Mixed	Yes	Outpatient	DSM-IV	No	30 (4)	Mixed	HDRS-21
			SHM	5 (5)	41 (8.3)							26 (3)		
George 2000	3(*)	3	HFL[1]	22 (13)	42.4 (10.8)	No	Mixed	Yes	Outpatient	DSM-IV	Mixed	28.2 (5.8)	Monotherapy	HDRS-21
			SHM	10 (6)	48.5 (8)							23.8 (4.1)		
George 2010	2	2	HFL	92 (58)	47.7 (10.6)	No	MDD	Yes	Outpatient	DSM-IV	Yes	26.3 (5)	Monotherapy	HDRS-24
			SHM	98 (50)	46.5 (12.3)							26.5 (4.8)		
Gregory 1985	3	3	LMRUL	23 (NA)	NA	No	NA	NA	Inpatient	ICD-9	NA	34.5 (NA)	Monotherapy	HDRS-17
			SHM	23 (NA)	NA							33.2 (NA)		
			BT	23 (NA)	NA							32.4 (NA)		
Grunhaus 2003	2	2	LMRUL	20 (15)	61.4 (16.6)	No	MDD	Yes	Mixed	DSM-IV	Yes	25.5 (5.9)	Monotherapy	HDRS-17
			HFL	20 (14)	57.6 (13.7)							24.4 (3.9)		
Hansen 2004	2	2	HFL	8 (2)	42.5 (38,58)[3]	No	Mixed	No	Inpatient	ICD-10/DSM-IV	NA	NA	Augmentation	HDRS-17
			SHM	7 (2)	46 (44,62)[3]							NA		
He 2011	2	2	BL	55 (36)	37.5 (12.7)	No	MDD	NA	Outpatient	DSM-IV	NA	25.4 (3.8)	Monotherapy	HDRS-24
			SHM	52 (30)	39 (15.2)							23.9 (3.8)		
Hernandez-Ribas 2013	2	2	HFL	10 (8)	42.6 (5.6)	No	Mixed	Yes	Outpatient	DSM-IV	Yes	19.7 (3.8)	Augmentation	HDRS-21
			SHM	11 (8)	50.1 (8.1)							16.5 (2.4)		
Holtzheimer 2004	2	2	HFL	7 (4)	40.4 (8.5)	No	MDD	Yes	Outpatient	DSM-IV	Yes	22.7 (5.3)	Monotherapy	HDRS-17
			SHM	8 (3)	45.4 (4.9)							20.8 (6.3)		
Hoppner 2003	3	3	LFR	10 (8)	52 (11.7)	No	Mixed	Yes	Inpatient	DSM-IV	NA	21.6 (8.1)	Augmentation	HDRS-21
			HFL	10 (8)	60.4 (7.1)							22 (5.1)		
			SHM	10 (6)	56.4 (13.2)							24.9 (4.4)		
Horne 1985	2	2	BT	12 (NA)	22–78[4]	No	MDD	No	Inpatient	DSM-III	NA	23.3 (5.1)	NA	HDRS-17
			LMRUL	12 (NA)								16.8 (8)		
Jakob 2008	3(*)	3	SHM	12 (5)	NA	No	MDD	NA	NA	DSM-IV	NA	23.9 (NA)	Mixed	HDRS-17
			HFL[1]	24 (13)	NA							25.7 (NA)		
Janicak 2002	2	2	BT	11 (5)	42.7 (14)	No	Mixed	No	NA	DSM-IV	Yes	31.4 (8.5)	Mixed	HDRS-24
			HFL	15 (4)	42.9 (13)							32.2 (6.8)		
Januel 2006	2	2	LFR	11 (9)	38.6 (11.2)	No	MDD	Yes	Inpatient	DSM-IV	No	21.7 (3.5)	Monotherapy	HDRS-17
			SHM	16 (12)	37.2 (11.7)							22.5 (2.7)		
Jin 2014	2	2	sTMS	33 (16)	42.5 (15)	No	MDD	No	Mixed	DSM-IV	No	NA	Augmentation	HDRS-17
			SHM	19 (9)	46.3 (12.7)							20 (4.6)		
Kang 2016	2	2	HFL	13 (9)	42.8 (19.1)	No	MDD	Yes	Outpatient	DSM-IV-TR	Yes	24.1 (6.4)	Augmentation	HDRS-17

			SHM	11 (8)	52.2 (20.1)							20 (4.6)		
Kauffmann 2004	2	2	LFR	7 (NA)	51.7 (17.2)	No	NA	NA	NA	DSM-IV	Yes	21.9 (2.3)	Augmentation	HDRS-21
			SHM	5 (NA)								18.2 (2.2)		
Kayser 2011	2	2	MST	10 (6)	48.8 (8.4)	No	Mixed	Yes	Inpatient	DSM-IV	Yes	30.7 (5)	Augmentation	HDRS-28
			LMRUL	10 (7)	52.8 (11.4)							25.8 (2.6)		
Kayser 2017	2	2	MST	13 (3)	45 (14)	No	Mixed	NA	NA	DSM-IV-TR	Yes	26.1 (4)	NA	HDRS-28
			HRUL	12 (4)	55 (12)							28.4 (4)		
Kellner 2010	3	3	BT	72 (44)	52.7 (14.7)	No	Mixed	No	NA	DSM-IV	NA	33.7 (7)	NA	HDRS-24
			BF	81 (52)	51.7 (15)							35.1 (6.8)		
			HRUL	77 (50)	54.9 (15.3)							34.9 (7.7)		
Keshtkar 2011	2	2	BT	40 (32)	35.6 (8.1)	No	MDD	NA	NA	DSM-IV	Yes	25.8 (6.1)	Augmentation	HDRS-21
			HFL	35 (20)	34 (9.9)							21 (7.5)		
Kimbrell 1999	3	3	LFL	5 (4)	44 (15.9)	Yes	Mixed	No	Mixed	DSM-IV	Yes	34.4 (8)	Monotherapy	HDRS-21
			HFL	5 (2)	40.2 (15.1)							25 (6.6)		
			SHM	3 (1)	43.7 (19.1)							24.3 (6.8)		
Klein 1999	2	2	LFR	36 (29)	60.5 (15.1)	No	Mixed	No	Inpatient	DSM-IV	No	25.8 (5.6)	Mixed	HDRS-17
			SHM	34 (24)	58.9 (18.3)							25.3 (6.4)		
Koerselman 2004	2	2	HFL	29 (12)	51 (15.4)	No	Mixed	No	Mixed	DSM-IV	NA	25.9 (4.3)	Augmentation	HDRS-17
			SHM	26 (17)	52 (13.2)							25.9 (5.6)		
Kreuzer 2015	2	3	HFL	15 (8)	46.1 (9.5)	No	Mixed	No	Inpatient	ICD-10	NA	22.3 (4.7)	Augmentation	HDRS-21
			SHM	15 (8)	43.8 (10.5)							23.2 (4.7)		
Letemendia 1993	3	3	BF	20 (14)	55.6 (17.1)	No	Mixed	NA	NA	DSM-III	NA	28.6 (NA)	Monotherapy	HDRS-17
			BT	22 (12)	55.4 (11.6)							30 (NA)		
			LMRUL	17 (10)	56.9 (12.1)							28.9 (NA)		
Leuchter 2015	2	2	sTMS	103 (NA)	46.7 (11.2)	No	MDD	Yes	Outpatient	DSM-IV-TR	Mixed	21.8 (3.8)	Monotherapy	HDRS-17
			SHM	99 (NA)	45.7 (12.6)							21.2 (2.9)		
Levkovitz 2015	2	2	dTMS	111 (48)	45.1 (11.7)	No	MDD	Yes	Outpatient	DSM-IV	Yes	23.5 (4.3)	Monotherapy	HDRS-21
			SHM	122 (53)	47.6 (11.6)							23.4 (3.7)		
Li 2014	4	4	blTBS	15 (11)	42.5 (NA)	No	MDD	Yes	NA	DSM-IV	Yes	25.4 (5.1)	Mixed	HDRS-17
			iTBS	15 (8)	42.4 (NA)							23.1 (3.9)		
			cTBS	15 (10)	49.2 (NA)							24.3 (5.5)		
			SHM	15 (11)	46.9 (NA)							23.8 (3.2)		
Lingeswaran 2011	2	2	HFL	12 (6)	34 (10.5)	No	MDD	Yes	Mixed	DSM-IV	NA	22.8 (3.7)	NA	HDRS-17
			SHM	17 (8)	37.2 (11.8)							22 (3.1)		
Loo 1999	2	2	HFL	9 (NA)	45.7 (14.7)	Yes	Mixed	No	Mixed	DSM-IV	Yes	21.5 (NA)	Mixed	HDRS-17
			SHM	9 (NA)	50.9 (14.7)							25.1 (NA)		
Loo 2003	2	2	BL	9 (9)	54.9 (18)	No	Mixed	NA	Mixed	DSM-IV	Yes	24.2 (1.6)	Mixed	HDRS-17
			SHM	10 (6)	48.4 (10.9)							20.2 (1.3)		
Loo 2007	2	2	HFL	19 (10)	49.8 (2.5)	No	Mixed	Yes	Outpatient	DSM-IV	Yes	19.2 (3.7)	Mixed	HDRS-17
			SHM	21 (8)	45.7 (15)							20.9 (4.2)		
Loo 2010	2	2	tDCS	20 (11)	49 (10)	No	MDD	Yes	Outpatient	DSM-IV	Mixed	18.3 (5.8)	Mixed	HDRS-17

			SHM	20 (11)	45.6 (12.5)							17.3 (4.7)		
Loo 2012	2	2	tDCS	33 (14)	47.8 (12.5)	No	Mixed	Yes	Outpatient	DSM-IV	Yes	29.9 (5.7)	Mixed	MADRS
			SHM	31 (14)	48.6 (12.6)							29.7 (5.7)		
Loo 2018	2	2	tDCS	66 (NA)	18–81[4]	No	Mixed	Yes	NA	DSM-IV-TR	Mixed	29.7 (5.2)	Mixed	MADRS
			SHM	64 (NA)								28.6 (6)		
Malitz 1986	2	2	BT	27 (NA)	61.3 (13.1)	No	MDD	No	Inpatient	RDC	Yes	30.7 (7)	Monotherapy	HDRS-24
			LMRUL	25 (NA)								31.5 (8.4)		
Manes 2001	2	2	HFL	10 (5)	60.5 (3.4)	No	MDD	NA	NA	DSM-IV	Yes	22.7 (5.2)	Monotherapy	HDRS-17
			SHM	10 (5)	60.9 (2)							22.7 (7.1)		
McCall 2002	2	2	BT	37 (25)	57.3 (16.5)	No	NA	NA	NA	NA	NA	28.6 (4.6)	Monotherapy	HDRS-21
			HRUL	40 (24)	60 (16.5)							29.2 (5.3)		
McDonald 2006	3(*)	3	BL[1]	50 (27)	NA	No	Mixed	Yes	Outpatient	DSM-IV	Yes	26.4 (1.4)	Monotherapy	HDRS-21
			SHM	12 (5)	54 (47,64)[3]							27.3 (2.9)		
Mogg 2008	2	2	HFL	29 (16)	55 (18)	No	Mixed	No	Mixed	DSM-IV	Yes	20.5 (4.5)	Mixed	HDRS-17
			SHM	30 (21)	52 (15.5)							21.6 (4.8)		
Mosimann 2004	2	2	HFL	15 (5)	60 (13.4)	No	Mixed	NA	Outpatient	ICD-10/DSM-IV	Yes	28.5 (4.6)	Mixed	HDRS-21
			SHM	9 (5)	64.4 (13)							24.5 (7.3)		
Nahas 2003	2	2	HFL	11 (7)	42.4 (7.3)	No	BD	NA	Outpatient	DSM-IV	NA	32.5 (4.3)	Monotherapy	HRSD-28
			SHM	12 (7)	43.4 (9.3)							32.8 (7.6)		
O'Reardon 2007	2	2	HFL	165 (86)	47.9 (11)	No	MDD	Yes	Outpatient	DSM-IV	Yes	22.6 (3.3)	Monotherapy	HDRS-17
			SHM	160 (74)	48.7 (10.6)							22.9 (3.5)		
Padberg 1999	2	3	LFL	6 (5)	46.7 (14.7)	No	MDD	NA	NA	DSM-IV	Yes	26.7 (9.4)	Mixed	HDRS-21
			SHM	6 (4)	43.3 (11.6)							22.2 (8.8)		
Padberg 2002	3(*)	3	HFL[1]	20 (13)	61.2 (13.8)	No	NA	NA	Inpatient	DSM-IV	Yes	22.8 (5.9)	Augmentation	HDRS-21
			SHM	10 (8)	52.7 (18)							24.4 (6.6)		
Paillere-Martinot 2010	2	3	HFL	19 (11)	48.2 (7.8)	No	Mixed	Yes	Inpatient	DSM-IV-TR	Yes	26 (6.4)	Augmentation	HDRS-21
			SHM	14 (10)	46.6 (10.3)							25.9 (6.7)		
Pallanti 2010	3	3	BL	20 (11)	47.6 (12.3)	No	MDD	Yes	Outpatient	DSM-IV	Yes	28.8 (6)	Augmentation	HDRS-17
			LFR	20 (12)	51.2 (12.5)							28 (5.9)		
			SHM	20 (12)	47.9 (9.1)							29.1 (3.5)		
Palm 2012	2	2	tDCS	11 (6)	56 (12)	Yes	Mixed	NA	Mixed	DSM-IV	Yes	33 (7.3)	Augmentation	MADRS
			SHM	11 (3)	58 (12)							34.6 (5.4)		
Prasser 2015	3	3	blTBS	20 (10)	48.2 (10.9)	No	Mixed	No	Mixed	ICD-10	Mixed	27.4 (6.5)	Augmentation	HDRS-21
			BL	18 (8)	50.4 (9.9)							25 (4.4)		
			SHM	18 (9)	42.6 (12.4)							25.3 (5.4)		
Ranjkesh 2005	3	3	BT	15 (8)	33.4 (14.5)	No	Mixed	Yes	NA	DSM-IV	NA	32.1 (6.6)	Monotherapy	HDRS-24
			BF	15 (8)	36.7 (7.5)							35 (3.4)		
			HRUL	15 (8)	34.1 (9.9)							32.2 (5.4)		
Rosa 2006	2	2	HRUL	20 (7)	46 (10.6)	Yes	MDD	Yes	Mixed	DSM-IV	Yes	32.1 (5)	Monotherapy	HDRS-17
			HFL	22 (12)	41.8 (10.2)							30.1 (4.7)		
Rossini 2005	3(*)	3	HFL[1]	37 (27)	55.7 (10.1)	No	Mixed	Yes	Inpatient	DSM-IV	Yes	28.7 (2.9)	Augmentation	HDRS-21

			SHM	17 (11)	56.3 (12.6)							28.7 (2.1)		
Rossini 2010	2	2	HFL	32 (23)	53.43 (NA)	No	Mixed	Yes	Outpatient	DSM-IV	Yes	24.7 (1.6)	Augmentation	HDRS-21
			LFR	42 (30)	54.45 (NA)							24.3 (1.5)		
Rybak 2005	2	2	BL	9 (6)	47 (12.3)	No	Mixed	NA	Mixed	DSM-IV	Yes	23.8 (2.4)	Augmentation	HDRS-17
			HFL	9 (6)	53.4 (13.3)							23 (4)		
Sackeim 1993	4(*)	4	BT[1]	50 (27)	56.2 (14.1)	Yes	MDD	No	Inpatient	RDC	Yes	33.5 (8.5)	Monotherapy	HDRS-24
			LMRUL[1]	46 (32)	56.5 (15.5)							34 (8.5)		
Sackeim 2000	4(*)	4	BT	20 (13)	55 (15.6)	Yes	Mixed	No	Mixed	RDC	Mixed	29.2 (7.4)	Monotherapy	HDRS-24
			HRUL	20 (14)	53.7 (16.5)							32.6 (7.8)		
			LMRUL[1]	40 (24)	59.8 (15.7)							31 (7.1)		
Sackeim 2008	4(*)	4	BT[1]	46 (26)	52 (17.5)	Yes	Mixed	No	Inpatient	DSM-IV	Yes	29.5 (7)	Monotherapy	HDRS-24
			HRUL[1]	44 (25)	49.5 (15)							31.5 (7.5)		
Salehinejad 2015	2	2	tDCS	15 (8)	28.7 (5.9)	No	MDD	Yes	Outpatient	DSM-IV	Yes	24.7 (3.1)	Monotherapy	HDRS-24
			SHM	15 (9)	27.9 (5.8)							22.8 (2.1)		
Salehinejad 2017	2	2	tDCS	12 (7)	26.8 (7.1)	No	MDD	Yes	Outpatient	DSM-IV	No	24.6 (2.6)	Monotherapy	HDRS-24
			SHM	12 (8)	25.5 (4.6)							22.6 (1.9)		
Sampaio-Junior 2018	2	2	tDCS	30 (16)	46.2 (11.8)	No	BD	NA	Outpatient	DSM-5	Mixed	23.1 (3.9)	Augmentation	HDRS-17
			SHM	29 (24)	45.7 (10.3)							23.5 (4.7)		
Semkovska 2016	2	2	BT	69 (47)	56.8 (14.4)	No	Mixed	No	Inpatient	DSM-IV	Mixed	29.5 (6.3)	Augmentation	HDRS-24
			HRUL	69 (40)	56.6 (15.3)							30.4 (6.1)		
Sienaert 2009	2	2	BF	41 (19)	56.1 (10.8)	No	Mixed	No	NA	DSM-IV	Yes	30.3 (6.5)	Monotherapy	HDRS-17
			HRUL	40 (23)	54.4 (13.1)							29 (5.2)		
Speer 2014	3	3	HFL	8 (5)	41.3 (14.5)	No	Mixed	No	Mixed	DSM-IV	Yes	35.8 (10.6)	Monotherapy	HDRS-28
			LFL	8 (5)	39.6 (9)							28.6 (7.6)		
			SHM	8 (3)	44.9 (9.1)							24 (4.6)		
Stern 2007	4	4	LFR	10 (3)	52.8 (9.5)	No	MDD	Yes	Outpatient	DSM-IV	Yes	27.9 (3.8)	Monotherapy	HDRS-21
			LFL	10 (6)	52.3 (9.4)							27.6 (3.9)		
			HFL	10 (6)	53.2 (12)							27.8 (3.2)		
			SHM	15 (9)	53.3 (9)							27.4 (2.9)		
Stoppe 2006	2	2	BT	22 (16)	74.8 (6.8)	No	MDD	No	Inpatient	DSM-IV	Yes	38.1 (6.6)	Monotherapy	MADRS
			HRUL	17 (6)	75.6 (9.6)							32.8 (8)		
Su 2005	3	3	HFL[1]	22 (15)	43.4 (11)	No	Mixed	Yes	NA	DSM-IV	Yes	24.9 (6.3)	Augmentation	HDRS-21
			SHM	11 (7)	42.6 (11)							22.7 (4.7)		
Tavares 2017	2	2	dTMS	26 (17)	43.5 (12)	No	BD	NA	Outpatient	DSM-IV	Yes	25.8 (5.3)	Augmentation	HDRS-17
			SHM	26 (18)	41.2 (8.9)							25.3 (3.8)		
Taylor 1985	2	2	BT	15 (NA)	NA	No	MDD	NA	Inpatient	DSM-III	NA	17.4 (5.8)	Monotherapy	HDRS-15
			LMRUL	22 (NA)	NA							14.2 (7)		
Taylor 2018	2	2	HFL	20 (11)	46.9 (10.7)	No	MDD	Yes	Outpatient	DSM-IV	Yes	16 (3.9)	Mixed	HDRS-17
			SHM	20 (10)	44.1 (11.1)							13.1 (2.3)		
Theleritis 2017	4(*)	4	HFL[1]	54 (26)	39 (12.2)	No	MDD	Yes	Outpatient	DSM-IV-TR	Yes	30.2 (4)	Mixed	HDRS-17
			SHM[2]	44 (20)	38.8 (9.4)							29.9 (3.4)		

Triggs 2010	4(*)	4	HFR	16 (9)	48.5 (10.8)	No	MDD	Yes	NA	DSM-IV	Yes	27.2 (4.8)	Augmentation	HDRS-24
			HFL	18 (14)	46.7 (15.3)							28.2 (6)		
			SHM[2]	14 (6)	44.3 (17.4)							27.5 (3.1)		
Zheng 2010	2	2	HFL	19 (7)	26.9 (6.2)	No	MDD	Yes	NA	DSM-IV	Yes	24.6 (3)	Augmentation	HDRS-17
			SHM	15 (5)	26.7 (4.3)							24.6 (2.8)		

Note. aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation. (*) Treatment groups were combined; [1] Active treatment groups were combined; [2] Sham treatment groups were combined; [3] Median and IQR; [4] Range.

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6. Full-texts excluded

The following full-text articles were screened for inclusion and exclusion criteria but excluded for the reasons listed below.

Did not meet age criteria **(1)**

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No data on depressive symptoms **(13)**

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7. Network geometry

Supplementary Table 2. **Network geometry (direct treatment comparisons).**

Comparison	Response		Remission		Continuous		Discontinuation	
	k	%	*k*	%	*k*	%	*k*	%
aTMS_HFL	1	3.2	1	4.0	1	3.5	1	3.5
aTMS_SHM	1	0.5	1	0.4	1	1.1	1	0.7
BF_BT	–	–	1	2.6	2	3.6	2	3.7
BF_HRUL	1	3.5	2	2.2	3	2.7	3	3.3
BF_LMRUL	2	4.0	2	3.2	1	2.1	2	2.2
BL_blTBS	1	1.9	1	2.1	1	1.9	1	1.2
BL_HFL	4	2.1	3	2.2	4	1.9	4	1.6
BL_LFR	2	3.2	2	3.2	1	2.1	2	2.6
BL_pTMS	1	3.2	1	3.7	1	3.1	1	3.3
BL_SHM	10	5.0	7	4.6	7	6.1	10	6.0
blTBS_cTBS	1	1.5	–	–	–	–	1	1.0
blTBS_iTBS	1	1.6	–	–	–	–	1	0.8
blTBS_SHM	2	0.9	1	2.8	1	2.8	2	2.5
BT_HFL	–	–	1	3.3	2	1.6	1	3.1
BT_HRUL	4	2.9	5	4.2	6	1.2	6	2.2
BT_LMRUL	5	2.6	1	1.6	3	2.9	3	1.7
BT_SHM	1	2.0	1	4.7	1	6.1	2	5.7
cTBS_iTBS	1	1.4	–	–	–	–	1	1.0
cTBS_SHM	2	2.4	1	4.5	1	4.3	2	3.1
dTMS_SHM	2	3.4	2	4.5	2	4.3	2	4.4
HFL_HFR	1	3.5	–	–	1	2.4	1	2.1
HFL_LFL	3	1.1	3	2.0	3	0.4	3	1.5
HFL_LFR	6	3.9	3	1.7	6	4.1	7	1.7
HFL_SHM	40	7.5	31	11.2	37	7.4	43	8.9
HFR_SHM	1	3.7	–	–	1	2.5	1	2.4
HRUL_HFL	–	–	–	–	1	2.9	1	1.9
HRUL_LMRUL	1	2.2	1	1.6	–	–	–	–
iTBS_HFL	1	5.0	1	4.2	1	4.0	1	4.6
iTBS_SHM	3	1.0	2	0.6	2	1.6	3	0.7

LFL_LFR	1	1.1	1	0.7	1	1.0	1	0.6
LFL_SHM	4	2.6	4	2.3	3	3.4	4	2.8
LFR_SHM	7	1.7	5	3.9	6	1.2	7	2.4
LMRUL_HFL	1	3.1	1	5.6	1	3.6	1	0.4
LMRUL_SHM	–	–	–	–	–	–	1	3.7
MST_HRUL	1	2.2	–	–	1	1.3	1	2.1
MST_LMRUL	2	4.9	2	3.5	2	2.7	2	1.7
pTMS_LFR	1	1.1	–	–	1	1.6	1	0.5
sTMS_SHM	2	3.4	2	4.5	2	4.3	2	4.4
tDCS_SHM	11	7.0	10	4.5	10	4.3	13	4.4

Note. k indicates the number of direct treatment comparisons available with corresponding percentage contribution to each network estimation. aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.

8. Risk of bias assessment

The following criteria were considered when determining the risk of bias rating in each domain.

Random sequence generation:

Low risk: randomization method described (e.g. flipping a coin, computer software).

Unclear risk: randomization method not described or unclear whether method appropriate.

High risk: randomization method described but considered problematic (e.g. potentially leading to unbalanced group allocation).

Allocation concealment:

Low risk: concealment method described (e.g. envelopes, concealed computer database).

Unclear risk: concealment method not described.

High risk: allocation was not concealed.

Blinding of participants and personnel:

Low risk: adequate blinding of participants and personnel reported.

Unclear risk: no information about blinding provided.

High risk: participants were aware of treatment allocation.

Blinding of outcome assessment:

Low risk: details provided on measures undertaken to conceal allocation during outcome assessment and explicitly stated that raters were blind to treatment allocation.

Unclear risk: no reference to rater blinding.

High risk: raters were not blinded or rater blinding compromised (i.e. statistically significant correct rater guesses of treatment allocation).

Incomplete outcome data:

Low risk: no drop-outs or attrition adequately reported with valid reasons for missing data.

Unclear risk: attrition not sufficiently described.

High risk: high attrition rate and/or attrition highly unbalanced. Analyses primarily carried out in patients who complied to the protocol.

Selective outcome reporting:

Low risk: all outcomes are reported.

Unclear risk: not all outcomes are reported but the primary outcomes are reported.

High risk: results of at least one primary outcome are not reported.

Overall risk of bias

Low risk: low risk in all domains *or* 1 domain unclear.

Unclear risk: at least two domains with unclear risk of bias.

High risk: at least one domain with high risk of bias.

Supplementary Table 3. **Cochrane risk of bias tool**.

	Random sequence generation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome	Selective outcome reporting	Overall risk
Abrams et al. 1991	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Anderson et al. 2007	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Avery et al. 1999	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
Avery et al. 2006	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk
Baeken et al. 2013	Low risk	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Bakim et al. 2012	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk
Berman et al. 2000	Unclear	Unclear	Low risk	High risk	High risk	Low risk	High risk
Beynel et al. 2014	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk
Bjolseth et al. 2015	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Blumberger et al. 2012a	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Blumberger et al. 2012b	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Blumberger et al. 2016	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk
Blumberger et al. 2018	Low risk	Low risk	High risk	Low risk	High risk	Low risk	High risk
Boggio et al. 2008	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Bortolomasi et al. 2007	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Boutros et al. 2002	Low risk	Unclear	Low risk	Low risk	High risk	Low risk	High risk
Brandon et al. 1984	Low risk	Unclear	Low risk	Low risk	High risk	Low risk	High risk
Brunoni et al. 2013	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Brunoni et al. 2017	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk
Chen et al. 2013	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Chistyakov et al. 2015	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
Concerto et al. 2015	Unclear	Unclear	Low risk	Unclear	Low risk	Low risk	Unclear
Dell'Osso et al. 2015	Unclear	Unclear	Unclear	Low risk	High risk	Low risk	High risk
Duprat et al. 2016	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk
Eschweiler et al. 2000	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Eschweiler et al. 2007	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Fitzgerald et al. 2003	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Fitzgerald et al. 2006	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Fitzgerald et al. 2007	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
Fitzgerald et al. 2008	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk
Fitzgerald et al. 2009	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Fitzgerald et al. 2011	Low risk	Unclear	Low risk	Low risk	High risk	Low risk	High risk
Fitzgerald et al. 2012	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
Fitzgerald et al. 2013	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk
Fitzgerald et al. 2016	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk

Fitzgerald et al. 2018a	Low risk	Unclear	High risk	Low risk	Low risk	Low risk	High risk
Fitzgerald et al. 2018b	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Fregni et al. 2006a	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Fregni et al. 2006b	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Garcia-Toro et al. 2001	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
George et al. 1997	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
George et al. 2000	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
George et al. 2010	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk
Gregory et al. 1985	Unclear	Unclear	Low risk	Low risk	High risk	Low risk	High risk
Grunhaus et al. 2003	Low risk	Unclear	High risk	Low risk	Low risk	Low risk	High risk
Hansen et al. 2004	Low risk	Unclear	Low risk	Low risk	High risk	Low risk	High risk
He et al. 2011	Low risk	Low risk	Unclear	Unclear	Low risk	Low risk	Unclear
Hernandez-Ribas et al. 2013	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Holtzheimer et al. 2004	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Höppner et al. 2003	Low risk	Unclear	Unclear	Low risk	Unclear	Low risk	Unclear
Horne et al. 1985	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
Jakob et al. 2008	Unclear	Unclear	Unclear	Unclear	Low risk	Low risk	Unclear
Janicak et al. 2002	Unclear	Unclear	High risk	High risk	Low risk	Low risk	High risk
Januel et al. 2006	Unclear	Unclear	Unclear	Low risk	High risk	Low risk	Unclear
Jin and Phillips 2014	Low risk	Unclear	Low risk	Unclear	Low risk	Low risk	Unclear
Kang et al. 2016	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
Kauffmann et al. 2004	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Kayser et al. 2011	Unclear	Unclear	Low risk	Unclear	Low risk	Low risk	Unclear
Kayser et al. 2017	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk
Kellner et al. 2010	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
Keshtkar et al. 2011	Low risk	Unclear	High risk	High risk	Low risk	Low risk	High risk
Kimbrell et al. 1999	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Klein et al. 1999	Low risk	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Koerselman et al. 2004	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
Kreuzer et al. 2015	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk
Letemendia et al. 1993	Unclear	Unclear	Unclear	Low risk	High risk	Low risk	High risk
Leuchter et al. 2015	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk
Levkovitz et al. 2015	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk
Li et al. 2014	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
Lingeswaran et al. 2011	Low risk	Unclear	Low risk	Low risk	High risk	Low risk	High risk
Loo et al. 1999	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
Loo et al. 2003	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
Loo et al. 2007	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk
Loo et al. 2010	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
Loo et al. 2012	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk

Loo et al. 2018	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Malitz et al. 1986	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
Manes et al. 2001	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
McCall et al. 2002	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
McDonald et al. 2006	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Mogg et al. 2008	Low risk	Low risk	High risk	High risk	Low risk	Low risk	High risk
Mosimann et al. 2004	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Nahas et al. 2003	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk
O'Reardon et al. 2007	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Padberg et al. 1999	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Padberg et al. 2002	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Paillere-Martinot et al. 2010	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Pallanti et al. 2010	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Palm et al. 2012	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk
Prasser et al. 2015	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
Ranjkesh et al. 2005	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Rosa et al. 2006	Low risk	Unclear	High risk	Low risk	Low risk	Low risk	High Risk
Rossini et al. 2005	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk
Rossini et al. 2010	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Rybak et al. 2005	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
Sackeim et al. 1993	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
Sackeim et al. 2000	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Sackeim et al. 2008	Low risk	Unclear	Low risk	Low risk	Low risk	Low risk	Low risk
Salehinejad et al. 2015	Unclear	Unclear	Low risk	Unclear	Low risk	Low risk	Unclear
Salehinejad et al. 2017	Unclear	Unclear	Low risk	Unclear	Low risk	Low risk	Unclear
Sampaio-Junior et al. 2018	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Semkovska et al. 2016	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Sienaert et al. 2009	Unclear	Unclear	Unclear	Low risk	High risk	Low risk	High risk
Speer et al. 2014	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
Stern et al. 2007	Unclear	Unclear	Low risk	Low risk	Low risk	Low risk	Unclear
Stoppe et al. 2006	Unclear	Unclear	Unclear	Low risk	High risk	Low risk	High risk
Su et al. 2005	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Tavares et al. 2017	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Taylor et al. 1985	Unclear	Unclear	Unclear	Low risk	Low risk	Low risk	Unclear
Taylor et al. 2018	Low risk	Unclear	High risk	Low risk	High risk	Low risk	High risk
Theleritis et al. 2017	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Triggs et al. 2010	Unclear	Unclear	Unclear	Unclear	Low risk	Low risk	Unclear
Zheng et al. 2010	Unclear	Unclear	Unclear	Unclear	Low risk	Low risk	Unclear

Supplementary Table 4. **Cochrane risk of bias tool, supporting statements**.

	Random sequence generation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data	Selective outcome reporting
Abrams 1991	"13 patients had been randomly assigned to […] and 34 more patients were included"	No information provided.	No information provided.	"Patients were rated […] by one of us (R.A. or C.V.), who were unaware of treatment electrode placement"	"Thirty-eight patients were included […] 20 received right unilateral ECT and 18 received bilateral ECT" The trial did not report any dropouts.	Results of all primary outcome measures were reported.
Anderson 2007	„patients were randomised (sealed envelope) to active or sham treatment stratified by degree of treatment resistance"	"patients were randomised (sealed envelope)"	"Assessments were made [...] with patients and assessors unaware of treatment allocation" "Of 25 participants, 19 (76%, P<0.05) guessed their correct treatment allocation; 3 gave a reason related to the treatment itself and 18 of 25 cited degree of improvement"	"Assessments were made [...] with patients and assessors unaware of treatment allocation"	"Two patients per group withdrew before completing 2 weeks of treatment (active: scalp pain, unrelated finger infection; sham: self-harm, treatment too stressful)" Missing outcome data imputed using last-observation carried forward.	Results of all primary outcome measures were reported.
Avery 1999	"Of the six depressed outpatients, four were randomized to rTMS and two to the sham stimulation."	No information provided.	"Subjects and raters were blind to the treatment condition."	"A board-certified psychiatrist blind to the treatment groups administered the SIGH-SAD"	The trial did not report any dropouts.	Results of only primary outcome measures were reported.
Avery 2006	"Randomization was performed with a computer program using urn randomization […]. Nine urns were used: 1) Thase-Rush stage of medication resistance; 2) baseline HDRS score; 3) current depressive episode duration; 4) melancholic features; 5) gender; 6) age; 7) presence of treated hypothyroidism; 8) currently taking a benzodiazepine; and 9) currently taking an antidepressant."	No information provided.	"Subjects were blind to treatment allocation throughout the entire treatment protocol. Transcranial magnetic stimulation treaters (D.H.A., P.E.H., W.F., J.N.) interacted minimally with the subjects to guard against revealing treatment allocation." "The TMS group and the sham group did not differ significantly in their guesses about which treatment they received after either the first (p .05) or last TMS session (p .05). After the first session, 15% (5/34) of the TMS group guessed that they were receiving TMS compared with 15% (5/33)	"The raters, who were never the treaters, were blind to treatment allocation and did not ask the subjects about side effects. The subjects were told that if they had a guess concerning the treatment allocation, they should neither share that with the rater nor discuss the reason for the guess."	Figure 1. "Missing data were assumed to be missing at random." Missing data and one participant with protocol violations included in analysis.	Results of all primary outcome measures were reported.

			of the sham group. After the 15th session, among those who received TMS, 58% (19/33) of the TMS group guessed that they had received TMS compared with 43% (13/30) of the sham group." "After the first session, those who ultimately met response criteria at visits 16 and 17 made similar (p .05) guesses as those who ultimately did not respond, but after the 15th session, the responders were significantly more likely than the nonresponders to guess that they had received TMS (p .05). After the first session, 23% (3/13) of the responders thought that they had received TMS compared with 13% (7/54) of the nonresponders. After the 15th session, 85% (11/13) of the responders thought they had received TMS compared with 42% (21/50) of the nonresponders."			
Baeken 2013	"patients were randomized (flipping a coin) to receive in the first week real or sham HF-rTMS delivered on the left DLPFC."	No information provided.	"Patients were kept unaware of the type of stimulation; they wore earplugs and were blindfolded." "because we used an intensive HF-rTMS paradigm, applying multiple sessions on a given day, we cannot exclude that our procedure resulted in a lower blinding success."	"A methodological limitation of the current trial is the single center setup in which most clinical raters were familiar with rTMS. Although the raters were instructed not to evaluate patients' stimulation experience and were unaware of the type of stimulation the patients received, we might consider this to be a possible drawback."	"Because of clinical non-response, after one week of stimulation (real HF-rTMS), one female patient refused to continue treatment. No follow-up data for the second week could be collected. Consequently, we performed all analyses on the remaining 20 patients." However, data from first period prior to cross-over had no drop-outs.	Results of all primary outcome measures were reported.
Bakim 2013	"The patients, […] were randomly assigned to […] using a random allocation software (40)."	No information provided.	"Both raters who were experienced psychiatrists and the participants were all blind to the stimulation parameters."	"Both raters who were experienced psychiatrists and the participants were all blind to the stimulation parameters."	"Of 40 patients who met the inclusion criteria and enrolled, four patients left the study in the first week due to withdrawal of consent and one left the study due to a change in	Results of all primary outcome measures were reported.

					employment status. Of the remaining 35 patients, 12 were assigned to Group 1, 11 were assigned to Group 2, and 12 were assigned to Group 3." No dropouts during the trials were reported.	
Berman 2000	"Patients were randomly assigned to receive a course of active or sham TMS"	No information provided.	"Depressed subjects, […], were assigned in a randomized double-blind manner" "Patients guessed their blind accurately in 10 out of 15 (67%) assessed cases (p = .56) […] For both patients and raters, clinical response was identified as the prime reason for guess." "Physicians administering the treatment had minimal clinical contact with the patient and blinded raters."	"Patients were assessed daily by a blinded research assistant" "raters guessed blind correctly in 12 out of 15 (80%) cases (p = .04). […] For both patients and raters, clinical response was identified as the prime reason for guess." Maintenance of rater blinding likely compromised.	"Three of 10 subjects receiving sham treatment discontinued early because of lack of response" Missing data imputed using last-observation carried forward method. High attrition rate and attrition unbalanced between groups.	Results of all primary outcome measures were reported.
Beynel 2014	"randomization was performed using a randomizationtable and assessed 3 by 3 to have the same proportion of patients in each group."	No information provided.	"Twelve patients […] participated in this randomized double-blind placebo-controlled iTBS study."	"the TMS operator did the un-blinding for the purpose of this study, independently from the clinical research team, who remained fully blind of each patient's treatment status."	The trial did not report any dropouts.	Results of only primary outcome measures were reported.
Bjølseth 2015	"A permuted block-randomization scheme was created by an experienced statistician, using five numbers in each block."	"Eighty sealed, numbered envelopes containing the code BF or RUL were kept by the study secretary." "The envelopes were opened consecutively for every patient eligible for randomization by the study secretary and the study psychiatrist together."	"This single-site, randomized, assessor-blinded, controlled trial" "Raters and ward nurses were not permitted to enter the ECT treatment room. Thus, neither patients nor raters were able to identify the actual electrode-placement approach."	"Raters and ward nurses were not permitted to enter the ECT treatment room. Thus, neither patients nor raters were able to identify the actual electrode-placement approach." "Two assessors, a study psychologist and a trained test assistant, who were blinded to the electrode placement, conducted the measurements of efficacy and side-effects."	"Out of 73 ITT patients, 66 (90.4%) completed the ECT treatment." "HRSD17 scores at baseline were missing for seven patients. In these cases, HRSD17 scores at inclusion were imputed. The mean number of days between inclusion and baseline assessment was five. Four missing MADRS scores at baseline and two missing MADRS scores after ECT were calculated from corresponding HRSD17 scores, by multiplying the observed HRSD17 score of the patient, for whom the MADRS score was missing, with the ratio of mean MADRS to mean HRSD17	Results of all primary outcome measures were reported.

					scores at the same time point. Although there is no scientifically validated method of imputing a missing MADRS score from an observed HRSD score, this approximation was done because MADRS was a secondary outcome measure, and because it made it possible to include all patients in the ITT analyses." Fig. 1. Participant flow.	
Blumberger 2012a	"individuals were randomized on a computer-generated list"	"individuals were randomized on a computer-generated list with the information stored on a central computer."	"Subjects and raters were blind to randomization group." "During the informed consent process subjects were told that there were three treatment conditions (two active and one placebo) and were instructed not to discuss their treatment with the clinical rater. There was no mention in the consent as to the configuration of the placebo condition (i.e. unilateral or bilateral)." "Of a total of 61 subjects who were assessed for maintenance of the blind, 35 subjects (57.4%) correctly guessed whether they received active or sham treatment: 16 (66.7%) in the bilateral group, seven (36.8%) in the unilateral group and 12 (66.7%) in the sham group. These proportions did not differ significantly among the three groups ($\chi 2 = 4.76$; df = 2; P = 0.093)."	"Subjects and raters were blind to randomization group."	"A total of 74 patients were randomized (see Figure 1). After randomization, it was discovered that six subjects (two in each group) had failed a course of ECT during the current depressive episode. These subjects were excluded from the analyses as having a more severe form of TRD that is thought to be highly unlikely to respond to rTMS […]. The remaining 68 subjects were included in the modified intention to treat analysis." Figure 1.	Results of all primary outcome measures were reported.
Blumberger 2012b	"subjects were randomly assigned using a computer-generated randomization list"	"randomization list with the information stored on a centralized computer"	"clinical raters and subjects blind to treatment group allocation." "Of a total of 19 subjects who were assessed for maintenance of the blind, 14 subjects (73.7%) correctly	"clinical raters and subjects blind to treatment group allocation."	Fig. 1. CONSORT flow chart. "Post-treatment (week 1) data on the primary outcome measure was available for n = 21 subjects (87.5%)."	Results of all primary outcome measures were reported.

			guessed whether they received active or sham treatment: 6 (60.0%) in the active tDCS group and 8 (88.9%) in the sham group. These proportions did not differ significantly between the two groups (p = 0.30)."		"the analysis was conducted on an intention to treat basis."	
Blumberger 2016	"participants were randomized using a computer-generated list with a permuted, random block design"	No information provided.	"However, clinical evaluators and participants were all blinded to the treatment condition." "Of the 121 participants who were asked to guess whether they were randomized to the rTMS or sham condition, 76 (62.3%) guessed correctly: 25 (62.5%) in the bilateral group, 21 (52.5%) in the unilateral group and 30 (73.1%) in the sham group. These proportions did not differ significantly ($\chi 2$ 2 = 3.7; p = 0.16)." "The possibility exists that the blinding was compromised, as participants were able to guess correctly at a rate better than chance the treatment to which they were allocated; however, no statistical differences in ability to identify the treatment was found among the 3 groups."	"However, clinical evaluators and participants were all blinded to the treatment condition." "We followed strict instructions throughout the trial to ensure that operators did not communicate with raters."	"The flow of patients through the study is presented in Fig. 1. Of the 311 patients screened, 183 did not meet our eligibility criteria, 6 declined to participate, and 1 was admitted to hospital between giving consent and randomization. Thus, 121 patients were randomized, participated in at least 1 treatment session and were included in the analyses." "Intention to treat and completer analyses were conducted for all outcome variables."	Results of all primary outcome measures were reported.
Blumberger 2018	"Participants were randomly allocated (1:1) to treatment groups […] by use of a random permuted block method, with stratification by site and number of adequate trials in which the antidepressants were unsuccessful." "Randomisation tables of a fixed size were made before each site started recruitment with a computerbased algorithm that generated randomly permuted blocks,	"[…] randomisation tables were used by staff outside the study team to produce opaque, sealed envelopes, labelled with a participant-specific randomisation identification number and containing a treatment allocation code."	"Participants and treatment technicians were, by necessity, aware of the treatment condition."	"Treatment was delivered openlabel but investigators and outcome assessors were masked to treatment groups." "[…] staff assessing treatment outcomes were segregated in a different clinic area and were masked to treatment condition. Participants were instructed not to discuss their treatment allocation with these staff or other participants."	"414 participants were randomly assigned to receive treatment (205 [50%] 10 Hz rTMS and 209 [50%] iTBS) and two (one from each group) withdrew participation after having an MRI but before receiving treatment. Of the remaining participants, 192 (94%) participants from the 10 Hz rTMS group and 193 (92%) from the iTBS group completed most of the course of 4 weeks of	Results of all primary outcome measures were reported.

	which were stratified by study site, and groups were balanced regarding degree of medication resistance."				treatment (with 12 participants from the 10 Hz rTMS group and 15 participants from the iTBS group discontinuing treatment) and were analysed for the primary outcome (figure 1)." "A per-protocol analysis was chosen, since intention-to-treat analyses can bias results toward non-inferiority."	
Boggio 2008	"Randomization was performed using the order of entrance in the study and a previous randomization list generated by computer." "As we decided to have another control condition, we added 20 additional patients (10 for active stimulation and 10 for active control). Therefore 40 patients were entered into the study."	No information provided.	"We report the findings of a phase II, parallel-group, sham controlled, double-blind clinical trial with 40 patients."	"Rating was performed by a trained experienced psychologist (M.L.M.) blinded to the patients' treatment group assignment."	"There were no dropouts, and the few missing data (<3% of the data) were considered at random."	Results of all primary outcome measures were reported.
Bortolomasi 2007	"Participants were randomly assigned to two treatment groups to receive either active rTMS (n= 12) or sham rTMS (n= 7). The two groups were matched for age and sex and were homogenous in terms of clinical parameters."	No information provided.	"The patients were naive to rTMS prior to the study and were not familiar with the differences between sham and active rTMS regarding acoustic and tactile artefacts."	"Patients were examined by one psychiatrist (M.B.) and one clinical psychologist (S.C.)." "The rater was unaware of the rTMS treatment."	"All 19 patients completed the study per protocol." The trial did not report any dropouts.	Results of all primary outcome measures were reported.
Boutros 2002	"Randomization was done using a computer-generated sequence."	No information provided.	"The current study was undertaken […] in a double-blind randomized fashion." "No other members of the research team were allowed inside the rTMS laboratory while a subject was being stimulated to further preserve the blind."	"The same fully trained research assistant, who was kept blind to the treatment condition, administered all the HAMDs both during the 2-week treatment and follow-up periods."	"One of the patients randomized to sham rTMS dropped out following the first session. His data were excluded from the analysis." High attrition rate and attrition unbalanced between groups.	Results of all primary outcome measures were reported.
Brandon 1984	"each patient was allocated a code number and regardless of diagnosis allocated according to previously determined random numbers to receive treatment or placebo (simulated treatment)."	No information provided.	"Electroconvulsive therapy was investigated in a double blind trial." "For patients in the placebo group the same procedure was followed but the current was not passed."	"At the end of the four week trial consultants, who were blind to the allocation of treatment, rated the patients" "Full details on the patients were obtained by a member of the research team who	"If a patient received fewer than four trial treatments this was defined as constituting an incomplete course of treatment and the patient was excluded from further analysis."	Results of only primary outcome measures were reported.

			"Other nursing staff had no access to patients during or after treatment until the patient was able to enter the- recovery room. We could find no evidence of any breach of security."	was blind to their treatment."	"Eighteen of the patients with depression failed- to complete a full course of trial treatment: 16 were withdrawn from treatment."	
Brunoni 2013	"A research assistant not directly involved in other aspects of the trial performed a 1:1:1:1 permuted block randomization"	"and the allocation was concealed using a central randomization method."	"The raters and patients were blinded to the treatment, and contact between participants was avoided to enhance study blinding." "Finally, because the nurses were not blinded to the intervention, their interaction with the participants was minimal. Accordingly, they did not participate in assessment of the outcomes or in any other aspect of the trial."	"The raters and patients were blinded to the treatment, and contact between participants was avoided to enhance study blinding."	"Nine patients dropped out within the first 2 weeks and 103 patients (85.8%) completed the entire trial (eFigure)." "Analyses were conducted in the intention- to-treat sample according to the last observation carried forward through the time points."	Results of all primary outcome measures were reported.
Brunoni 2017	"patients were randomly assigned in a 2:3:3 ratio, with the use of a permuted-block design, according to a computer-generated list"	No information provided.	"In a single-center, double-blind, noninferiority trial involving adults with unipolar depression" "To assess the integrity of trial-group blinding, patients were asked to guess which intervention they had received and to rate the confidence in their prediction."	"All the assessments were performed by trained psychiatrists and psychologists who were unaware of the trial-group assignments." "Patients correctly guessed their trial-group assignment to escitalopram but not to active tDCS."	"Of these 245 patients, 202 received all 22 planned sessions of actual or sham tDCS and completed the week-10 assessment (55 patients in the placebo group, 75 in the escitalopram group, and 72 in the tDCS group) (Fig. S1 in the Supplementary Appendix). Withdrawal rates did not differ significantly among the three groups ($\chi 2=4.77$, $P=0.09$)." "Missing data were considered to be missing at random and were imputed with the use of regression models, in which baseline depression and main demo-graphic characteristics were used as variables."	Results of all primary outcome measures were reported.
Chen 2013	"Study participants were randomized into two groups: an active rTMS group and a sham group."	No information provided.	"The clinical trial was performed using a double blind and randomized design."	"The raters who evaluated the patients did not know whether a participant had been assigned to the rTMS or sham group."	"One patient in the sham group withdrew from the study because of unspecified somatic complaints. Thus, 20 patients completed the trial and 1 month follow-up."	Results of all primary outcome measures were reported.

					One patient excluded from analysis.	
Chistyakov 2015	"Initially, patients were randomized"	No information provided.	"In phase 1 (double-blind phase), the rater and patients were blinded to the treatment, whereas phase 2 was single-blinded." Only data from period one included.	"In phase 1 (double-blind phase), the rater and patients were blinded to the treatment, whereas phase 2 was single-blinded." Only data from period one included.	"Three patients dropped out from the study, all from the group that initially received sham cTBS. One patient withdrew after 2 treatment sessions and two additional patients dropped out two days after they crossed over to the active cTBS." Data from first period prior to cross-over had only one drop-out. "The imputation method used for calculation of the missing observations was based on a regression equation that predicts post-treatment ratings taking into account age, gender, length of illness, medication status and clinical ratings."	Results of all primary outcome measures were reported.
Concerto 2015	"Study participants were randomized into two groups"	No information provided.	"All patients remained blind to their allocation for the duration of the study."	No information provided.	"No adverse event was observed during and after the rTMS procedures and none of the patients dropped out during the whole follow-up study."	Results of all primary outcome measures were reported.
Dell'Osso 2014	„Patients […], being randomised to 3 different protocols"	No information provided.	No information provided.	"All psychometric scales were administered […] in a blind-rater design. Raters, in fact, were distinct from clinicians providing the treatment and only administered psychometric scales without receiving information about the type of treatment (i.e., HF vs. LF-rTMS) patients were receiving."	"When extending the analysis to the whole sample, […], causing early discontinuation from the study. Two other patients did not complete the 4-week-treatment, one of them because of clinical worsening requiring hospitalisation (before T2) and the other because of illicit substances abuse (before T1), considered an exclusion criteria. The 4 drop-outs were, therefore, not included in the final efficacy analysis."	Results of all primary outcome measures were reported.
Duprat 2016	"patients were randomized (flipping a coin) to receive in the first week either real or sham iTBS delivered on the left DLPFC."	No information provided.	"Throughout the whole iTBS treatment (real and sham), patients were blindfolded, wore earplugs and were kept unaware of	"First, to evaluate the effects of iTBS on (negative) mood after each week of stimulation, depression severity was assessed […] by a certified psychiatrist,	"Given the three drop-out patients, we performed all analyses on the remaining 47 patients." "Because of a severe suicide attempt (overdose of	Results of all primary outcome measures were reported.

			the type of stimulation they received."	blinded to the actual treatment of the patient."	medication) in the weekend after one week of stimulation (sham iTBS), one female patient was considered dropout from the study. One male patient erroneously received two times real stimulation. Although he was responder at T2 and remitter at T4, we did not include his data into the final analyses. Finally, after inclusion, one female patient spontaneously improved after her AD washout and it was decided not to start the stimulation protocol and no follow-up data were collected." "Given the intention-to-treat protocol all analyses were completed by a last observation carry forward approach (LOCF) when applicable."	
Eschweiler 2000	"Twelve right-handed patients […] were randomized in a sham-controlled"	No information provided.	No information provided.	"Each Friday […] were administered by raters blind to the procedure."	The trial did not report any dropouts prior to cross-over.	Results of all primary outcome measures were reported.
Eschweiler 2007	"Before study start, a randomisation list was created by a statistician (RV) with blocks of varying length for each centre."	"This was encoded and stored in sealed, numbered envelopes at the study centers and a list of code words was kept by the study nurse. Envelopes contained two possible codes, (e.g. "fox = bifrontal and squirrel = right unilateral"). After screening and the provision of informed consent, the rater sent an e-mail with the patient code to the study nurse (EB). She responded within one day and sent a code word, such as "fox", to the ECT physician, who opened the next envelope in the ECT room and located the electrodes according to the code."	"Thus, […] psychiatrists on the ward and patients were all blinded to the type of ECT procedure."	"Thus, those raters who measured the patients' psychopathological and neuropsychological states […] were all blinded to the type of ECT procedure."	"Eight patients dropped out (four in the BIF group, four in the RUL group)." "Psychopathological data were analysed using an intention-to-treat database."	Results of all primary outcome measures were reported.

Fitzgerald 2003	"Patients were randomized to 1 of 3 treatment arms (n=20 each)"	"Patients were randomized […] via sealed envelopes opened immediately before commencement of the first treatment session by the clinician administering the rTMS."	"Patients and raters were blind to treatment" "Twenty-nine patients (48%) correctly guessed their type of treatment before disclosure, 17 (42%) of 40 in the active treatment group (2=0.90; P=.34) and 12 (60%) of 20 in the sham group (2=0.80; P=.37). The degree of response was the predominant reason given for the guess."	"Patients and raters were blind to treatment" "Patients were carefully and repeatedly instructed not to provide the raters with any information that would allow unblinding of group."	"All patients who entered the study completed the double-blind randomized phase." The trial did not report any dropouts during double-blind phase.	Results of all primary outcome measures were reported.
Fitzgerald 2006	"The patients were sequentially randomly assigned to groups with a single random number sequence (no stratification) that was used to produce a series of sealed envelopes."	"The envelope for each patient was opened immediately before commencement of the first treatment session by the clinician administering the rTMS after the administration of the baseline assessment."	"The patients and raters were blind to treatment" "The blinding of the patients was maintained in the trial as assessed at the 2-week assessment time point. A similar percentage of patients in each group (15 in the active group and 11 of 22 patients in the sham group) guessed that they were in the active group when asked at 2 weeks into the treatment ($\chi 2$=0.47, df=1, p>0.05), and the same number of subjects correctly guessed their treatment in each group. However, of the patients who were classified as responders at the trial end, most (12 of 13) had guessed that they were in the active group at week 2 (nine of 11 in the active group and two of two patients in the sham group). This reflected the fact that clinical response was the major reason given for the guess."	"The patients and raters were blind to treatment"	"Of the 50 patients randomly assigned to groups, three (all in the sham group) failed to complete the initial 2-week treatment period. One patient withdrew consent before undergoing the first treatment session, and two patients withdrew during treatment; both had experienced no change or a mild degree of clinical deterioration before withdrawal." "Two primary analyses were conducted […] with the last-observation-carried-forward method (intention to treat)"	Results of all primary outcome measures were reported.
Fitzgerald 2007	"To do this, we randomized a new sample of patients"	No information provided.	"The study involved a 2-group randomized blinded (patient and raters) trial"	The study involved a 2-group randomized blinded (patient and raters) trial"	The trial did not report any dropouts.	Results of all primary outcome measures were reported.
Fitzgerald 2008	"Patients were sequentially randomized using a single, computergenerated, random-number sequence (no stratification)."	No information provided.	"The patients and raters were blind to treatment"	"The patients and raters were blind to treatment"	"Two patients in the sham-priming group withdrew soon after study commencement (after 1 and 3 treatments, respectively, both associated with	Results of all primary outcome measures were reported.

					difficulties attending the hospital for regular treatments) and have been excluded from the analysis." However, number of drop-outs low.	
Fitzgerald 2009	"Patients were randomized immediately before the commencement of treatment with the use of a randomization code generated by a computer sequence"	"Patients were randomized […] stored in a sealed envelope."	"The patients and raters were blind to treatment"	"The patients and raters were blind to treatment"	The trial did not report any dropouts.	Results of all primary outcome measures were reported.
Fitzgerald 2011	"Patients were randomized sequentially using a single computer-generated random number sequence (no stratification)."	No information provided.	"The patients and raters were blind to treatment"	"The patients and raters were blind to treatment"	"Of the total sample, 13 failed to complete 2 weeks of treatment and to have a single post-baseline assessment. Of these, four withdrew consent, three were withdrawn to have a course of electro-convulsive therapy (ECT), one was withdrawn due to the discovery of ongoing illicit drug use, one was withdrawn due to increased suicidal thoughts, four withdrew due to possible side-effects [one due to headaches (group 3), one due to treatment discomfort (group 1), one due to increased agitation (group 3), one due to an increase in severity of a pre-existing migraine condition (group 2)] and one was withdrawn due to a concurrent medical illness (pneumonia). Of the other 206 patients, 160 completed a full 4 weeks of treatment and 46 withdrew or were withdrawn after 2 weeks of treatment. Withdrawal occurred either because the patients felt they had achieved sufficient clinical response (nine met response and eight remission criteria at 2 weeks) or because they felt that they were not	Results of all primary outcome measures were reported.

					responding to rTMS and they wanted to pursue other treatment options." Fig. 1. Study participants. High attrition rate.	
Fitzgerald 2012	"rTMS naïve patients were sequentially randomised with no stratification" "67 patients consented and were randomised"	No information provided.	"The patients and raters were blind to treatment"	"The patients and raters were blind to treatment"	"Of the 67 patients recruited, one withdrew prior to randomisation (lack of tolerability of TMS during RMT measurement). […] Six patients withdrew during the initial three week period of double blind treatment (Fig. 1). Of the 17 patients who received three weeks of sham treatment, one met response criteria and was withdrawn at three weeks. Of the 22 patients randomised to bilateral treatment, three withdrew in the initial treatment period." "For the 24 unilateral left patients, there were no withdrawals prior to the week three assessment." Missing data excluded from analysis but overall low attrition rate.	Results of all primary outcome measures were reported.
Fitzgerald 2013	"Patients were randomized using a separate computer-generated random number sequence at each site."	No information provided.	"The patients and raters were blind to treatment"	"The patients and raters were blind to treatment"	"Eight patients (three bilateral, five priming) failed to complete 2 wk treatment and have a single post-baseline assessment. Of these, four withdrew consent, three ceased due to adverse events (one severe headache, one site pain and one developed hypomania) and in one case treatment ceased due to equipment malfunction requiring repair and treatment delay." "An additional 10 patients were withdrawn between the 2-wk assessment and treatment end (nine bilateral, one priming). Of these, five withdrew consent, three were withdrawn to have treatment with ECT due to perceived	Results of all primary outcome measures were reported.

					urgency and lack of efficacy, one withdrew due to perceived worsening of depression and one patient committed suicide despite in-patient care." Missing data excluded from analysis but overall low attrition rate.	
Fitzgerald 2016	"Randomisation occurred through the use of a single random number sequence."	No information provided.	"but patients and raters were blind to group."	"but patients and raters were blind to group."	"Of the 49 patients consented, 3 withdrew prior to randomisation and were not included in the analysis." Missing data excluded from analysis; however, prior to randomisation.	Results of all primary outcome measures were reported.
Fitzgerald 2018a	"Randomization occurred through the use of a single random number sequence."	No information provided.	"the patient was aware of the treatment schedule." "the lack of blinding of patients in a protocol is the main limitation of our capacity to generalise from the results of this study."	"Symptom raters were blind to group." "Patients were frequently counselled to avoid mentioning any information that would reveal the treatment schedule to the raters." "Assessment and treatment schedules were organized and monitored to minimize the likelihood that assessors would be un-blinded through incidental contact with patients, for example in waiting rooms."	"One hundred and nineteen patients were recruited and consented (Fig. 1). Two subjects withdrew during the baseline assessment process, prior to randomization, and treatment. Two subjects were randomized but withdrew prior to commencing treatment (one due to obtaining new employment, one due to physical illness). Therefore, 115 patients (66 female/49 male, mean age = 49.0 ± 13.8 years) entered treatment and are included in the analysis (see Table 1)."	Results of all primary outcome measures were reported.
Fitzgerald 2018b	"Randomization occurred through the use of a single random number sequence."	"The treatment code was provided to the treating clinician at the commencement of the first treatment session."	"patients and raters were blind to group."	"patients and raters were blind to group."	"Forty patients were recruited and consented (Figure 1). Two subjects withdrew during the baseline assessment process, prior to randomization and treatment. One subject withdrew after a single treatment and all others completed at least 12 double-blind treatment sessions. Therefore, 37 subjects (21 female / 16 male, mean age = 45.9 15.4	Results of all primary outcome measures were reported.

					years) were included in analysis (see Table 1)."	
Fregni 2006a	"Patients were randomly assigned into one of two groups: active or sham tDCS."	No information provided.	No information provided.	"All patients were evaluated by the same rater, who remained blinded to the results of the study group assignment."	The trial did not report any dropouts.	Results of only primary outcome measures were reported.
Fregni 2006b	Recruited subjects were randomly assigned to one of two groups: active or sham tDCS.	No information provided.	No information provided.	"All patients were evaluated by the same rater, who remained blinded to the results of the study group assignment."	The trial did not report any dropouts.	Results of only primary outcome measures were reported.
Garcia-Toro 2001	"patients were randomly assigned to either real or sham stimulation."	No information provided.	"Patients and the three clinicians who assessed efficacy were unaware to which procedure was used."	"the three clinicians who assessed efficacy were unaware to which procedure was used."	"Five patients did not complete the 4 weeks of follow-up in the first phase. Two patients in the sham group withdrew from the study: one preferred a change of treatment and the other was excluded because of confirmed alcohol abuse. Three patients in the real treatment group withdrew from the study due to changes in the antidepressant pharmacotherapy." Missing data excluded from analysis; however, low attrition rate.	Results of all primary outcome measures were reported.
George 1997	"Patients were selected at random to initially receive either placebo or active daily repetitive transcranial magnetic stimulation."	No information provided.	"It also should be noted that, although patients and raters were blind"	"Subjects were serially rated […] by trained investigators who were blind to the treatment phase."	All subjects enrolled completed the study with no unexpected side effects (table 1). The trial did not report any dropouts.	Results of only primary outcome measures were reported.
George 2000	"They were randomly assigned to"	No information provided.	"Thirty-two depressed adults enrolled in a 2-week double-masked sham-controlled trial."	"Trained psychiatric nurses, masked to treatment arm, performed all ratings."	"Two subjects who had been randomized to receive active slower TMS did not tolerate the procedure and dropped out after less than three treatments. They were excluded from final analysis." Missing data excluded from analysis but overall low attrition rate.	Results of all primary outcome measures were reported.
George 2010	"Randomization to active and sham conditions was based on randomized permuted blocks stratified	No information provided.	"We assessed the integrity of the blind by having patients, treaters, and clinical raters report a best	"We assessed the integrity of the blind by having patients, treaters, and clinical raters report a best guess at the end of the phase	Figure 2. 7 participants excluded from analysis due to commencing treatment prior to sham being in place and two	Results of all primary outcome measures were reported.

	by site and higher or lower treatment resistance."		guess at the end of the phase" "The eTable details the guesses for patients, treaters, and raters at the end of the active phase with respect to treatment assignment."	and to indicate how confident they were in this guess." "Clinical raters guessed correctly 48% of the time (35% correct for active rTMS and 59% for sham)."	further withdrawals prior to starting treatment. These 9 participants were excluded from the analysis all further missing data included in analysis. Some missing data excluded but overall low attrition rate.	
Gregory 1985	"All patients who gave consent were randomly assigned to one of the three groups of"	No information provided.	"Sixty nine patients took part in a double-blind study"	"The rater and clinical teams in charge of patients were blind to the treatment group."	"Of the 69 patients entering the study, 25 received fewer than six study treatments; these were classed as withdrawals. In the simulated group, seven patients were withdrawn by their consultants for failure to improve or because they became physically ill, and in one case it became necessary to detain the patient on a section. In the unilateral group, five patients were withdrawn because of failure to improve, one patient was better, and one withdrew consent. In the bilateral group, two patients were withdrawn for failure to improve, four were better, two withdrew consent, and one became physically ill." High attrition rate and dropped out patients excluded from analysis.	Results of all primary outcome measures were reported.
Grunhaus 2003	"Patients were assigned to the rTMS or ECT groups based on a previously defined random list." "Patients were randomized either to rTMS or ECT groups based on a computer-generated list."	No information provided.	"we did not have a masked or sham comparison group." "A masked or sham comparison was felt to be unethical for these patients because of the severe, long, and resistant nature of their illness." Patients by necessity aware of treatment (ECT compared with rTMS).	"Ratings were performed by trained research assistants, blind to treatment modality. This was achieved by hiring staff that did not regularly work with the program."	The trial did not report any dropouts.	Results of all primary outcome measures were reported.

Hansen 2004	"Fifteen inpatients […] were randomized […]. Included patients were blindly allocated from five blocks each containing six consecutive numbers, half of them representing sham, the other half rTMS."	No information provided.	"The raters, all trained clinicians, as well as the patients were blinded to the stimulus condition."	"The raters, all trained clinicians, as well as the patients were blinded to the stimulus condition."	"Five out of eight patients receiving high-frequency rTMS of the left DLPC experienced significant local discomfort; three dropped out for that reason. Three of them were withdrawn from the study for that reason. The data from two of these patients, who dropped out after the very first treatment session, were excluded from subsequent analysis related to the treatment response, while the data from one patient that left the study after 10 sessions were included according to the principle of last observation carried forward." High attrition rate and attrition unbalanced between groups.	Results of at least one primary outcome measure not reported.
He 2011	"Then, continuous random numbers from any row or line of a random numbers table were recorded and matched with their orders. Last, the patients were assigned to one of the three groups based on the remainder numbers of random number divided by 0, 1 and 2. Patients with remainder number "1" were enrolled into the SEM-rTMS group, with "2" were enrolled into the C-rTMS group, and with "0" were enrolled into the sham-rTMS group."	"The distributions of the order, the registrations and enrollments of all patients were performed independently by a reviewer who did not learn the study protocol."	No information provided.	No information provided.	"Of these 164 patients, 28 withdrew voluntarily before starting the trial. For various reasons, 16 dropped out during the trial and the remaining 120 finished the trial."	Results of all primary outcome measures reported.
Hernandez-Ribas 2013	Depressive patients were randomized to"	No information provided.	No information provided.	"A trained psychiatrist, blind to the rTMS condition of each patient, administered the HAM-D scale"	The trial did not report any dropouts.	Results of all primary outcome measures reported.
Holtzheimer 2004	"Subjects were randomly assigned to receive"	No information provided.	No information provided.	"Raters were blinded to the subject's treatment group at all time points."	"All 15 subjects completed all ten treatment sessions in the blinded portion of the study."	Results of all primary outcome measures reported.

Höppner 2003	"The subjects were randomly (lottery method) allocated to receive"	No information provided.	No information provided.	"The rater was a psychiatrist, who was blind to the stimulation procedure."	"Twenty-nine out of the 30 patients who initially had been included in the study completed the treatment phase. One female patient from 20Hz rTMS group refused to continue after 6 days, because of insufficient effectiveness and headache." Discrepancy in sample number in text referring to "Ten patients were included in each group (Table 1).". However, table shows 11 patients in one group and 9 in other.	Results of all primary outcome measures reported.
Horne 1985	"were assigned using a random number table"	No information provided.	"Both the patients and raters were "blind" to group assignment.	"Both the patients and raters were "blind" to group assignment."	"Not included in the 48 patients were five patients whose electrode placement was switched prior to the end of their treatments. Because the switch in electrode placement occurred after five ECT treatments, a secondary analysis was done adding these five patients for comparing pre-ECT to post fifth ECT depression ratings to ensure that no bias had occurred by dropping them. The results were the same as when they had been dropped."	Results of all primary outcome measures reported.
Jakob 2008	"Study patients were randomly assigned to"	No information provided.	No information provided.	No information provided.	The trial did not report dropouts.	Results of all primary outcome measures reported.
Janicak 2002	No information provided.	No information provided.	Patients by necessity aware of treatment (ECT compared with rTMS).	"In addition, although bias is inherent with the use of unblinded assessments, the raters in the study did undergo rigorous training and had a very high intraclass correlation on the HDRS reliability analysis."	"Twenty-five subjects […]. One subject randomized to ECT withdrew from the study after receiving only three treatments and before any clinical effect or assessment. Only one patient crossed over from ECT to rTMS, […]. One subject withdrew from rTMS treatment following four sessions and before any clinical effect or assessment. Therefore all analyses	Results of all primary outcome measures reported.

					related to treatment response are based on 22 subjects." Missing data excluded from analysis but overall low attrition rate.	
Januel 2006	"Patients were randomly assigned to receive either active or sham treatment."	No information provided.	No information provided.	"The rater was blind to the TMS treatment."	"72% (8 / 11) of patients treated by TMS finished the protocol versus 50% (8/16) in sham group." "In case of treatment discontinuation, HDRS scores were completed using the last rated HDRS scores" Missing data included in analysis; however, high attrition rate.	Results of all primary outcome measures reported.
Jin 2014	"Study subjects were randomized to one of three treatment arms with equal probability. The randomization table was created using a random number generator treating the all subjects as a single group. No blocking or stratification was used."	No information provided.	"To create a sham for a double blinded trial"	No information provided.	"Fifty-two subjects enrolled in the study. Six subjects withdrew in the first week […]. Data were analyzed using all subjects who completed at least one efficacy assessment (46 in total), with the last available HAMD-17 value carried forward for Week 4 outcome analysis (LOCF method)."	Results of all primary outcome measures reported.
Kang 2016	"we conducted a randomized, rater-blind, sham-controlled study to evaluate the specific treatment effects of rTMS."	No information provided.	"The participants and raters (K.R.K. and K.J.) were blind to the expected effects of each condition." "To confirm the preservation of blinding, we asked 2 questions after the 10 sessions of rTMS: "Do you know the treatment condition you've received?" and "Which condition do you think you received?" "For the response to the blindness awareness questions, no difference was found between the 2 groups."	"The participants and raters (K.R.K. and K.J.) were blind to the expected effects of each condition."	"Therefore, a total of 24 eligible patients with treatment-resistant major depression were randomly assigned to the active rTMS (n = 13) or sham (n = 11) groups. One participant withdrew the informed consent after 1 stimulation session due to headache. Another 2 participants failed to complete the 10 sessions of rTMS due to malfunction of the rTMS machine. Thus, the final analyses included 12 patients in the active group and 9 in the sham group." Missing data excluded from analysis but overall low attrition rate.	Results of all primary outcome measures reported.
Kaufmann 2004	"All subjects were randomly assigned to receive rTMS or	No information provided.	No information provided.	"The rater was a resident psychiatrist who was involved in the diagnostic	"All of the 12 patients completed the study with no adverse effects reported."	Results of all primary outcome measures reported.

	sham rTMS in a double-blind design."			evaluation but was unaware of the nature of treatment."		
Kayser 2011	No information provided.	No information provided.	Patients under general anaesthetic.	"Psychiatric and neuropsychological assessments were performed by an independent psychologist not involved in the treatment." "Another limitation is the fact that recovery and reorientation was unblinded to the treatment method as the assessing psychologist necessarily was present at the treatment and both treatment methods were distinguishable by the use of coil and a clicking noise. However being aware of the treatment method, the assessing psychologist was not informed about the hypothesis for cognitive performance reducing possible rater effects."	The trial did not report any drop outs.	Results of all primary outcome measures reported.
Kayser 2017	"patients were randomized to ECT or MST using a randomized block design, with a block size of 5 patients."	No information provided.	"In this study, a prospective, randomized, observational, open-label, crossover, and within-subject design was used. " "Raters and patients should be blinded to both the treatment group"	"Raters and patients should be blinded to both the treatment group"	"The intention-to-treat sample included 25 patients with treatment-resistant unipolar depression." "Twenty patients (per-protocol analysis) completed either MST or ECT treatments (on average 8–12 treatments)."	Results of all primary outcome measures reported.
Kellner 2010	No information provided.	No information provided.	"In order to ensure that participants were unaware of which electrode placement was used"	"Raters were masked to treatment condition."	Fig. 1 Participant flow. "Analyses involving the full longitudinal profile of HRSD–24 values did not require imputation of missing values because the analysis method (mixed effects modelling) can accommodate missing data. For analyses of the single end-of-treatment measure, the HRSD–24 obtained immediately prior to (e.g. on the morning of) the final ECT was used as the missing end-of-treatment value. This occurred for 40 participants (17%)."	Results of all primary outcome measures reported.

Keshtkar 2011	"Simple randomization by tossing a coin was used for each trial participant."	No information provided.	"The participants were not blind to the treatment they received."	"All evaluations were performed by one of the investigators (M.K.), who was not blind to the study design."	FIGURE 1. Flowchart. "The missing value analysis procedure using the method of EM (expectation-maximization) was conducted."	Results of all primary outcome measures reported.
Kimbrell 1999	"Four patients were randomized […]. Three subjects were randomized"	No information provided.	No information provided.	"Clinical response was measured by weekly Hamilton Depression scales […] administered by clinicians blinded to treatment phase."	The trial did not report any drop-outs.	Results of all primary outcome measures reported.
Klein 1999	"Patients were assigned to treatment condition using a computer-generated random number list."	No information provided.	No information provided.	"The rater was a senior psychiatrist (I.K.) who was involved in the diagnostic evaluation but was blind to the nature of treatment"	"Sixty-seven of the 70 patients who initially started the study completed the entire treatment protocol. The other 3 patients (1 in the TMS group and 2 in the sham group) withdrew after 5 sessions for clinical reasons." "Owing to technical reasons, 15 patients (6%) were not administered the MADRS at either the second or third time points. To apply multivariate techniques, without affecting the representativeness of the analyzed sample (multivariate procedures delete cases with any missing values), we imputed those missing data"	Results of all primary outcome measures reported.
Koerselman 2004	No information provided.	No information provided.	"The patient, the rater, the treating physician, and all nurses were blind to the treatment modality."	"The patient, the rater, the treating physician, and all nurses were blind to the treatment modality."	"Fifty-five patients originally entered the study. Two patients dropped out after 1 rTMS session: the first patient received emergency ECT because of suicidal ideation, and the second patient complained of extreme dizziness. One patient dropped out after 5 sessions (because of extra medication due to suicide risk)." "Because we intended to investigate late effects of a completed stimulation, these patients were excluded.	Results of all primary outcome measures reported.

					Therefore, data were analyzed for the 52 patients who completed the 2-week stimulation period, randomly divided into 26 sham and 26 rTMS patients." Missing data excluded from analysis but overall low attrition rate.	
Kreuzer 2015	"Forty-five patients […] were randomized by electronic group allocation to receive"	No information provided.	"Efficacy of blinding was assessed by asking both patients and rating physicians at the end of the study (week 12) about their guess regarding treatment group allocation. This analysis revealed that neither patients nor physicians were able to identify the treatment group allocation with an accuracy significantly above chance level"	"The ratings were conducted by two experienced psychiatrists blinded to randomization and treatment." "Efficacy of blinding was assessed by asking both patients and rating physicians at the end of the study (week 12) about their guess regarding treatment group allocation. This analysis revealed that neither patients nor physicians were able to identify the treatment group allocation with an accuracy significantly above chance level"	"One participant withdrew his consent already before starting the stimulation (sham-group-participant), four participants aborted the stimulation due to headache (after 3 and 7 stimulation sessions (sham-group) and after 1 and 7 stimulation sessions (ACDC-group)). These five subjects were not included in the analysis resulting in an analytical sample of 40 patients (21 females/19 males)." Missing data excluded from analysis but overall low attrition rate.	Results of all primary outcome measures reported.
Letemendia 1993	No information provided.	No information provided.	No information provided.	"[…] all those involved in the evaluation of patients remained blind to the actual electrode placements." "The research psychiatrists involved in the assessment of clinical response, who were also blind to the patients' group membership"	"Of the many patients referred and screened, 99 were recruited for the study. The first 16 were part of a preliminary investigation that was used to develop the final protocol; of the 83 remaining patients, 59 completed the study." "Seven patients who did not respond adequately were removed from the double blind study. When the codes were broken, it was found that all had received RU treatment (10-18 ECTs; mean 14-3). These patients were then treated with BT ECT, conventionally regarded as likely to be the most effective form of ECT; they will be referred to as 'dual placement' patients."	Results of all primary outcome measures reported.

Leuchter 2015	"Subjects were randomized […] in a 1:1 ratio in blocks of 4, stratified by site, through use of a computer-generated randomization sequence."	No information provided.	"Subjects receiving […] during the six-week double-blind phase, and subjects who did not remit during blinded treatment"	No information provided.	Figure 2. "Analyses were performed on the intent-to-treat (ITT, defined as all randomized patients) and per-protocol (PP) populations."	Results of all primary outcome measures reported.
Levkovitz 2015	"Patients were randomly assigned to either active dTMS or sham TMS (1:1 ratio) by an interactive web response system based on the random allocation sequence generated by the study statisticians. They were stratified per center by severity of disease as determined by baseline HDRS-21 scores."	No information provided.	"We conducted a double-blind randomized placebo-con- trolled multicenter trial" "Integrity of blinding in patients was assessed using a forced choice questionnaire." "Of the 198 subjects who answered the questionnaire (one subject did not respond at all to the forced choice question, […]. This difference was not statistically significant."	"All efficacy outcome measures were performed by a blinded study rater who was not permitted access to the treatment sessions."	"[…] 233 subjects were enrolled, of which the ITT set included 212 subjects (excluding subjects who did not comply with the inclusion/exclusion criteria or left the study before receiving a single treatment). Thirty-one subjects in the ITT set who did not receive the adequate TMS regimen as specified in the protocol were excluded to form the PP analysis set (N = 181). The PP analysis set thus included only subjects who completed the study without any major protocol violations." Figure 1 CONSORT diagram.	Results of all primary outcome measures reported.
Li 2014	"Patients were randomized 1:1:1:1 to each TBS group (Groups A, B, C and D)."	No information provided.	"All patients were instructed that they were to be treated by TBS, but would be blind to the individual group assignment." "We questioned all patients about the group assignment at Week 2; none of the recruited patients admitted that they knew for sure which group they had been assigned to."	"All efficacy outcome measures were assessed by blinded study personnel (raters) who were not permitted access to the treatment sessions." "Patients were instructed not to disclose any details of the treatment session with the raters, and the whole rating period was monitored by a research assistant to ensure that the procedure was blinded."	"All subjects completed the entire study."	Results of all primary outcome measures reported.
Lingeswaran 2011	"Randomization of subjects was done by a senior statistician using stratified random sampling method from a computer-generated random number table and this statistician was blind to the clinical status of the patients."	No information provided.	"The principal investigator and the patients were completely blind to the randomization status of the patient group (active or sham)."	"The patients and the rater who applied the scales were kept blind to the randomization."	Figure 3. Missing data excluded from analysis and high attrition rate.	Results of all primary outcome measures reported.

Loo 1999	"the subjects were randomly assigned to real or sham treatment"	No information provided.	"For the first 2 weeks, during which both the investigators and patients were blind to treatment type"	"Psychiatrists (P.M., P.S.) blind to the subjects' treatment groups assessed depression severity weekly during rTMS and 1 month after completion."	"None withdrew within the first 2 weeks and 14 patients requested 4 weeks of real treatment; two of the 14 withdrew after 3 weeks of this." "A second repeated measures, intention-to-treat analysis was applied to the 14 patients who embarked on 4 weeks of real rTMS (either initially or after 2 weeks of sham treatment), to test for mood changes over the period of real treatment only."	Results of all primary outcome measures reported.
Loo 2003	"Subjects were randomly assigned to active (N=9) or sham (N=10) treatment for 3 weeks."	No information provided.	"On debriefing, most subjects were unsure if they had received active or sham rTMS during the blind treatment period."	"Depression severity was assessed weekly during rTMS by the same psychiatrist (P.M. or P.S.) who was blind to the subject's treatment group."	"Two patients in the sham group were withdrawn in the third week of the initial blind phase due to suicide risk. All other patients completed the study." "Intent-to-treat last observation carried forward scores were used where necessary."	Results of all primary outcome measures reported.
Loo 2007	"Subjects were sequentially randomly assigned to active or sham groups using a single random number sequence."	No information provided.	"At the end of the blind phase, subjects were asked to guess whether they had received active or sham treatment and to give the reason for their choice." "Asked to guess their treatment group at the end of the 2-week double-blind phase […]. The groups did not differ significantly in these responses (x2=3.7, df=2, p=0.16)."	"Mood and neuropsychological functioning were assessed weekly by blind raters." "To preserve rater blinding, subjects were regularly reminded not to discuss with the rater their subjective experience of TMS."	"Two subjects (one sham, one active) withdrew before completion of the 2-week blind phase." "Intention-to-treat last-observation-carried-forward scores were used for all analyses below." FIG. 1.	Results of all primary outcome measures reported.
Loo 2010	"Subjects were stratified by age and gender and then randomly assigned to active or sham treatment groups."	No information provided.	"with raters and subjects blind to treatment group assignment." "After the ten sessions, the integrity of the blinding was assessed by asking subjects to guess whether they had been assigned to the active or sham treatment group." "When asked to guess their treatment group at the end of the ten-session double-blind phase, […]. The	"with raters and subjects blind to treatment group assignment."	"Thirty-five subjects completed the five-session sham-controlled phase and 34 subjects received ten active sessions of tDCS (over both sham-controlled and open treatment phases) (see Fig. 1)." "Intention-to-treat last-observation- carried-forward scores were used for the analyses below."	Results of all primary outcome measures reported.

			difference in active/ sham guesses between the two groups was not significant (x2=0.00, d.f.=1, p=0.98)."			
Loo 2012	"Participants were stratified by gender and age and randomly assigned by a computer-generated random sequence to active (n = 33) or sham (n = 31) treatment."	"The treatment assignment was indicated by a code on study treatment sheets, which were concealed from raters."	"with participants and raters masked to group allocation." "After both the sham-controlled and open-label phases, participants were asked to guess their group allocation in the sham-controlled phase to assess integrity of the masking." "When asked to guess their treatment assignment […] no significant difference between groups in the likelihood of active/sham guesses (w2 = 2.45, d.f. = 1, P= 0.12)."	"with participants and raters masked to group allocation."	Fig. 1 Consort diagram showing progress of participants through the trial. "Intention-to-treat last observation- carried-forward scores were used for the analyses"	Results of all primary outcome measures reported.
Loo 2018	"randomly assigned by a computer-generated random number sequence to active or sham tDCS with permuted-block randomization. Randomization was stratified according to whether participants were diagnosed with unipolar or bipolar depression."	"Opaque sealed enveloped that contained codes for the assigned groups."	"All participants, tDCS treaters, and study raters were blinded to the participants' tDCS group allocation in the RCT phase." "Adequacy of blinding to treatment was assessed at the end of the RCT and open label phases by asking participants and raters to guess the tDCS condition administered during the RCT phase." "Chi-square tests to assess blinding adequacy found no significant association between participants' (x^2 = . 0.038; p = 0.99) or observer raters' (x^2 = 1.403; p = 0.324) guesses in the tDCS condition received and the actual tDCS condition given, with a greater percentage overall of participants and raters guessing allocation to the sham tDCS group."	"All participants, tDCS treaters, and study raters were blinded to the participants' tDCS group allocation in the RCT phase." "Adequacy of blinding to treatment was assessed at the end of the RCT and open label phases by asking participants and raters to guess the tDCS condition administered during the RCT phase." "The rate of correct guesses for the blinded raters was 66.7% for the sham group and 44.4% for the active group." "Chi-square tests to assess blinding adequacy found no significant association between participants' (x^2 = 0.038; p = 0.99) or observer raters' (x^2 = 1.403; p = 0.324) guesses in the tDCS condition received and the actual tDCS condition given, with a greater percentage overall of participants and raters	"A total of 60 patients were assigned to receive placebo, 91 to receive escitalopram, and 94 to receive tDCS. Of these 245 patients, 202 received all 22 planned sessions of actual or sham tDCS and completed the week-10 assessment (55 patients in the placebo group, 75 in the escitalopram group, and 72 in the tDCS group) (Fig. S1 in the Supplementary Appendix). Withdrawal rates did not differ significantly among the three groups (χ2=4.77, P=0.09)." "As per the a priori study plan [13], analyses were restricted to the 120 participants with at least one postbaseline rating, and outcome measures were analysed for change over the 4-week RCT period using a mixed effects repeated measures (MERM) model with a restricted number of covariates."	Results of all primary outcome measures reported.

				guessing allocation to the sham tDCS group."		
Malitz 1986	"Patients were randomly assigned to right unilateral ECT (n= 25) or bilateral ECT (n= 27) conditions."	No information provided.	"determined on a double-blind basis by a clinical evaluation team, and based on clinical response. "	"determined on a double-blind basis by a clinical evaluation team, and based on clinical response."	Table 2. The trial did not report any drop-outs.	Results of all primary outcome measures reported.
Manes 2001	"Subjects were randomized into two groups"	No information provided.	"In the present study, using a randomized, doubleblind, parallel-group design"	"Patients had a baseline and five daily ratings of depressive symptoms and MMSE after each day's treatment performed by a psychiatrist who was blind to their treatment status."	The trial did not report any drop-outs.	Results of all primary outcome measures reported.
McCall 2002	No information provided.	No information provided.	"Patients, the ward treatment team, and clinical raters were blind to assigned electrode placement."	"clinical raters were blind to assigned electrode placement." "Depression severity was measured with the Beck Depression Inventory and HRSD by a blinded, trained rater following a semi-structured interview"	The trial did not report any drop-outs.	Results of all primary outcome measures reported.
McDonald 2006	"the subjects were randomly assigned to […]. Subjects were randomized to […] in a 1:2:2 ratio, respectively."	No information provided.	No information provided.	"The subject and/or a research assistant blind to the randomization completed all clinical measures at baseline (within 24 hours before the first treatment), and after the 5th and 10th treatment."	The trial did not report any drop-outs.	Results of all primary outcome measures reported.
Mogg 2008	"patients were randomly assigned to receive a course of real or sham rTMS by an independent third party using a protected and concealed computer database containing the randomization list."	"To ensure allocation concealment, following baseline assessment by trained research workers (A.M., S.E.), patients were randomly assigned to receive a course of real or sham rTMS by an independent third party using a protected and concealed computer database containing the randomization list."	"Interactions between research physicians and patients were kept to a minimum to maintain patient blinding." "Of the 55 patients who completed a treatment course, 51 made a guess as to whether they received real or sham rTMS. Of these, 67% (34/51) correctly guessed their treatment. There was a significant difference (Fisher's exact test p=0.03) between groups: 70% (19/27) of patients in the real rTMS group guessed they were receiving real rTMS compared with 38% (9/24) of the sham group."	"Rater guesses were available for 52 patients and 36/52 (69%) were correct. Raters guessed that 20/27 (74%) in the real rTMS group and 9/25 (36%) in the placebo group were having real treatment (Fisher's exact test, p=0.01)."	Fig. 1. "Analyses were performed on an intention-to-treat-basis."	Results of all primary outcome measures reported.

Mosimann 2004	No information provided.	No information provided.	No information provided.	"Outcome ratings were assessed on a different floor of the building by a blinded rater (WS), who had no contact with the person applying the stimulations."	"There were no exclusions from the study after randomization."	Results of all primary outcome measures reported.
Nahas 2003	"Patients were assigned using an urn randomization based on age (<40 or ‡ 40 years) and gender"	No information provided.	"All subjects were asked prior to breaking the blind what they thought they had received"	"administered by a trained and blinded clinician (BA)."	"In addition, there were no drop-outs from the study."	Results of all primary outcome measures reported.
O'Reardon 2007	"Patients were randomized 1:1 to either active TMS or sham TMS."	No information provided.	"Formal query of patients and treaters to assess the adequacy of the blind, however, was not conducted."	"All efficacy outcome measures were assessed by blinded study personnel (raters) who were not permitted access to the treatment sessions."	Figure 1. "All analyses were conducted in a last-observation carried forward (LOCF) manner through the indicated time points."	Results of all primary outcome measures reported.
Padberg 1999	"In this double-blind, placebo-controlled parallel study, patients were randomly assigned to three treatment groups."	No information provided.	No information provided.	"Raters were experienced psychiatrists and blind to stimulation conditions."	"One subject dropped out due to withdrawal of consent after the second rTMS session."	Results of all primary outcome measures reported.
Padberg 2002	No information provided.	No information provided.	No information provided.	"Patients were examined by a psychiatrist uninvolved in rTMS treatment and blinded to the rTMS condition."	"One subject dropped out due to withdrawal of consent after the second rTMS session." Missing data excluded from analysis but overall low attrition rate.	Results of all primary outcome measures reported.
Paillere-Martinot 2010	"Stratified randomization was performed in blocks […]. Randomization was stratified on the stimulation site and two allocation lists were generated by the Biostatistics Department."	"Allocation concealment was performed using closed envelopes that indicated the treatment modality for each patient and were kept in each stimulation site and opened by the investigator performing the treatment immediately before the first treatment session."	"Patients and symptom raters were blind to the treatment modality."	"Patients and symptom raters were blind to the treatment modality." "All of these assessments were performed blind to clinical ratings."	"Due to marked anxiety, two patients dropped out at the beginning of the study (after one or two rTMS sessions) (Fig. 2); one of them was in the left PET-guided group (a 49-yr-old female, MADRS score: 38, HAMD21: 30) and the other in the standard group (a 38-yr-old male, MADRS: 37, HAMD21: 25). These patients were excluded from further analyses." Missing data excluded from analysis but overall low attrition rate.	Results of all primary outcome measures reported.
Pallanti 2010	"the patients were randomly allocated to bilateral, unilateral or sham rTMS by an independent third party using a protected and concealed computer	"To ensure allocation concealment, after baseline measurement the patients were randomly allocated to bilateral, unilateral or sham rTMS by an independent third party using a protected	"The patients were also blind to the allocated treatment."	"Subsequent ratings were performed by researchers blind to treatment (S.A., A.D.)"	The trial did not report any drop-outs.	Results of all primary outcome measures reported.

	database containing the randomization list."	and concealed computer database containing the randomization list."				
Palm et al. 2012	"patients were randomized in two groups (active/sham; sham/active) by the principal investigator (F.P.) using a PC-generated random number list."	No information provided.	"Patients, raters, and operators were blinded to treatment conditions." "After completion of the treatment, 19 patients were asked which sequence of treatment conditions they had received."	"The following rating scales and cognitive tests were administered by experienced raters blind to treatment conditions."	Figure 1 CONSORT flow chart of the study. "Twenty patients completed the study, two dropped out because of personal reasons. The data of all 22 subjects were included in the analysis (last observation carried forward [LOCF])."	Results of all primary outcome measures reported.
Prasser 2015	"Fifty-six patients […] were randomized"	No information provided.	"Efficacy of blinding was assessed by asking both patients and rating physicians at week 11 to guess about their treatment group allocation. This analysis revealed that neither patients nor physicians were able to identify the treatment group allocation with a significant accuracy above chance level (patients' rating: $\chi 2 = 0.435$; df = 4; P = 0.980; physicians 'ratings: $\chi 2 = 4.083$; df = 4; P = 0.395.)." "Blinding assessment revealed that patients were not aware of their group assignment."	"Efficacy of blinding was assessed by asking both patients and rating physicians at week 11 to guess about their treatment group allocation. This analysis revealed that neither patients nor physicians were able to identify the treatment group allocation with a significant accuracy above chance level (patients' rating: $\chi 2 = 0.435$; df = 4; P = 0.980; physicians 'ratings: $\chi 2 = 4.083$; df = 4; P = 0.395.)."	"Two of the 56 randomized patients withdrew their consent (one patient of the rTMS group after randomization, but before the first treatment session; one patient of the sham group after the first treatment session) and were therefore not included in the analysis (see above)." Figure 2. Study participants. Some missing data excluded from analysis but overall low attrition rate.	Results of all primary outcome measures reported.
Ranjkesh 2005	All depressed patients […] assigned randomly to 3 parallel groups of this double-blind clinical trial."	No information provided.	No information provided.	"Each patient was assessed at approximately 8 AM by a clinical psychologist who had no knowledge of the patient's electrode placement."	"Thirty-nine of the patients completed the course of treatment. Two patients in bifrontal, 1 in bitemporal, and 3 in right unilateral dropped out of the study." "Two patients in BF, 1 in BT, and 3 in RUL left the trial before the 8 session, as decided by the attending psychiatrist, and therefore were omitted from the study (Table 2)." Missing data excluded from analysis but overall low attrition rate.	Results of all primary outcome measures reported.
Rosa 2006	"Patients were randomized to receive ECT or rTMS to the left dorsolateral prefrontal cortex (LDLPFC)	No information provided.	Patients by necessity aware of treatment (ECT compared with rTMS).	"patients were instructed not to disclose which treatment they were receiving."	"Because there were seven dropouts (five in the ECT and two in the rTMS group), we also performed an	Results of all primary outcome measures reported.

	according to a computer-generated list."			"Interviews were performed by raters blinded to the patients' group assignment"	intention-to-treat (ITT) analysis for the HDRS changes in which we assumed no further improvement and used the last observation to the missed values to perform this analysis."	
Rossini 2005	"Participants were allocated to the sham group or to one of the two intervention groups (80% and 100% MT) according to a computer-generated random list"	No information provided.	"We made a considerable effort to maintain the blindness of patients, raters, and doctors in charge." "As for the patients, they all declared themselves to be unaware of the differences between sham and active stimulation."	"We made a considerable effort to maintain the blindness of patients, raters, and doctors in charge." "As for the assessors, they indicated that they were not able to guess the patients' intervention status with the exception of two cases, who complained of discomfort during the stimulation. The exclusion of these cases (both from the 100% group) from the analysis did not influence the results."	"Of the 54 enrolled patients, 52 completed the entire protocol. Two patients dropped out" "We excluded from the analysis two cases who dropped out, because they did not have any assessment after baseline." Some missing data excluded in analysis but overall low attrition rate.	Results of all primary outcome measures reported.
Rossini 2010	"The patients were randomly assigned to two different groups"	No information provided.	No information provided.	"The assessment was performed by 2 trained psychiatrists, blind to treatment conditions."	"All the patients completed the study and no one dropped out."	Results of all primary outcome measures reported.
Rybak 2005	"Patients were assigned to treatment groups by the order of presentation."	No information provided.	"Neither patients nor objective assessors knew which treatment was provided."	"Neither patients nor objective assessors knew which treatment was provided." "The HDRS was scored by blind medical staff trained in the use of the scale."	The trial did not report any drop-outs.	Results of all primary outcome measures reported.
Sackeim 1993	"The patients were randomly assigned to treatment groups in blocks of 20."	No information provided.	"The patients and the clinical evaluation team (a research psychiatrist and a social worker) were unaware of the treatment-group assignments."	"The patients and the clinical evaluation team (a research psychiatrist and a social worker) were unaware of the treatment-group assignments."	"Of 100 consecutive patients admitted to the study, 4 were considered to have dropped out because they received fewer than five treatments; the reasons were withdrawal of consent (1 patient), the need to institute concomitant psychotropic treatment (1 patient), and intercurrent illness (2 patients)." Missing data excluded from analysis but overall low attrition rate.	Results of all primary outcome measures reported.
Sackeim 2000	"Patients were randomly assigned to the 4 treatment conditions, stratified by	"At the first treatment, the ECT psychiatrist opened a sealed envelope containing	"Patients and all staff not involved in ECT administration were masked	"A blinded clinical evaluation team (research psychiatrist [J.P.] and senior	"Of 84 patients admitted to the protocol, 4 were considered dropouts because	Results of all primary outcome measures reported.

	whether they had received an adequate antidepressant medication trial during the index episode. The randomization used a permuted block procedure, with equal distribution of the treatment conditions within each stratum."	the treatment condition for the next patient in the stratum."	to the type and dosage of ECT."	social worker [S.P.]) completed HRSD ratings"	they received fewer than 5 treatments (withdrawal of consent [n = 2], need for psychotropic treatment [n = 1], and intercurrent illness [n = 1])." Missing data excluded but overall low attrition rate.	
Sackeim 2008	„By using a 232 factorial design, patients were randomly assigned in permuted blocks of 12 to treatment conditions"	No information provided.	"The patients and the clinical evaluation team (research psychiatrist and social worker) were masked to treatment assignment."	"The patients and the clinical evaluation team (research psychiatrist and social worker) were masked to treatment assignment."	Figure 1 Flow of participants in the study. "Seven patients withdrew consent for treatment during the randomized phase: four received brief pulse BL ECT, two received ultrabrief BL ECT, and one received brief pulse RUL ECT. When the efficacy analyses were restricted to completers (n = 83), the pattern of significant effects in the intent-to-treat sample was accentuated (data not shown)."	Results of all primary outcome measures reported.
Salehinejad 2015	"Participants were randomly assigned in two groups"	No information provided.	"All patients were blind to the type of tDCS delivered in each session."	"The HRSD is a multiple items questionnaire designed for measuring adult depression and is administrated by a health care professional."	"All subjects tolerated the tDCS treatment well and no adverse effects were reported." The trial did not report any drop-outs.	Results of all primary outcome measures reported.
Salehinejad 2017	"Participants were randomly assigned in two groups of experimental (N=12) and control (N=12)."	No information provided.	"All patients were blind to the type of tDCS delivered in each session."	"The HDRS is a multiple items questionnaire designed for measuring adult depression and is administrated by health care professional"	The trial did not report any drop-outs.	Results of all primary outcome measures reported.
Sampaio-Junior 2017	"59 patients were randomly assigned to sham or active tDCS per a computer-generated list, using random block sizes."	"We used opaque, sealed envelopes with a corresponding code for group allocation."	"Blinding was assessed at the study end point by asking participants to guess to which group they were assigned." "Thus, participants were unable to guess their actual group beyond chance."	"All assessments were performed by trained, blinded psychiatrists and psychologists."	"There were 3 patient losses in the sham group […] and 4 patient losses in the active group" "We obtained total sample sizes of 55 and 52 participants, respectively. After that, we considered an attrition rate of 10% to 15%, increasing the targeted sample size to 58 to 60 participants. Data were analyzed in the intention-to-treat (ITT) sample."	Results of all primary outcome measures reported.

Semkovska 2016	"Minimization with variable block sizes ensured that group allocation was balanced regarding three stratifiers: age .65 years (yes/no), previous ECT (yes/no), and referral site"	"Recruiting researchers electronically submitted participants' identifying number, initials, birthdate, history of ECT, and referral site." "Treating clinicians received e-mail notification of randomization but were not involved in outcome assessments."	"Allocation was concealed from patients […] until completion of final analyses." "Treatment guesses were made by patients (119/138) and raters (118/138): 12 patients could not guess, and 26/56 in the unilateral group and 36/51 in the bitemporal group correctly guessed (x2=3.27, p=0.07; kappa=0.17 [low coefficient of beyond-chance agreement])." "Thus, masking was successful for patients and raters."	"Allocation was concealed […] assessors, […] until completion of final analyses." "For raters, 30/57 of the guesses for the unilateral group and 36/61 for the bitemporal group were correct (x2=1.61, p=0.21; kappa=0.12)." "Thus, masking was successful for patients and raters."	FIGURE 1. Trial Profile. "70 in unilateral ECT of which 3 dropped out, further 7 at 3m follow-up, further 5 at 6m follow-up" "70 in bitemporal ECT of which 1 dropped out, further 16 at 3m follow-up, further 12 at 6m follow-up." Missing data analysis described in online supplement.	Results of all primary outcome measures reported.
Sienart 2009	No information provided.	No information provided.	No information provided.	"HRSD-scores and Clinical Global Impression (CGI)-scores were obtained […] by a blinded rater."	Fig. 1. Participant flow. "Eighty-one patients were randomized into a BF (N=40) and a UL (N=41) group. A total of 17 patients did not complete the study protocol." "Sixty-four patients completed the study." Missing data excluded from analysis and high attrition rate.	Results of all primary outcome measures reported.
Speer 2014	"Patients were randomized […] to receive 15 daily sessions of rTMS"	No information provided.	"However, patients were […]. They apparently remained blind to the sham stimulation" "although the M.D. (A.S.) administering the rTMS was not blind."	"These raters and all other associated clinical ward staff were blind to both active versus sham treatment as well as to high versus low frequency of stimulation, although the M.D. (A.S.) administering the rTMS was not blind."	"Subject 14 discontinued the blind study after 1 week due to worsening of depression symptoms." Unclear whether missing data included but overall low attrition rate.	Results of all primary outcome measures reported.
Stern 2007	"Forty-five patients […] were randomized to four groups."	No information provided.	"The patients were unblinded during their second phase of treatment"	"A psychiatrist blinded to group assignment conducted all assessments of patients' symptoms."	"A total of eight patients withdrew from the study due to adverse effects. These patients were from Group 2 (five patients) and Group 4 (three patients). No patients withdrew from Group 1 or Group 3, which were the groups showing a significant antidepressant effect."	Results of all primary outcome measures reported.

Stoppe 2006	No information provided.	No information provided.	No information provided.	"The main investigator (A.S.) performed a blind clinical evaluation"	"If more than 16 ECT treatments were needed, patients continued receiving ECT but were considered nonresponders and dropped out of the protocol." High attrition rate and attrition unbalanced between groups.	Results of all primary outcome measures reported.
Su 2005	"Thirty-three patients enrolled in this study and were randomly assigned to"	No information provided.	No information provided.	Severity of depression at baseline and at the end of each week was assessed by a psychiatrist (T.-P.S.), blinded to treatment arm"	"Thirty patients completed the study, and 3 dropped out."	Results of all primary outcome measures reported.
Tavares 2017	"Participants were randomized using a computer-generated list in a 1:1 ratio."	"concealment consisted of sequentially numbered cards, which determined whether the TMS machine would produce real or sham stimulation. A secretary not directly participating in the research was responsible for handling the numbered cards to the staff before each session."	"Participants and personnel were therefore fully blinded to allocation group status." "Both differences were not statistically significant (t=0.85, p=0.4; t=0.8, p=0.43 for raters and patients, respectively). In other words, both raters and patients were unable to identify the allocation group beyond chance."	"Both differences were not statistically significant (t=0.85, p=0.4; t=0.8, p=0.43 for raters and patients, respectively). In other words, both raters and patients were unable to identify the allocation group beyond chance."	"Out of 50 patients included, 43 finished the trial. There were 2 dropouts in the sham group […] and 5 dropouts in the active group […] which was not statistically different (p=0.21)." "We performed an intention-to-treat (ITT) analysis using the last observation carried forward (LOCF) approach."	Results of all primary outcome measures reported.
Taylor 1985	No information provided.	No information provided.	No information provided.	"a research psychiatrist (blind to treatment assignment and neuropsychological test results) evaluated each patient"	The trial did not report any drop-outs.	Results of all primary outcome measures reported.
Taylor 2018	"Patients were assigned to treatment arm, using block randomization, stratified by gender."	"Randomization was performed by a member of the study team (S.H.) not involved in treatment assessments."	"patients and treating clinicians were queried as to which treatment arm they thought the patient was on." "Fifty percent of subjects correctly guessed they were receiving sham stimulation, but 80% of subjects receiving active stimulation correctly guessing their assignment." "More patients receiving active treatment than those receiving sham treatment correctly guessed their treatment assignment, suggesting that the sham was not a perfect control for the study."	"Clinicians assessing symptom change over the course of the study (S.F.T, D.F.M.) were blinded as to treatment assignment."	"Of the 40 subjects enrolled (from 44 screened), 34 completed the first MRI and 32 completed both scans (Supplementary material, Figure S1). Sixteen subjects completed each arm." Only include data from adherers.	Results of all primary outcome measures reported.

Theleritis 2017	"patients were randomly assigned to receive […] by an independent researcher using a password-protected computer database containing the randomization list."	"To ensure allocation concealment, […] by an independent researcher using a password-protected computer database containing the randomization list."	"To check blinding, patients were asked to guess which treatment" "The 4 treatment groups did not differ significantly in their guesses about which treatment they received after the first (P = 0.8) and last rTMS session (P = 0.6)."	"Likewise, raters did not guess better than chance which subjects received active treatment (P = 0.7)."	TABLE 1. Flow Chart. "The basic analysis was conducted on the intent-to-treat sample, that is, the 96 individuals who had measurements at week 1 (Table 1)."	Results of all primary outcome measures reported.
Triggs 2010	No information provided.	No information provided.	"We attempted to control for this by deliberately limiting interaction between unblinded treating investigators and patients." "We did not ask subjects if they thought they were receiving either real or sham stimulation"	No information provided.	"All 48 subjects completed the 2 -week course of rTMS treatment (Fig. 1)."	Results of all primary outcome measures reported.
Zheng 2010	"All patients were randomly assigned to either the active rTMS group (n= 19) or the sham rTMS group (n= 15)."	No information provided.	"patients were naive to rTMS prior to this study."	"All clinical interviews were performed by a research psychiatrist."	The trial did not report any drop-outs.	Results of all primary outcome measures reported.

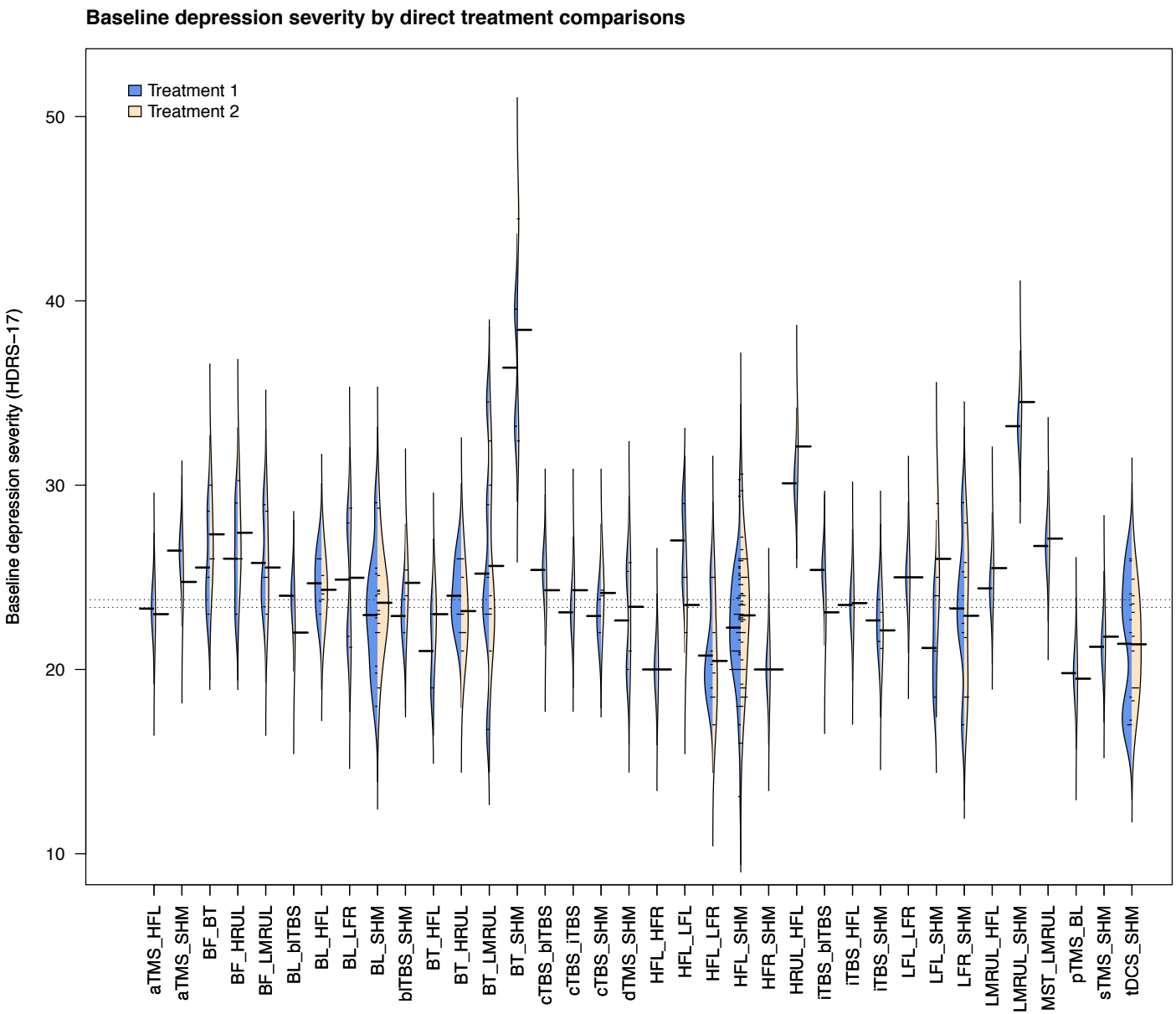
9. Characteristics direct treatment comparisons

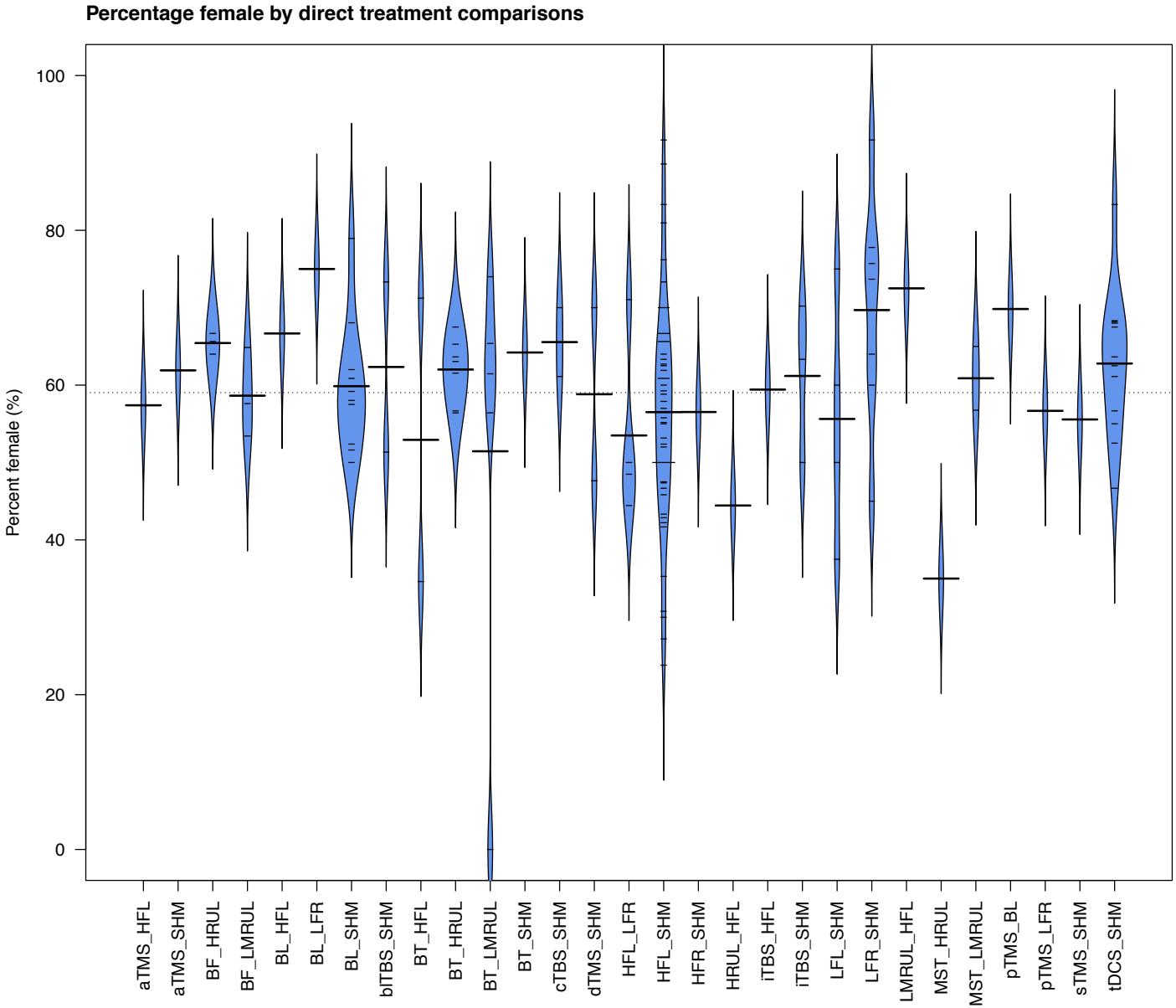
Supplementary Table 5. **Summary characteristics of direct treatment comparisons.**

Treatment comparison	n patients (n comp.)	Diagnosis			Hospital status			Exclude psychosis		Treatment resistance			Treatment strategy		
		BD	MDD	Mix.	Inp.	Mix.	Outp.	No	Yes	Mix.	No	Yes	Augm.	Mono.	Mix.
aTMS_HFL	119 (1)			100			100	–				100	–		
aTMS_SHM	21 (1)		100			100			100			100		100	
BF_BT	225 (3)			100	–			50	50	–				100	
BF_HRUL	269 (3)			100	–			66.67	33.3			100		100	
BF_LMRUL	202 (3)			100	100			100				100	66.7	33.3	
BL_blTBS	38 (1)			100		100		100		100			100		
BL_HFL	196 (4)		75	25		50	50	50	50			100	25		75
BL_LFR	182 (2)		50	50	50		50	100				100	50		50
BL_SHM	533 (10)	10	50	40		25	75	50	50	11.1		88.9	20	20	60
blTBS_SHM	68 (2)		50	50		100		50	50	50		50	50		50
BT_HFL	101 (2)		50	50	–			100				100	50		50
BT_HRUL	563 (7)		16.7	83.3	75	25		83.3	16.7	50		50	16.7	83.3	
BT_LMRUL	392 (8)		71.4	28.6	85.7	14.3		100		33.3		66.7		100	
BT_SHM	141 (2)	–			100			–		–				100	
cTBS_blTBS	30 (1)		100		–				100			100			100
cTBS_iTBS	30 (1)		100		–				100			100			100
cTBS_SHM	59 (2)		50	50	100				100			100			100
dTMS_SHM	285 (2)	50	50				100		100			100	50	50	
HFL_HFR	34 (1)		100		–				100			100	100		
HFL_LFL	46 (3)		33.3	66.7		66.7	33.3	66.7	33.3			100		100	
HFL_LFR	240 (7)		33.3	66.7	16.7	16.7	66.7	25	75			100	57.1	14.3	28.6
HFL_SHM	1907 (47)	2.2	54.4	43.5	22.2	19.4	58.3	40	60	5.1	5.1	89.7	37	21.7	41.3
HFR_SHM	23 (1)		100		–				100			100	100		
HRUL_HFL	42 (1)		100			100			100			100		100	
iTBS_blTBS	30 (1)		100		–				100			100			100
iTBS_HFL	414 (1)		100				100		100			100			100
iTBS_SHM	89 (3)	33.3	66.7			100			100			100	33.3	33.3	33.3
LFL_LFR	20 (1)		100				100		100			100		100	
LFL_SHM	61 (4)		50	50		66.7	33.3	66.7	33.3			100		75	25
LFR_SHM	234 (7)		50	50	50		50	33.3	66.7		33.3	66.7	42.9	28.6	28.6
LMRUL_HFL	40 (1)		100			100			100			100		100	
LMRUL_SHM	46 (1)	–			100			–		–				100	
MST_HRUL	25 (1)			100	–			–				100	–		
MST_LMRUL	60 (2)			100	100			50	50			100	100		
pTMS_BL	179 (1)			100	100				100			100			100
pTMS_LFR	60 (1)			100			100	–				100	–		
sTMS_SHM	254 (2)		100			50	50	50	50		50	50	50	50	
tDCS_SHM	675 (13)	8.3	66.7	25		10	90		100	54.6	9.1	36.4	15.4	53.9	30.8

Note. Percentages presented in table based on data from direct treatment comparisons. Due to rounding, percentages may not add up to 100. BD = bipolar depression; MDD = major depressive disorder; aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right

repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.


Baseline depression severity by direct treatment comparisons
Treatment 1
Treatment 2
Baseline depression severity (HDRS–17)
50
40
30
20
10
aTMS_HFL
aTMS_SHM
BF_BT
BF_HRUL
BF_LMRUL
BL_blTBS
BL_HFL
BL_LFR
BL_SHM
blTBS_SHM
BT_HFL
BT_HRUL
BT_LMRUL
BT_SHM
cTBS_blTBS
cTBS_iTBS
cTBS_SHM
dTMS_SHM
HFL_HFR
HFL_LFL
HFL_LFR
HFL_SHM
HFR_SHM
HRUL_HFL
iTBS_blTBS
iTBS_HFL
iTBS_SHM
LFL_LFR
LFL_SHM
LFR_SHM
LMRUL_HFL
LMRUL_SHM
MST_LMRUL
pTMS_BL
sTMS_SHM
tDCS_SHM


Percentage female by direct treatment comparisons
Percent female (%)
100
80
60
40
20
0
aTMS_HFL
aTMS_SHM
BF_HRUL
BF_LMRUL
BL_HFL
BL_LFR
BL_SHM
blTBS_SHM
BT_HFL
BT_HRUL
BT_LMRUL
BT_SHM
cTBS_SHM
dTMS_SHM
HFL_LFR
HFL_SHM
HFR_SHM
HRUL_HFL
iTBS_HFL
iTBS_SHM
LFL_SHM
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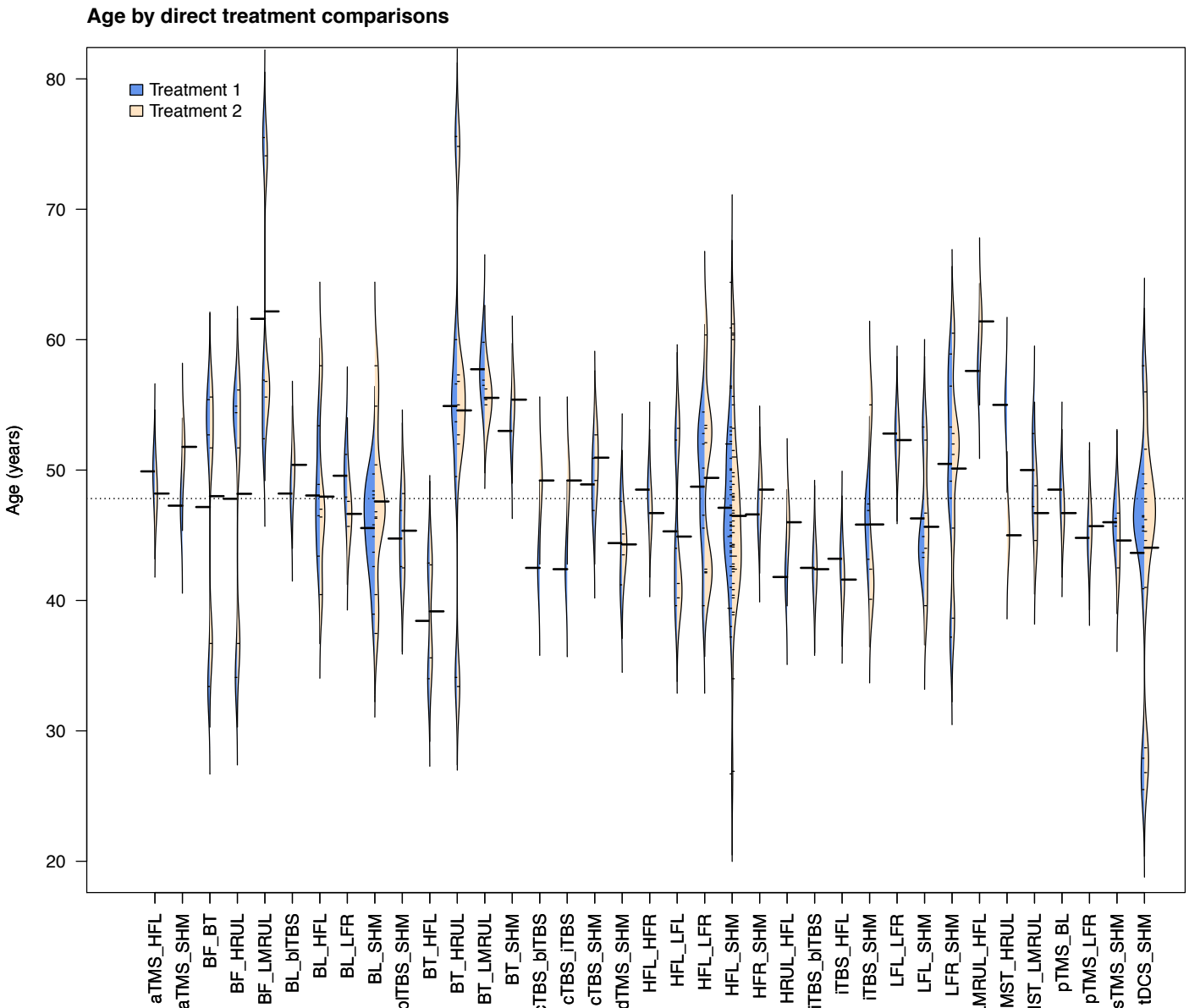
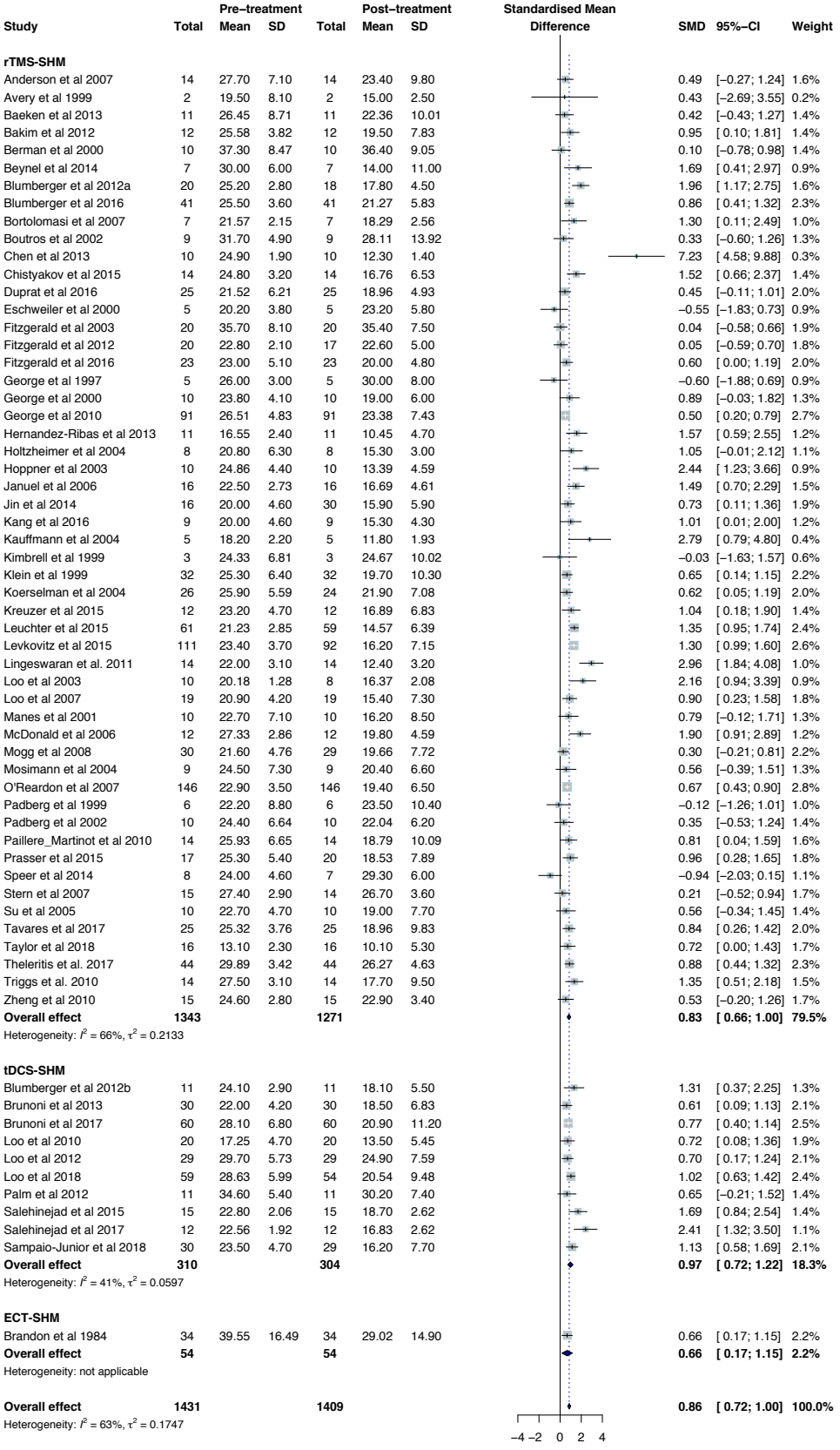
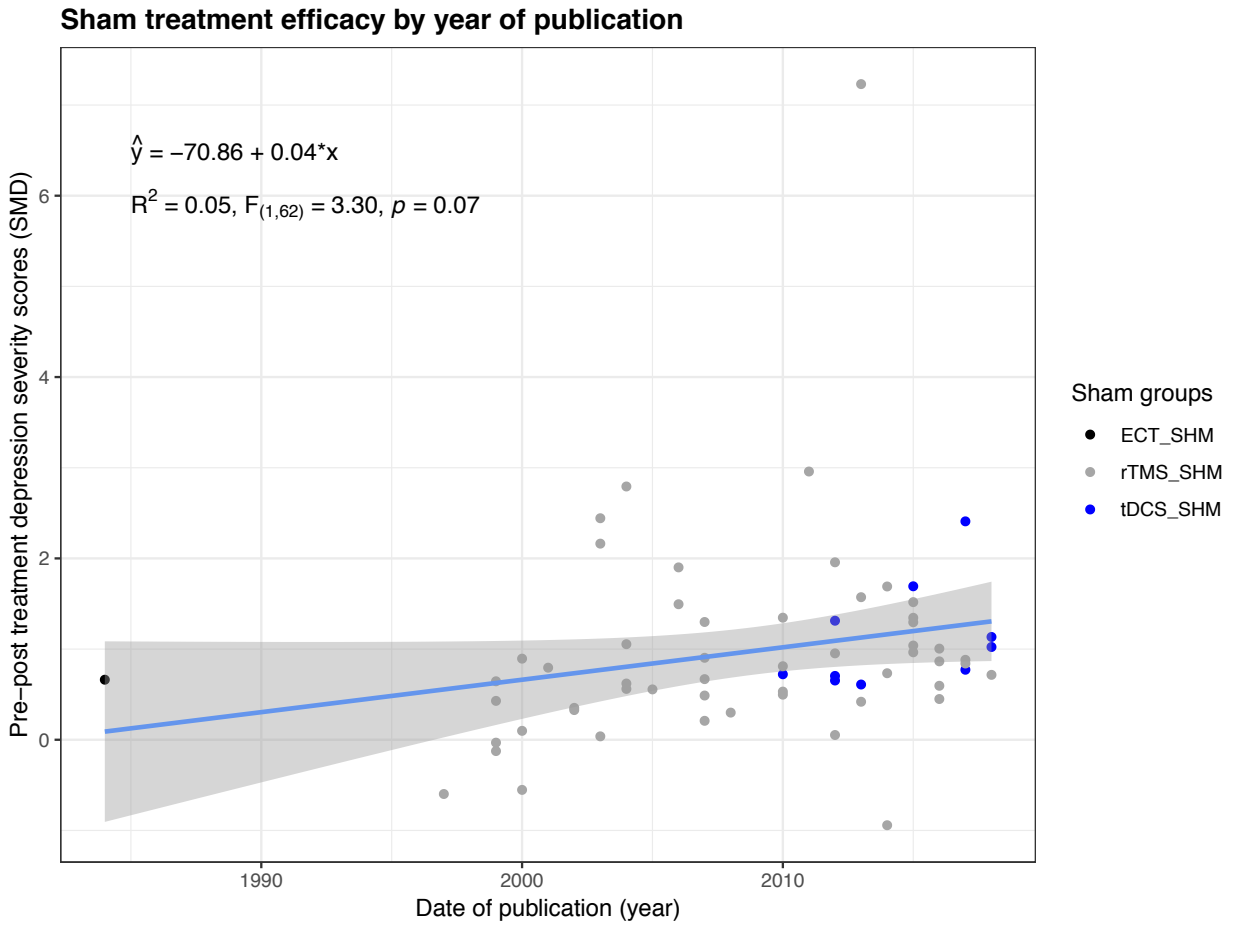
pTMS_BL
pTMS_LFR
sTMS_SHM
tDCS_SHM


Age by direct treatment comparisons
Treatment 1
Treatment 2
Age (years)
80
70
60
50
40
30
20
aTMS_HFL
aTMS_SHM
BF_BT
BF_HRUL
BF_LMRUL
BL_blTBS
BL_HFL
BL_LFR
BL_SHM
blTBS_SHM
BT_HFL
BT_HRUL
BT_LMRUL
BT_SHM
cTBS_blTBS
cTBS_iTBS
cTBS_SHM
dTMS_SHM
HFL_HFR
HFL_LFL
HFL_LFR
HFL_SHM
HFR_SHM
HRUL_HFL
iTBS_blTBS
iTBS_HFL
iTBS_SHM
LFL_LFR
LFL_SHM
LFR_SHM
LMRUL_HFL
MST_HRUL
MST_LMRUL
pTMS_BL
pTMS_LFR
sTMS_SHM
tDCS_SHM

10. Forest plot sham efficacy



11. Sham efficacy by date of publication



Supplementary Figure 6. **Scatterplot of sham treatment effects by date of publication.** SMD = Standardised Mean Difference (Hedge's *g*); ECT = Electroconvulsive Therapy; rTMS = repetitive Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.

12. Pairwise meta-analysis

Supplementary Table 6. **Pairwise meta–analysis of response, remission, all-cause discontinuation rates and continuous post-treatment depression severity scores**.

a. Active vs sham			Response				Remission				All–cause discontinuation				Continuous post-treatment			
Comparison		Trial (first author)	OR§	95% CI		τ^2	OR§	95% CI		τ^2	OR§	95% CI		τ^2	SMD§	95% CI		τ^2
LMRUL	SHM	Gregory 1985	–	–	–	–	–	–	–	–	0.66	0.19	2.35	–	–	–	–	–
		Summary effect	–	–	–	–	–	–	–	–	**0.66**	**0.19**	**2.35**	–	–	–	–	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BT	SHM	Brandon 1984	5.50	1.13	26.82	–	5.50	1.13	26.82	–	0.41	0.14	1.24	–	-0.77	-1.24	-0.31	–
		Gregory 1985	–	–	–	–	–	–	–	–	0.52	0.14	1.93	–	–	–	–	–
		Summary effect	**5.50**	**1.13**	**26.82**	–	**5.50**	**1.13**	**26.82**	–	**0.45**	**0.19**	**1.05**	–	**-0.77**	**-1.24**	**-0.31**	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	0.0%	–	–	0	–	–	–	–
BL	SHM	Blumberger 2012a	5.63	1.07	29.61	–	10.06	1.15	87.85	–	0.76	0.14	4.19	–	-0.42	-1.04	0.20	–
		Blumberger 2016	5.66	1.14	28.13	–	10.00	1.19	84.16	–	0.49	0.08	2.82	–	-0.38	-0.82	0.06	–
		Fitzgerald 2006	12.46	2.41	64.49	–	34.55	1.89	631.93	–	0.13	0.01	2.58	–	–	–	–	–
		Fitzgerald 2016	3.30	0.32	34.35	–	5.47	0.25	120.37	–	2.21	0.36	13.47	–	-0.04	-0.62	0.54	–
		Fitzgerald 2012	0.89	0.05	15.40	–	–	–	–	–	0.89	0.16	5.04	–	-0.07	-0.73	0.58	–
		He 2011	11.33	2.97	43.27	–	–	–	–	–	0.50	0.14	1.84	–	–	–	–	–
		Loo 2003	2.57	0.19	34.47	–	–	–	–	–	0.18	0.01	4.28	–	0.93	-0.09	1.95	–
		McDonald 2006	2.75	0.32	23.87	–	1.84	0.09	38.05	–	–	–	–	–	-0.19	-0.82	0.44	–
		Pallanti 2010	2.25	0.36	13.97	–	2.11	0.18	25.35	–	–	–	–	–	–	–	–	–
		Prasser 2015	3.27	0.67	15.82	–	1.00	0.12	8.06	–	1.00	0.06	17.33	–	0.04	-0.63	0.71	–
		Summary effect	**4.93**	**2.78**	**8.75**	–	**4.67**	**1.84**	**11.84**	–	**0.66**	**0.34**	**1.29**	–	**-0.14**	**-0.39**	**0.10**	–
		Heterogeneity (I^2)	0.0%	0.0%	41.2%	0	0.0%	0.0%	70.2%	0	0.0%	0.0%	44.0%	0	9.6%	0.0%	73.6%	0.0106
HFL	SHM	Anderson 2007	15.60	1.48	164.38	–	7.43	0.69	79.96	–	1.27	0.15	10.53	–	-0.83	-1.66	-0.004	–
		Avery 1999	–	–	–	–	–	–	–	–	–	–	–	–	-1.02	-2.99	0.94	–
		Avery 2006	7.10	1.44	35.12	–	8.00	0.93	69.08	–	–	–	–	–	–	–	–	–
		Bakim 2012	18.00	2.94	110.31	–	7.07	0.77	64.58	–	–	–	–	–	-1.10	-1.85	-0.35	–
		Berman 2000	3.32	0.12	91.60	–	3.32	0.12	91.6	–	0.10	0.01	2.28	–	-1.24	-2.21	-0.26	–
		Blumberger 2012a	0.43	0.04	5.13	–	0.90	0.05	15.49	–	2.61	0.58	11.72	–	0.36	-0.42	1.14	–
		Blumberger 2016	3.44	0.65	18.19	–	3.24	0.32	32.57	–	1.32	0.33	5.32	–	-0.10	-0.53	0.34	–
		Bortolomasi 2007	15.00	0.70	320.62	–	15.00	0.70	320.62	–	–	–	–	–	-0.87	-1.85	0.11	–
		Boutros 2002	1.17	0.15	9.01	–	0.73	0.04	13.45	–	0.14	0.01	1.51	–	0.07	-0.80	0.93	–
		Chen 2013	0.58	0.07	4.56	–	–	–	–	–	0.33	0.01	9.16	–	-1.78	-2.85	-0.71	–
		Concerto 2015	16.24	0.81	325.88	–	21.21	1.07	420.8	–	–	–	–	–	–	–	–	–
		Eschweiler 2000	–	–	–	–	–	–	–	–	–	–	–	–	0.00	-1.24	1.24	–
		Fitzgerald 2003	–	–	–	–	–	–	–	–	–	–	–	–	-0.60	-1.24	0.03	–
		Fitzgerald 2012	0.22	0.01	5.85	–	–	–	–	–	0.10	0.005	2.10	–	-0.65	-1.29	-0.01	–
		Garcia-Toro 2001	7.08	0.73	68.61	–	–	–	–	–	1.59	0.24	10.70	–	–	–	–	–
		George 1997	2.54	0.09	75.76	–	2.54	0.09	75.76		–	–	–	–	-0.75	-1.95	0.45	–
		George 2000	17.35	0.90	336.23	–	–	–	–	–	2.56	0.11	58.35	–	-0.14	-0.90	0.62	–
		George 2010	3.34	1.15	9.68	–	3.06	1.05	8.96	–	1.34	0.53	3.41	–	-0.21	-0.51	0.09	–
		Hansen 2004	–	–	–	–	–	–	–	–	9.55	0.40	225.19	–	–	–	–	
		Hernandez-Ribas 2013	6.22	0.94	41.38	–	–	–	–	–	–	–	–	–	-0.34	-1.21	0.52	–
		Holtzheimer 2004	2.80	0.20	40.06	–	–	–	–	–	–	–	–	–	-0.21	-1.23	0.81	–
		Hoppner 2003	1.00	0.17	5.77	–	–	–	–	–	3.32	0.12	91.60	–	0.15	-0.75	1.05	–
		Kang 2016	51.57	2.33	1140.94	–	7.00	0.32	154.87	–	0.38	0.03	4.81	–	-1.24	-2.20	-0.28	–

		Kimbrell 1999	–	–	–	–	–	–	–	–	–	–	–	–	0.29	-1.16	1.73	–
		Koerselman 2004	–	–	–	–	–	–	–	–	1.92	0.32	11.47	–	-0.11	-0.67	0.45	–
		Kreuzer 2015	0.75	0.12	4.62	–	1.09	0.19	6.20	–	0.12	0.01	2.45	–	-0.55	-1.33	0.22	–
		Lingeswaran 2011	1.44	0.26	7.96	–	5.12	0.19	140.25	–	1.56	0.26	9.47	–	0.07	-0.76	0.91	–
		Loo 2007	2.46	0.51	11.80	–	1.59	0.23	10.82	–	0.33	0.03	3.51	–	-0.54	-1.19	0.11	–
		Manes 2001	1.00	0.15	6.77	–	1.00	0.11	8.95	–	–	–	–	–	-0.34	-1.22	0.55	–
		Mogg 2008	4.11	0.98	17.23	–	2.89	0.66	12.56	–	0.32	0.03	3.28	–	-0.46	-0.98	0.07	–
		Mosimann 2004	1.97	0.07	53.48	–	–	–	–	–	–	–	–	–	0.40	-0.43	1.24	–
		Nahas 2003	1.14	0.21	6.37	–	1.10	0.06	20.01	–	–	–	–	–	–	–	–	–
		O'Reardon 2007	1.85	0.99	3.47	–	1.04	0.43	2.52	–	0.79	0.43	1.47	–	-0.31	-0.53	-0.08	–
		Padberg 2002	7.45	0.37	149.55	–	4.20	0.20	89.61	–	–	–	–	–	-0.53	-1.30	0.25	–
		Paillere-Martinot 2010	4.58	0.94	22.24	–	3.00	0.50	17.95	–	2.35	0.09	62.09	–	-0.34	-1.04	0.37	–
		Rossini 2005	12.00	1.43	100.81	–	21.27	1.18	382.61	–	0.44	0.03	7.56	–	–	–	–	–
		Speer 2014	–	–	–	–	–	–	–	–	0.29	0.01	8.37	–	0.36	-0.67	1.38	–
		Stern 2007	44.78	2.10	956.84	–	14.47	0.66	317.54	–	0.46	0.02	12.45	–	-2.37	-3.46	-1.27	–
		Su 2005	13.50	1.42	128.26	–	21.00	1.08	406.55	–	1.00	0.08	12.4	–	-1.05	-1.86	-0.24	–
		Taylor 2018	1.71	0.40	7.27	–	0.73	0.16	3.45	–	1.00	0.21	4.71	–	-0.19	-0.89	0.50	–
		Theleritis 2017 (1)	11.18	1.29	96.65	–	5.86	0.29	120.11	–	0.72	0.09	5.60	–	-2.16	-2.90	-1.42	–
		Theleritis 2017 (2)	112.41	6.10	2070.81	–	25.16	1.37	460.6	–	0.56	0.09	3.67	–	-3.21	-4.06	-2.35	–
		Triggs 2010	0.71	0.10	5.18	–	–	–	–	–	–	–	–	–	-0.22	-1.09	0.66	–
		Zheng 2010	24.00	2.57	223.79	–	–	–	–	–	–	–	–	–	-2.07	-2.92	-1.21	–
		Summary effect	**3.50**	**2.35**	**5.20**	–	**2.56**	**1.73**	**3.78**	–	**0.90**	**0.64**	**1.26**	–	**-0.60**	**-0.82**	**-0.38**	–
		Heterogeneity (I^2)	33.2%	0.0%	55.4%	0.4364	0.0%	0.0%	41.4%	0	0.0%	0.0%	23.3%	0	71.7%	60.8%	79.5%	0.3000
LFL	SHM	Kimbrell 1999	2.33	0.07	76.67	–	–	–	–	–	2.33	0.07	76.67	–	0.18	-1.25	1.62	–
		Padberg 1999	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		Speer 2014	–	–	–	–	–	–	–	–	0.29	0.01	8.37	–	-0.61	-1.65	0.44	–
		Stern 2007	–	–	–	–	–	–	–	–	3.50	0.27	44.95	–	0.19	-0.68	1.06	–
		Summary effect	**2.33**	**0.07**	**76.67**	–	–	–	–	–	**1.60**	**0.28**	**9.25**	–	**-0.08**	**-0.69**	**0.53**	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	0.0%	0.0%	85.1%	0	0.0%	0.0%	85.9%	0
LFR	SHM	Fitzgerald 2003	3.15	0.12	82.16	–	–	–	–	–	–	–	–	–	-0.38	-1.00	0.25	–
		Hoppner 2003	0.43	0.07	2.68	–	–	–	–	–	–	–	–	–	0.48	-0.41	1.37	–
		Januel 2006	26.25	2.46	280.2	–	26.25	2.46	280.2	–	0.38	0.07	1.95	–	-1.27	-2.12	-0.42	–
		Kauffmann 2004	2.00	0.19	20.61	–	5.33	0.38	75.78	–	–	–	–	–	-0.17	-1.32	0.98	–
		Klein 1999	2.83	1.002	8.01	–	3.65	1.20	11.06	–	0.46	0.04	5.29	–	-0.61	-1.10	-0.12	–
		Pallanti 2010	4.85	0.86	27.22	–	8.14	0.88	75.48	–	–	–	–	–	–	–	–	–
		Stern 2007	44.78	2.10	956.84	–	4.89	0.18	132.83	–	0.46	0.02	12.45	–	-2.55	-3.68	-1.42	–
		Summary effect	**3.66**	**1.30**	**10.30**	–	**5.54**	**2.40**	**12.79**	–	**0.41**	**0.12**	**1.45**	–	**-0.71**	**-1.36**	**-0.05**	–
		Heterogeneity (I^2)	45.5%	0.0%	77.0%	0.8227	0.0%	0.0%	64.3%	0	0.0%	0.0%	0.0%	0	75.4%	44.5%	89.1%	0.4831
HFR	SHM	Triggs 2010	0.34	0.05	2.13	–	–	–	–	–	–	–	–	–	0.04	-0.85	0.93	–
		Summary effect	**0.34**	**0.05**	**2.13**	–	–	–	–	–	–	–	–	–	**0.04**	**-0.85**	**0.93**	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
tDCS	SHM	Blumberger 2012b	0.83	0.05	15.09	–	–	–	–	–	0.48	0.07	3.61	–	0.13	-0.67	0.94	–
		Boggio 2008	5.23	0.95	28.91	–	13.00	0.67	252.98	–	–	–	–	–	–	–	–	–
		Brunoni 2013	3.82	1.15	12.71	–	4.33	1.20	15.61	–	1.00	0.23	4.43	–	-0.76	-1.29	-0.23	–
		Brunoni 2017	2.56	1.22	5.37	–	2.11	0.87	5.08	–	3.36	1.20	9.44	–	-0.46	-0.79	-0.14	–

		Fregni 2006a	33.00	1.06	1023.56	–	–	–	–	–	–	–	–	–	–	–	–
		Loo 2010	2.43	0.51	11.51	–	1.59	0.24	10.70	–	0.21	0.02	2.08	–	0.31	-0.31	0.93	–
		Loo 2012	0.93	0.21	4.10	–	–	–	–	–	0.93	0.17	5.01	–	-0.56	-1.08	-0.04	–
		Loo 2018	0.54	0.20	1.42	–	0.19	0.04	0.92	–	1.08	0.42	2.75	–	0.30	-0.08	0.68	–
		Palm 2012	–	–	–	–	–	–	–	–	0.17	0.01	3.88	–	-0.24	-1.08	0.60	–
		Salehinejad 2015	79.22	3.87	1622.84	–	35.13	1.78	693.38	–	–	–	–	–	-2.95	-4.03	-1.88	–
		Salehinejad 2017	34.09	1.64	707.92	–	9.21	0.42	200.59	–	–	–	–	–	-1.31	-2.20	-0.41	–
		Sampaio-Junior 2018	4.75	1.58	14.25	–	2.53	0.74	8.65	–	1.33	0.27	6.56	–	-0.86	-1.40	-0.32	–
		Summary effect	**3.04**	**1.47**	**6.29**	–	**2.53**	**1.03**	**6.22**	–	**1.11**	**0.61**	**2.01**	–	**-0.56**	**-0.99**	**-0.13**	–
		Heterogeneity (I^2)	59.4%	21.0%	79.1%	0.7586	56.3%	3.7%	80.2%	0.8398	18.1%	0.0%	60.9%	0.1304	82.3%	68.6%	90.0%	0.3701
aTMS	SHM	Baeken 2013	2.50	0.19	32.80	–	–	–	–	–	–	–	–	–	-0.28	-1.14	0.58	–
		Summary effect	**2.50**	**0.19**	**32.80**	–	–	–	–	–	–	–	–	–	**-0.28**	**-1.14**	**0.58**	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
iTBS	SHM	Beynel 2014	3.00	0.21	42.62	–	1.67	0.15	18.87	–	–	–	–	–	-0.10	-1.25	1.05	–
		Duprat 2016	5.33	0.55	51.88	–	6.22	0.28	136.9	–	–	–	–	–	-0.44	-1.02	0.14	–
		Li 2014	4.33	0.71	26.53	–	–	–	–	–	–	–	–	–	–	–	–	–
		Summary effect	**4.25**	**1.22**	**14.84**	–	**2.75**	**0.41**	**18.58**	–	–	–	–	–	**-0.37**	**-0.89**	**0.15**	–
		Heterogeneity (I^2)	0.0%	0.0%	0.0%	0	0.0%	–	–	0	–	–	–	–	0.0%	–	–	0
cTBS	SHM	Chistyakov 2015	1.13	0.23	5.54	–	0.51	0.07	3.68	–	0.29	0.01	7.74	–	-0.15	-0.88	0.58	–
		Li 2014	1.63	0.23	11.46	–	–	–	–	–	–	–	–	–	–	–	–	–
		Summary effect	**1.30**	**0.38**	**4.48**	–	**0.51**	**0.07**	**3.68**	–	**0.29**	**0.01**	**7.74**	–	**-0.15**	**-0.88**	**0.58**	–
		Heterogeneity (I^2)	0.0%	–	–	0	–	–	–	–	–	–	–	–	–	–	–	–
blTBS	SHM	Li 2014	13.00	2.07	81.48	–	–	–	–	–	–	–	–	–	–	–	–	–
		Prasser 2015	1.56	0.31	7.75	–	1.32	0.19	9.02	–	0.28	0.01	7.44	–	-0.03	-0.65	0.59	–
		Summary effect	**4.28**	**0.54**	**34.27**	–	**1.32**	**0.19**	**9.02**	–	**0.28**	**0.01**	**7.44**	–	**-0.03**	**-0.65**	**0.59**	–
		Heterogeneity (I^2)	65.7%	0.0%	92.2%	1.4812	–	–	–	–	–	–	–	–	–	–	–	–
dTMS	SHM	Levkovitz 2015	1.49	0.84	2.66	–	2.29	1.18	4.42	–	0.66	0.30	1.42	–	-0.23	-0.52	0.06	–
		Tavares 2017	2.92	0.87	9.78	–	2.04	0.51	8.12	–	2.30	0.51	10.41	–	-0.51	-1.07	0.05	–
		Summary effect	**1.69**	**1.004**	**2.85**	–	**2.24**	**1.24**	**4.06**	–	**1.03**	**0.32**	**3.36**	–	**-0.29**	**-0.55**	**-0.03**	–
		Heterogeneity (I^2)	0.0%	–	–	0	0.0%	–	–	0	52.3%	0.0%	88.1%	0.4106	0.0%	–	–	0
sTMS	SHM	Jin 2014	8.00	1.54	41.49	–	10.00	1.16	86.02	–	1.80	0.07	46.40	–	-0.88	-1.41	-0.35	–
		Leuchter 2015	1.23	0.57	2.65	–	0.92	0.34	2.45	–	0.69	0.34	1.40	–	-0.29	-0.65	0.07	–
		Summary effect	**2.71**	**0.44**	**16.86**	–	**2.51**	**0.23**	**26.76**	–	**0.72**	**0.36**	**1.44**	–	**-0.55**	**-1.13**	**0.02**	–
		Heterogeneity (I^2)	75.9%	0.0%	94.5%	1.3537	75.7%	0.0%	94.5%	2.2690	0.0%	–	–	0	69.1%	0.0%	93.0%	0.1206
b. Active vs active			Response				Remission				All–cause discontinuation				Continuous post-treatment			
Comparison		Trial (first author)	OR[§]	95% CI		τ^2	OR[§]	95% CI		τ^2	OR[§]	95% CI		τ^2	SMD[§]	95% CI		τ^2
MST	HRUL	Kayser 2017	1.56	0.24	9.91	–	–	–	–	–	1.50	0.20	11.0	–	0.03	-0.85	0.91	–
		Summary effect	**1.56**	**0.24**	**9.91**	–	–	–	–	–	**1.50**	**0.20**	**11.0**	–	**0.03**	**-0.85**	**0.91**	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MST	LMRUL	Fitzgerald 2018a	1.07	0.22	5.13	–	0.33	0.01	8.72	–	7.38	0.36	152.82	–	0.19	-0.46	0.84	–
		Kayser 2011	2.25	0.38	13.47	–	0.64	0.10	4.10	–	–	–	–	–	0.48	-0.41	1.38	–
		Summary effect	**1.48**	**0.46**	**4.80**	–	**0.55**	**0.11**	**2.74**	–	**7.38**	**0.36**	**152.82**	–	**0.29**	**-0.23**	**0.81**	–
		Heterogeneity (I^2)	0.0%	–	–	0	0.0%	–	–	0	–	–	–	–	0.0%	–	–	0
BF	HRUL	Kellner 2010	–	–	–	–	1.28	0.68	2.4	–	0.93	0.46	1.89	–	-0.24	-0.55	0.07	–
		Ranjkesh 2005	–	–	–	–	–	–	–	–	0.62	0.09	4.34	–	0.50	-0.30	1.30	–

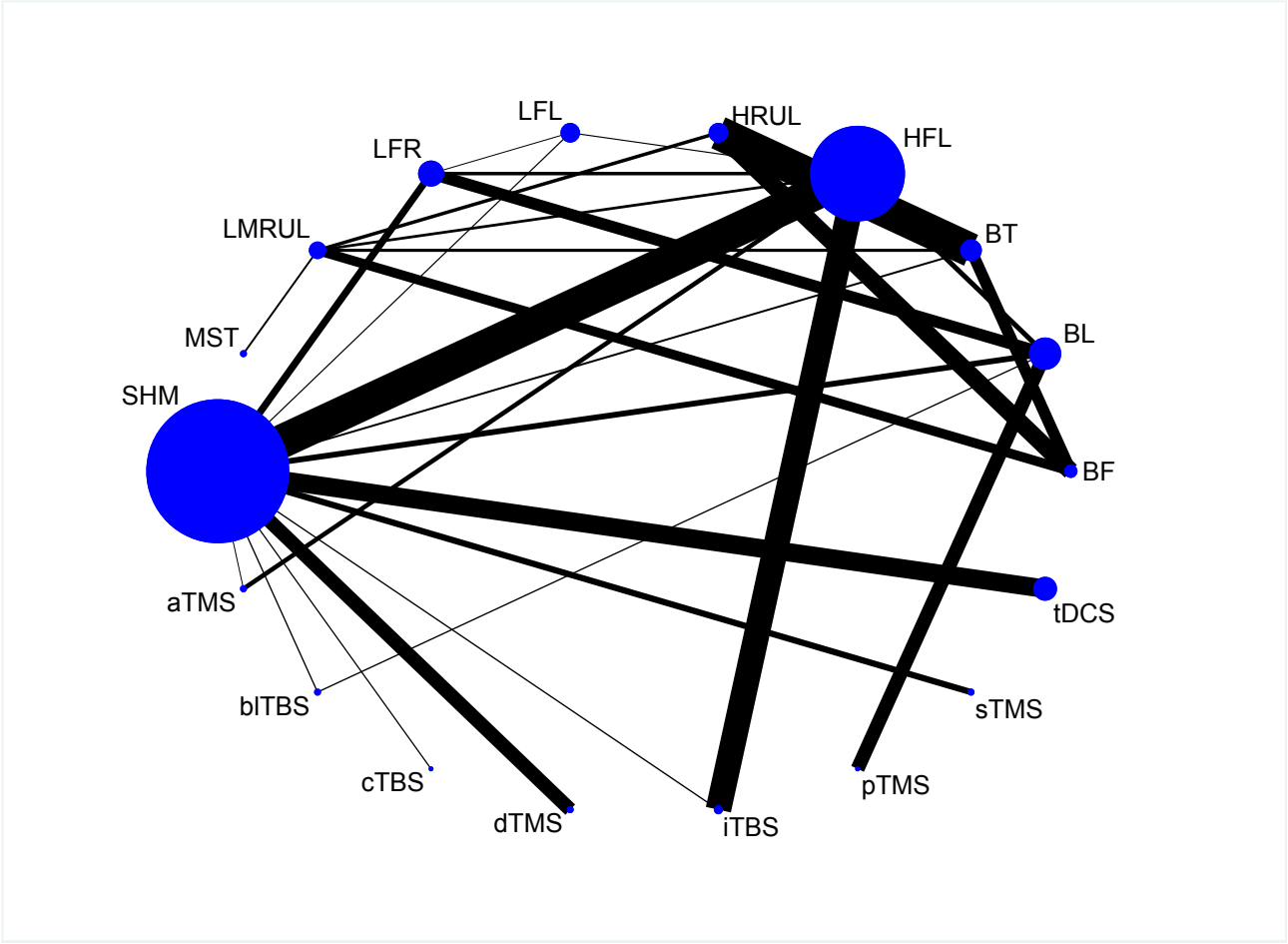
		Sienaert 2009	1.00	0.31	3.27	–	0.67	0.25	1.85	–	1.13	0.39	3.28	–	0.03	-0.46	0.52	–
		Summary effect	**1.00**	**0.31**	**3.27**	–	**1.05**	**0.59**	**1.87**	–	**0.95**	**0.54**	**1.67**	–	**-0.04**	**-0.39**	**0.32**	–
		Heterogeneity (I^2)	–	–	–	–	9.5%	–	–	0.0194	0.0%	0.0%	27.7%	0	37.0%	0.0%	80.0%	0.0375
BF	LMRUL	Bjolseth 2015	0.85	0.32	2.23	–	0.60	0.24	1.53	–	0.75	0.16	3.62	–	0.17	-0.29	0.63	–
		Eschweiler 2007	1.00	0.39	2.54	–	1.40	0.45	4.42	–	1.00	0.23	4.26	–	–	–	–	–
		Summary effect	**0.92**	**0.47**	**1.81**	–	**0.86**	**0.38**	**1.94**	–	**0.88**	**0.30**	**2.54**	–	**0.17**	**-0.29**	**0.63**	–
		Heterogeneity (I^2)	0.0%	–	–	0	20.5%	–	–	0.0730	0.0%	–	–	0	–	–	–	–
BT	HRUL	Kellner 2010	–	–	–	–	1.47	0.76	2.85	–	0.82	0.39	1.73	–	-0.27	-0.60	0.05	–
		McCall 2002	1.80	0.69	4.71	–	–	–	–	–	–	–	–	–	-0.16	-0.61	0.28	–
		Ranjkesh 2005	–	–	–	–	–	–	–	–	0.29	0.03	3.12	–	0.09	-0.68	0.86	–
		Sackeim 2000	1.00	0.21	4.71	–	1.33	0.3	5.93	–	–	–	–	–	–	–	–	–
		Sackeim 2008	1.30	0.56	2.99	–	1.19	0.52	2.72	–	6.45	0.74	55.95	–	1.99	1.48	2.50	–
		Semkovska 2016	0.66	0.34	1.30	–	0.84	0.43	1.64	–	0.19	0.01	4.12	–	0.11	-0.22	0.45	–
		Stoppe 2006	–	–	–	–	0.29	0.05	1.61	–	5.19	0.95	28.5	–	0.23	-0.41	0.86	–
		Summary effect	**1.03**	**0.65**	**1.64**	–	**1.07**	**0.73**	**1.57**	–	**1.28**	**0.39**	**4.23**		**0.33**	**-0.31**	**0.97**	–
		Heterogeneity (I^2)	7.2%	0.0%	85.8%	0.0173	0.0%	0.0%	78.2%	0	44.5%	0.0%	83.3%	0.9432	91.5%	84.2%	95.4%	0.5695
BT	LMRUL	Abrams 1991	1.88	0.45	7.97	–	–	–	–	–	–	–	–	–	–	–	–	–
		Gregory 1985	–	–	–	–	–	–	–	–	0.79	0.20	3.06	–	–	–	–	–
		Horne 1985	–	–	–	–	–	–	–	–	–	–	–	–	-0.73	-1.56	0.10	–
		Malitz 1986	6.11	1.84	20.31	–	–	–	–	–	–	–	–	–	-1.08	-1.67	-0.50	–
		Sackeim 1993	2.78	1.20	6.42	–	–	–	–	–	–	–	–	–	–	–	–	–
		Sackeim 2000	6.00	1.70	21.26	–	6.67	1.87	23.71	–	–	–	–	–	–	–	–	–
		Taylor 1985	11.67	1.30	104.81	–	–	–	–	–	–	–	–	–	-0.72	-1.40	-0.05	–
		Summary effect	**3.87**	**2.26**	**6.64**	–	**6.67**	**1.87**	**23.71**	–	**0.79**	**0.20**	**3.06**		**-0.88**	**-1.28**	**-0.49**	–
		Heterogeneity (I^2)	0.0%	0.0%	76.6%	0	–	–	–	–	–	–	–	–	0.0%	0.0%	73.4%	0
BF	BT	Kellner 2010	–	–	–	–	0.87	0.45	1.67	–	1.13	0.54	2.37	–	0.05	-0.27	0.37	–
		Ranjkesh 2005	–	–	–	–	–	–	–	–	2.15	0.17	26.67	–	0.37	-0.39	1.14	–
		Summary effect	–	–	–	–	**0.87**	**0.45**	**1.67**	–	**1.19**	**0.59**	**2.42**	–	**0.10**	**-0.20**	**0.39**	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	0.0%	–	–	0	0.0%	–	–	0
BL	LFR	Fitzgerald 2011	0.75	0.39	1.46	–	0.77	0.38	1.56	–	0.38	0.17	0.86	–	0.16	-0.22	0.54	–
		Pallanti 2010	0.46	0.11	1.94	–	0.26	0.05	1.49	–	–	–	–	–	–	–	–	–
		Summary effect	**0.69**	**0.38**	**1.26**	–	**0.61**	**0.25**	**1.48**	–	0.38	0.17	0.86	–	**0.16**	**-0.22**	**0.54**	–
		Heterogeneity (I^2)	0.0%	–	–	0	22.8%	–	–	0.1361	–	–	–	–	–	–	–	–
HFL	LFR	Dell'Osso 2015	1.50	0.18	12.46	–	3.20	0.26	40.06	–	0.47	0.04	5.11	–	-0.77	-1.53	0.003	–
		Fitzgerald 2003	0.32	0.01	8.26	–	–	–	–	–	–	–	–	–	-0.17	-0.79	0.46	–
		Fitzgerald 2007	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		Fitzgerald 2009	0.93	0.20	4.37	–	0.40	0.07	2.34	–	–	–	–	–	-0.17	-0.94	0.60	–
		Hoppner 2003	2.33	0.37	14.61	–	–	–	–	–	3.32	0.12	91.60	–	-0.29	-1.20	0.61	–
		Rossini 2010	1.43	0.55	3.71	–	–	–	–	–	–	–	–	–	-0.95	-1.43	-0.46	–
		Stern 2007	1.00	0.17	5.98	–	3.86	0.33	45.57	–	–	–	–	–	-0.12	-1.00	0.75	–
		Summary effect	**1.28**	**0.67**	**2.42**	–	**1.35**	**0.29**	**6.31**	–	**0.92**	**0.13**	**6.34**	–	**-0.48**	**-0.81**	**-0.15**	–
		Heterogeneity (I^2)	0.0%	0.0%	11.0%	0	31.5%	0.0%	92.9%	0.5943	0.0%	–	–	0	22.7%	0.0%	66.8%	0.0379
BL	HFL	Blumberger 2012a	13.13	1.52	113.36	–	11.12	1.28	96.66	–	0.29	0.07	1.29	–	-0.66	-1.41	0.10	–
		Blumberger 2016	1.65	0.53	5.15	–	3.08	0.75	12.61	–	0.37	0.07	2.02	–	-0.28	-0.72	0.16	–
		Fitzgerald 2012	3.97	0.15	103.19	–	–	–	–	–	8.79	0.43	180.63	–	0.50	-0.11	1.12	–

		Rybak 2005	1.60	0.24	10.81	–	0.64	0.10	4.11	–	–	–	–	–	0.07	-0.86	0.99	–
		Summary effect	**2.49**	**1.003**	**6.16**	–	**2.64**	**0.61**	**11.39**	–	**0.63**	**0.12**	**3.29**	–	**-0.09**	**-0.58**	**0.39**	–
		Heterogeneity (I^2)	5.6%	0.0%	85.6%	0.0570	50.3%	0.0%	85.6%	0.8422	53.4%	0.0%	86.6%	1.1097	54.5%	0.0%	84.9%	0.1299
pTMS	LFR	Fitzgerald 2008	3.00	0.82	11.04	–	–	–	–	–	0.19	0.01	4.06	–	-0.52	-1.04	0.01	–
		Summary effect	**3.00**	**0.82**	**11.04**	–	–	–	–	–	**0.19**	**0.01**	**4.06**	–	**-0.52**	**-1.04**	**0.01**	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
pTMS	BL	Fitzgerald 2013	0.93	0.51	1.67	–	1.04	0.57	1.89	–	0.45	0.16	1.25	–	0.15	-0.16	0.46	–
		Summary effect	**0.93**	**0.51**	**1.67**	–	**1.04**	**0.57**	**1.89**	–	**0.45**	**0.16**	**1.25**	–	**0.15**	**-0.16**	**0.46**	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
aTMS	HFL	Fitzgerald 2018b	0.61	0.26	1.44	–	0.65	0.23	1.83	–	1.70	0.39	7.45	–	0.24	-0.13	0.61	–
		Summary effect	**0.61**	**0.26**	**1.44**	–	**0.65**	**0.23**	**1.83**	–	**1.70**	**0.39**	**7.45**	–	**0.24**	**-0.13**	**0.61**	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
iTBS	HFL	Blumberger 2018	1.08	0.72	1.60	–	1.28	0.82	1.99	–	1.22	0.57	2.61	–	0.00	-0.20	0.20	–
		Summary effect	**1.08**	**0.72**	**1.60**	–	**1.28**	**0.82**	**1.99**	–	**1.22**	**0.57**	**2.61**	–	**0.00**	**-0.20**	**0.20**	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
HRUL	HFL	Rosa 2006	–	–	–	–	–	–	–	–	3.33	0.57	19.60	–	0.69	-0.002	1.38	–
		Summary effect	–	–	–	–	–	–	–	–	**3.33**	**0.57**	**19.60**	–	**0.69**	**-0.002**	**1.38**	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
LMRUL	HFL	Grunhaus 2003	1.23	0.35	4.31	–	1.00	0.26	3.87	–	–	–	–	–	-0.01	-0.63	0.61	–
		Summary effect	**1.23**	**0.35**	**4.31**	–	**1.00**	**0.26**	**3.87**	–	–	–	–	–	**-0.01**	**-0.63**	**0.61**	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BT	HFL	Janicak 2002	–	–	–	–	1.46	0.26	8.05	–	–	–	–	–	-0.28	-1.13	0.58	–
		Keshtkar 2011	–	–	–	–	–	–	–	–	1.33	0.45	3.98	–	-1.13	-1.63	-0.63	–
		Summary effect	–	–	–	–	**1.46**	**0.26**	**8.05**	–	**1.33**	**0.45**	**3.98**	–	**-0.78**	**-1.60**	**0.05**	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	–	–	–	–	64.9%	0.0%	92.0%	0.2358
HFL	LFL	Kimbrell 1999	0.27	0.01	8.46	–	–	–	–	–	0.27	0.01	8.46	–	0.03	-1.21	1.27	–
		Speer 2014	–	–	–	–	–	–	–	–	–	–	–	–	0.81	-0.22	1.84	–
		Stern 2007	30.33	1.39	660.76	–	9.80	0.44	219.25	–	0.16	0.01	3.85	–	-2.00	-3.19	-0.81	–
		Summary effect	**3.06**	**0.03**	**311.40**	–	**9.80**	**0.44**	**219.25**	–	**0.21**	**0.02**	**2.11**	–	**-0.37**	**-2.04**	**1.29**	–
		Heterogeneity (I^2)	75.1%	0.0%	94.4%	8.3553	–	–	–	–	0.0%	–	–	0	84.1%	52.3%	94.7%	1.8193
LFL	LFR	Stern 2007	0.03	0.002	0.72	–	0.30	0.01	8.33	–	6.18	0.26	146.78	–	2.12	0.90	3.33	–
		Summary effect	**0.03**	**0.002**	**0.72**	–	**0.30**	**0.01**	**8.33**	–	**6.18**	**0.26**	**146.78**	–	**2.12**	**0.90**	**3.33**	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
HFL	HFR	Triggs 2010	0.63	0.14	2.91	–	–	–	–	–	–	–	–	–	0.71	0.01	1.40	–
		Summary effect	**0.63**	**0.14**	**2.91**	–	–	–	–	–	–	–	–	–	**0.71**	**0.01**	**1.40**	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
cTBS	iTBS	Li 2014	0.38	0.07	1.92	–	–	–	–	–	–	–	–	–	–	–	–	–
		Summary effect	**0.38**	**0.07**	**1.92**	–	–	–	–	–	–	–	–	–	–	–	–	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
cTBS	blTBS	Li 2014	0.13	0.02	0.66	–	–	–	–	–	–	–	–	–	–	–	–	–
		Summary effect	**0.13**	**0.02**	**0.66**	–	–	–	–	–	–	–	–	–	–	–	–	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
iTBS	blTBS	Li 2014	0.33	0.08	1.48	–	–	–	–	–	–	–	–	–	–	–	–	–
		Summary effect	**0.33**	**0.08**	**1.48**	–	–	–	–	–	–	–	–	–	–	–	–	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

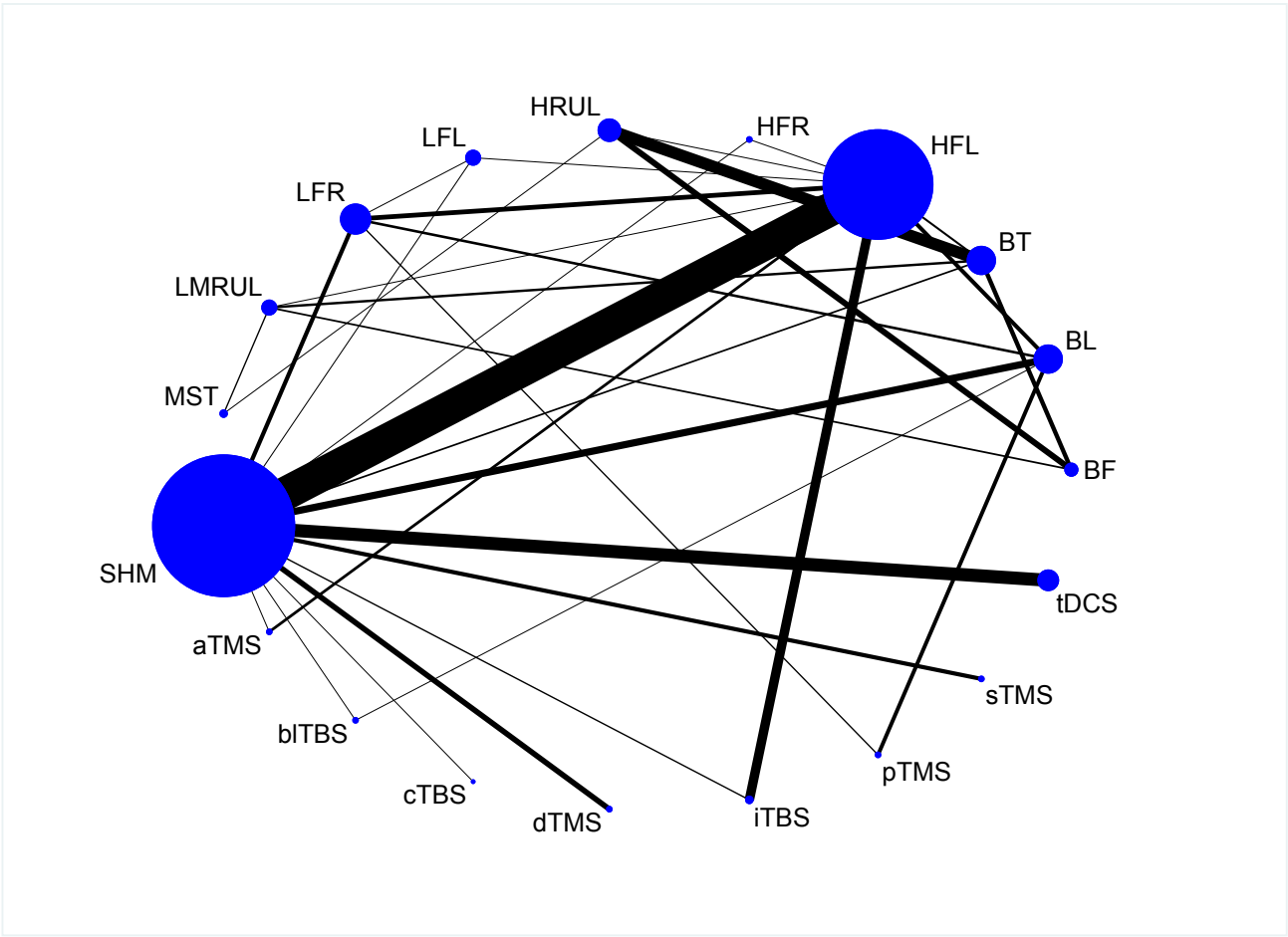
BL	blTBS	Prasser 2015	2.10	0.52	8.51	–	0.76	0.11	5.15	–	3.51	0.13	91.87	–	0.07	-0.57	0.72	–
		Summary effect	**2.10**	**0.52**	**8.51**	–	**0.76**	**0.11**	**5.15**	–	**3.51**	**0.13**	**91.87**	–	**0.07**	**-0.57**	**0.72**	–
		Heterogeneity (I^2)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Note. Summary effect sizes estimated using random-effects meta-analysis. OR = odds ratio; SMD = standardised mean difference (Hedge's *g*); aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation. § Except for rows labelled 'Heterogeneity (I^2)'.

13. Network plots remission and post-treatment depression severity

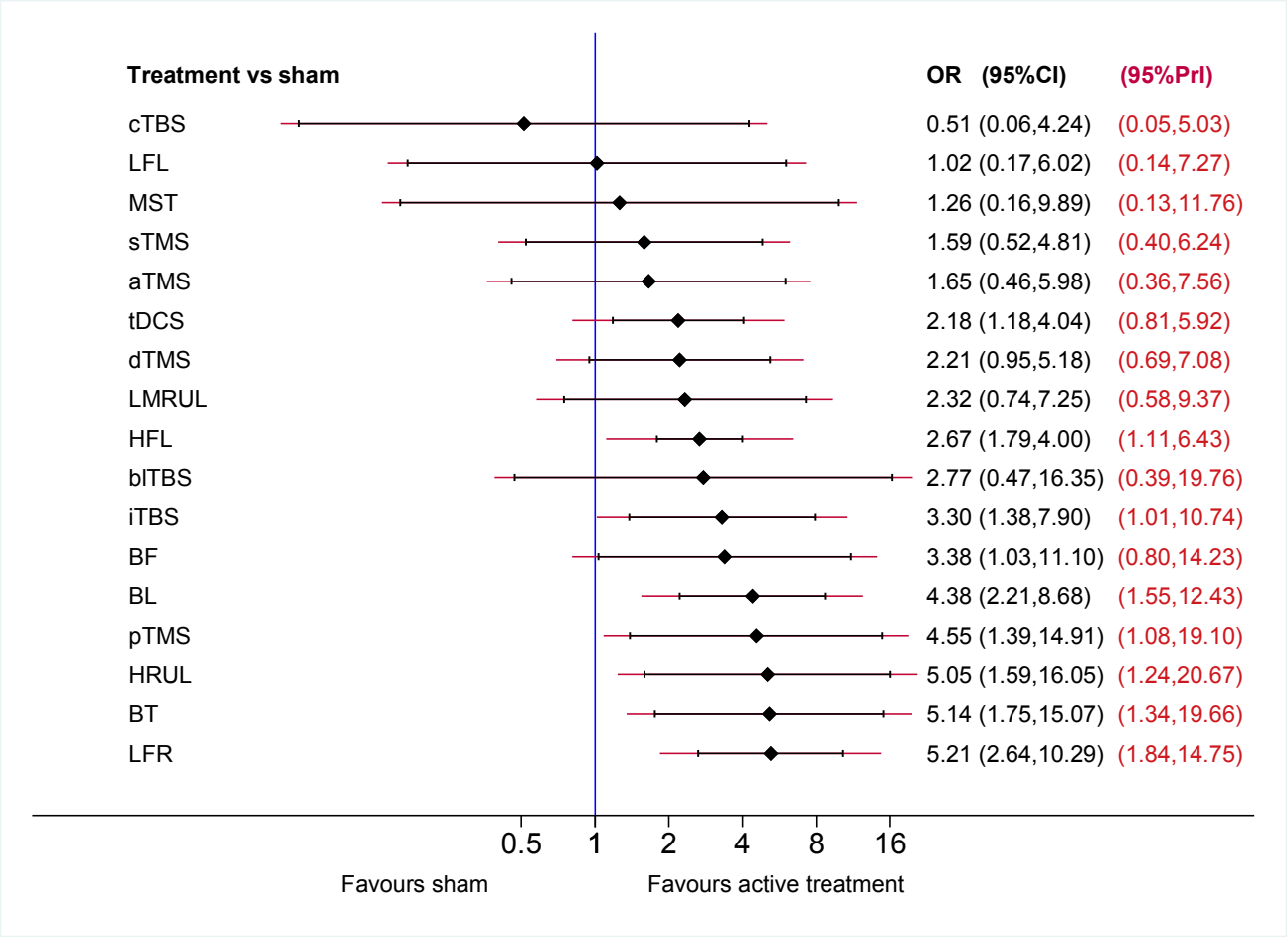


Supplementary Figure 7. **Network plot of available treatment comparisons for remission rates**. The size of the nodes is proportional to the number of patients randomised to each treatment. The width of the lines is proportional to the number of RCTs comparing each pair of treatments. aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.

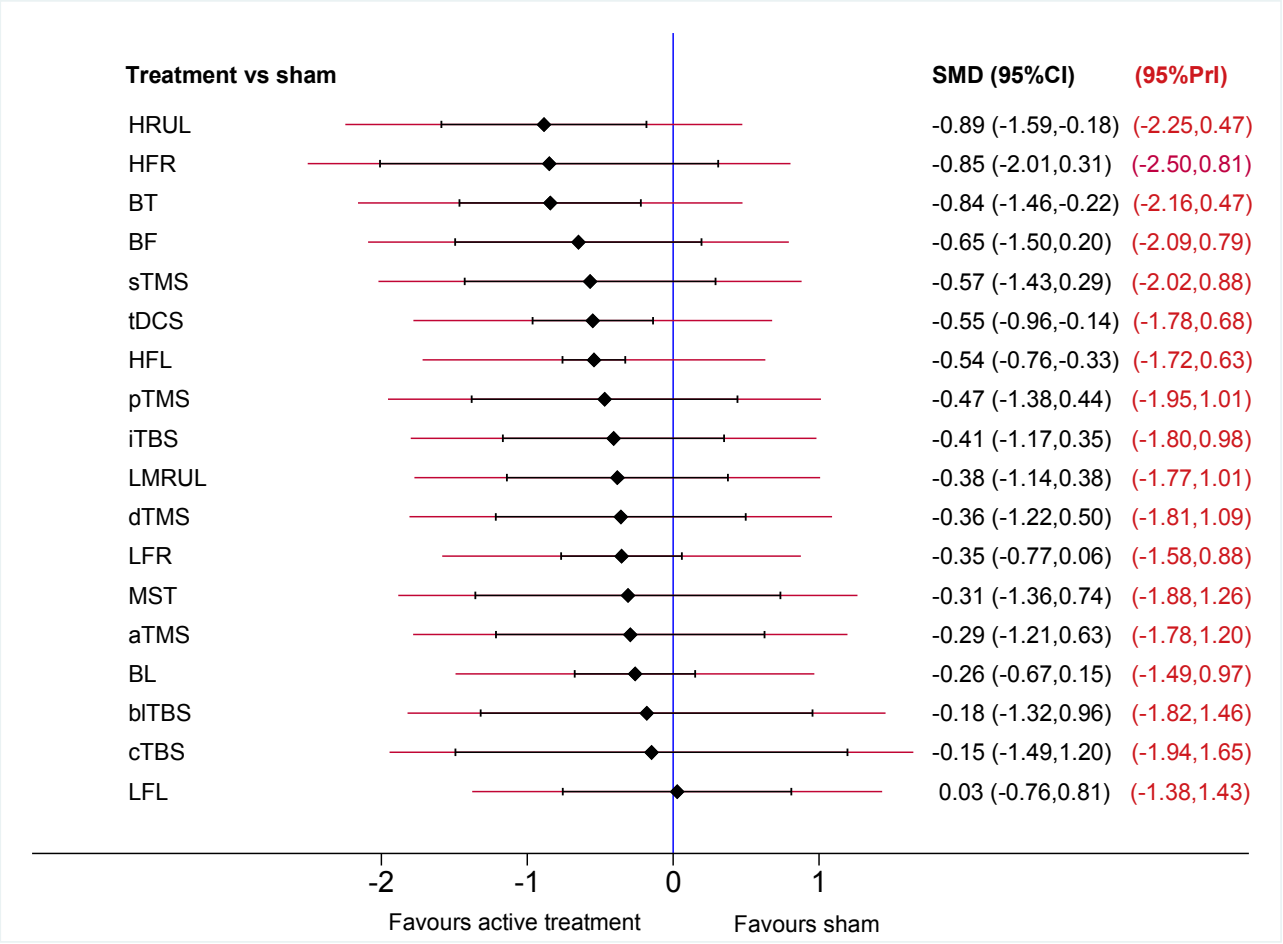


Supplementary Figure 8. **Network plot of available treatment comparisons for continuous post-treatment depression severity**. The size of the nodes is proportional to the number of patients randomised to each treatment. The width of the lines is proportional to the number of RCTs comparing each pair of treatments. aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.

14. Forest plots remission and post-treatment depression severity



Supplementary Figure 9. **Forest plot of active vs sham treatment comparisons for remission rates**. Effect sizes represent summary odds ratios (ORs) with 95% confidence intervals (CIs) and 95% prediction intervals (PrIs) estimates from network meta-analysis. aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.



Supplementary Figure 10. **Forest plot of active vs sham treatment comparisons for continuous post-treatment depression severity**. Effect sizes represent standardised mean differences (SMDs) with 95% confidence intervals (CIs) and 95% prediction intervals (PrIs). aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.

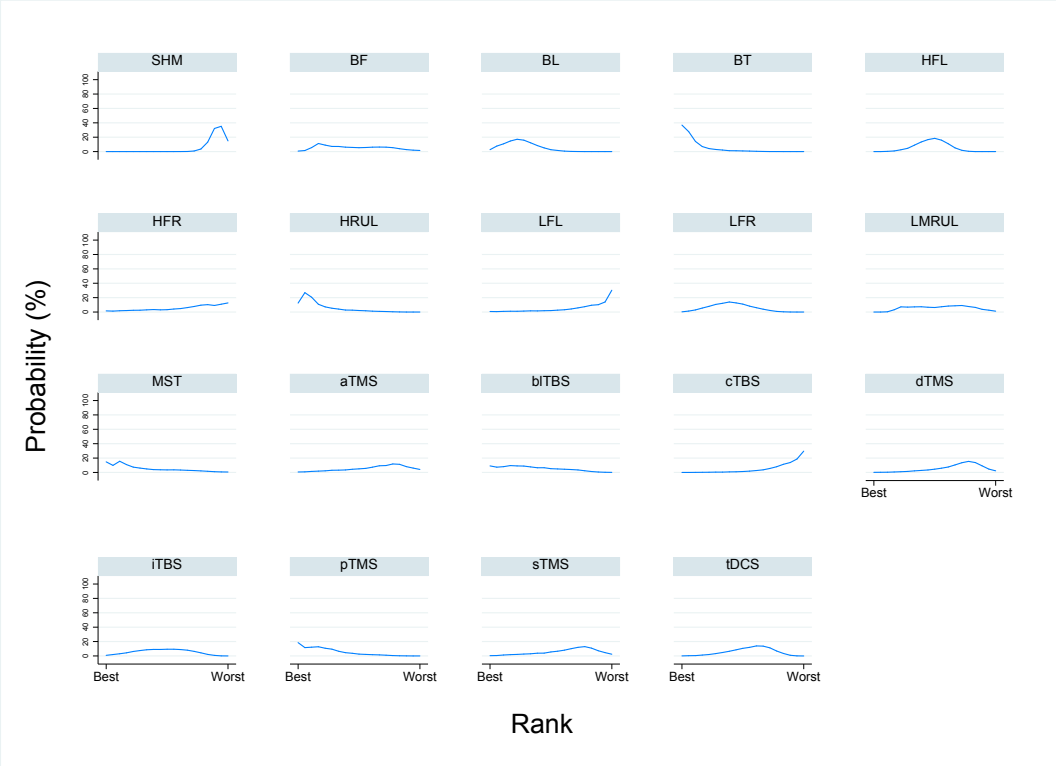
15. Network meta-analysis remission and post-treatment depression severity

Supplementary Table 7. **Network meta-analysis of remission rates and continuous post-treatment depression severity scores.**

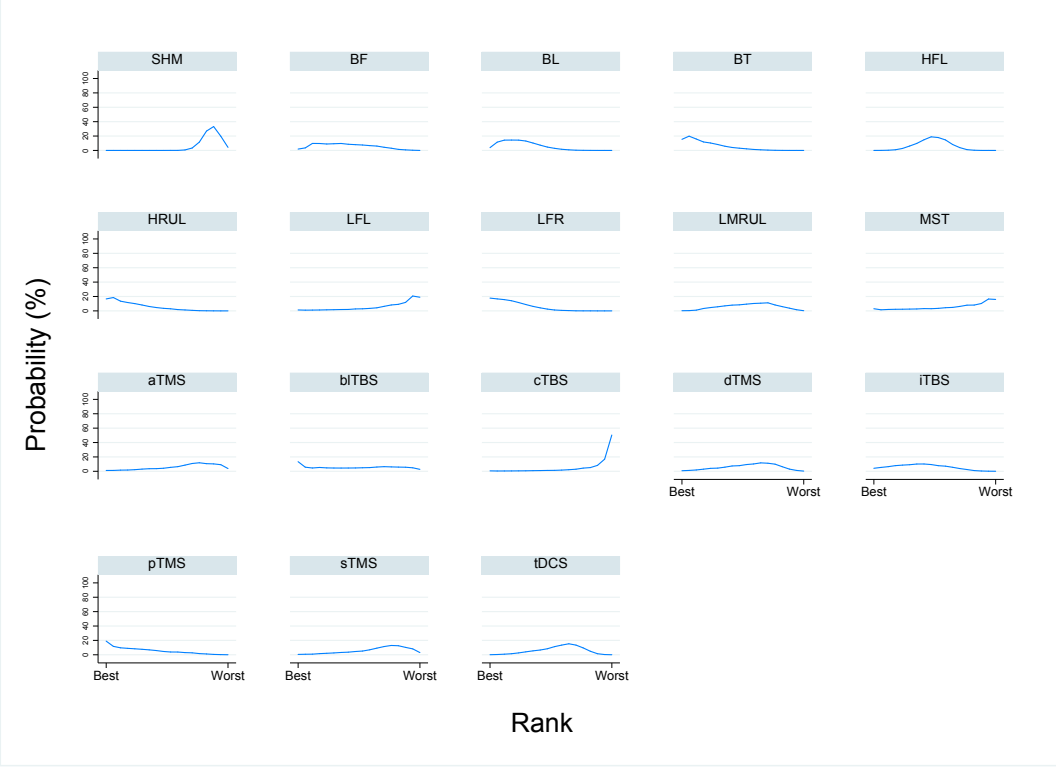
	Continuous post-treatment depression severity scores																		
Remission	**tDCS**	0.02 (-0.94,0.97)	-0.08 (-1.08,0.92)	-0.14 (-1.01,0.72)	-0.19 (-1.14,0.76)	-0.40 (-1.81,1.00)	-0.37 (-1.58,0.84)	-0.26 (-1.27,0.75)	-0.24 (-1.37,0.88)	-0.17 (-1.03,0.69)	-0.20 (-0.78,0.39)	-0.58 (-1.46,0.31)	0.33 (-0.48,1.15)	0.30 (-0.93,1.53)	-0.01 (-0.47,0.46)	0.29 (-0.45,1.04)	-0.29 (-0.87,0.29)	0.10 (-0.84,1.04)	**-0.55 (-0.96,-0.14)**
	1.38 (0.39,4.88)	**sTMS**	-0.10 (-1.35,1.15)	-0.16 (-1.31,0.99)	-0.21 (-1.42,1.00)	-0.42 (-2.02,1.18)	-0.39 (-1.81,1.04)	-0.28 (-1.53,0.98)	-0.26 (-1.61,1.09)	-0.19 (-1.33,0.96)	-0.22 (-1.17,0.74)	-0.60 (-1.76,0.57)	0.32 (-0.79,1.43)	0.28 (-1.16,1.72)	-0.03 (-0.91,0.86)	0.27 (-0.79,1.33)	-0.31 (-1.26,0.65)	0.08 (-1.13,1.29)	-0.57 (-1.43,0.29)
	0.48 (0.13,1.83)	0.35 (0.07,1.76)	**pTMS**	-0.06 (-1.24,1.12)	-0.11 (-1.36,1.14)	-0.32 (-1.95,1.30)	-0.29 (-1.71,1.13)	-0.18 (-1.46,1.11)	-0.16 (-1.54,1.22)	-0.09 (-1.26,1.08)	-0.12 (-1.01,0.78)	-0.50 (-1.68,0.69)	0.42 (-0.72,1.55)	0.38 (-1.09,1.85)	0.07 (-0.84,0.99)	0.37 (-0.72,1.46)	-0.21 (-1.10,0.68)	0.18 (-1.05,1.41)	-0.47 (-1.38,0.44)
	0.66 (0.23,1.92)	0.48 (0.12,1.96)	1.38 (0.33,5.78)	**iTBS**	-0.05 (-1.19,1.09)	-0.26 (-1.80,1.28)	-0.23 (-1.59,1.14)	-0.11 (-1.30,1.07)	-0.10 (-1.38,1.18)	-0.03 (-1.08,1.03)	-0.05 (-0.91,0.80)	-0.44 (-1.52,0.65)	0.48 (-0.54,1.50)	0.44 (-0.94,1.82)	0.13 (-0.63,0.90)	0.43 (-0.53,1.40)	-0.15 (-1.00,0.71)	0.24 (-0.88,1.36)	-0.41 (-1.17,0.35)
	0.99 (0.35,2.82)	0.72 (0.18,2.91)	2.05 (0.48,8.85)	1.49 (0.44,5.05)	**dTMS**	-0.21 (-1.80,1.38)	-0.18 (-1.60,1.25)	-0.06 (-1.32,1.19)	-0.05 (-1.40,1.30)	0.02 (-1.12,1.17)	-0.00 (-0.96,0.95)	-0.39 (-1.55,0.78)	0.53 (-0.58,1.64)	0.49 (-0.95,1.93)	0.18 (-0.70,1.07)	0.48 (-0.57,1.54)	-0.10 (-1.05,0.85)	0.29 (-0.91,1.49)	-0.36 (-1.22,0.50)
	4.26 (0.47,38.46)	3.09 (0.28,33.67)	8.87 (0.79,100.13	6.44 (0.65,63.33)	4.32 (0.44,42.13)	**cTBS**	0.03 (-1.73,1.79)	0.15 (-1.48,1.77)	0.16 (-1.54,1.86)	0.23 (-1.31,1.78)	0.21 (-1.20,1.61)	-0.18 (-1.73,1.38)	0.74 (-0.78,2.25)	0.70 (-1.07,2.48)	0.39 (-0.97,1.76)	0.69 (-0.79,2.18)	0.11 (-1.29,1.52)	0.50 (-1.09,2.09)	-0.15 (-1.49,1.20)
	0.79 (0.12,5.15)	0.57 (0.07,4.64)	1.64 (0.22,12.41)	1.19 (0.17,8.48)	0.80 (0.11,5.72)	0.19 (0.01,2.92)	**blTBS**	0.11 (-1.35,1.57)	0.13 (-1.41,1.67)	0.20 (-1.16,1.56)	0.17 (-1.02,1.37)	-0.21 (-1.59,1.17)	0.70 (-0.63,2.04)	0.67 (-0.95,2.29)	0.36 (-0.79,1.51)	0.66 (-0.63,1.95)	0.08 (-1.06,1.22)	0.47 (-0.94,1.88)	-0.18 (-1.32,0.96)
	1.32 (0.32,5.49)	0.96 (0.18,5.21)	2.75 (0.50,15.26)	2.00 (0.46,8.73)	1.34 (0.29,6.26)	0.31 (0.03,3.68)	1.68 (0.19,14.79)	**aTMS**	0.02 (-1.36,1.39)	0.09 (-1.08,1.26)	0.06 (-0.93,1.06)	-0.32 (-1.52,0.88)	0.59 (-0.55,1.73)	0.56 (-0.91,2.03)	0.25 (-0.67,1.16)	0.55 (-0.54,1.64)	-0.03 (-1.03,0.97)	0.36 (-0.88,1.59)	-0.29 (-1.21,0.63)
	1.74 (0.20,14.94)	1.26 (0.12,13.14)	3.62 (0.34,38.28)	2.63 (0.29,23.62)	1.76 (0.19,16.39)	0.41 (0.02,7.82)	2.20 (0.15,33.20)	1.32 (0.12,14.32)	**MST**	0.07 (-0.75,0.90)	0.04 (-1.06,1.15)	-0.34 (-1.63,0.96)	0.58 (-0.35,1.50)	0.54 (-1.01,2.09)	0.23 (-0.80,1.27)	0.53 (-0.39,1.45)	-0.05 (-1.16,1.06)	0.34 (-0.68,1.36)	-0.31 (-1.36,0.74)
	0.94 (0.26,3.42)	0.68 (0.14,3.34)	1.96 (0.39,9.83)	1.42 (0.36,5.56)	0.95 (0.23,3.94)	0.22 (0.02,2.43)	1.19 (0.15,9.70)	0.71 (0.14,3.72)	0.54 (0.10,3.02)	**LMRUL**	-0.03 (-0.87,0.81)	-0.41 (-1.48,0.66)	0.50 (-0.16,1.17)	0.47 (-0.90,1.84)	0.16 (-0.58,0.90)	0.46 (-0.12,1.05)	-0.12 (-0.97,0.73)	0.27 (-0.47,1.01)	-0.38 (-1.14,0.38)
	0.42 (0.17,1.05)	0.30 (0.08,1.12)	0.87 (0.26,2.91)	0.63 (0.22,1.83)	0.42 (0.14,1.26)	**0.10 (0.01,0.91)**	0.53 (0.08,3.37)	0.32 (0.08,1.31)	0.24 (0.03,2.07)	0.45 (0.12,1.62)	**LFR**	-0.38 (-1.24,0.47)	0.53 (-0.26,1.33)	0.50 (-0.73,1.72)	0.19 (-0.23,0.60)	0.49 (-0.23,1.21)	-0.09 (-0.61,0.43)	0.30 (-0.63,1.22)	-0.35 (-0.77,0.06)
	2.15 (0.33,14.12)	1.56 (0.19,12.65)	4.48 (0.54,37.08)	3.25 (0.46,22.84)	2.18 (0.30,15.68)	0.51 (0.03,8.00)	2.73 (0.22,33.33)	1.63 (0.19,14.17)	1.24 (0.08,18.51)	2.29 (0.28,18.44)	5.13 (0.80,33.09)	**LFL**	0.91 (-0.12,1.95)	0.88 (-0.51,2.27)	0.57 (-0.21,1.35)	0.87 (-0.11,1.85)	0.29 (-0.58,1.16)	0.68 (-0.46,1.81)	0.03 (-0.76,0.81)
	0.43 (0.12,1.60)	0.31 (0.06,1.53)	0.90 (0.18,4.58)	0.65 (0.16,2.61)	0.44 (0.10,1.84)	0.10 (0.01,1.13)	0.55 (0.07,4.51)	0.33 (0.06,1.74)	0.25 (0.04,1.67)	0.46 (0.20,1.04)	1.03 (0.28,3.81)	0.20 (0.02,1.63)	**HRUL**	-0.04 (-1.38,1.31)	-0.34 (-1.03,0.34)	-0.04 (-0.50,0.41)	-0.62 (-1.42,0.18)	-0.24 (-0.86,0.39)	**-0.89 (-1.59,-0.18)**
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**HFR**	-0.31 (-1.47,0.85)	-0.01 (-1.31,1.29)	-0.59 (-1.81,0.64)	-0.20 (-1.62,1.22)	-0.85 (-2.01,0.31)
	0.82 (0.39,1.70)	0.59 (0.18,1.91)	1.70 (0.51,5.63)	1.24 (0.55,2.78)	0.83 (0.32,2.13)	0.19 (0.02,1.65)	1.04 (0.17,6.28)	0.62 (0.18,2.13)	0.47 (0.06,3.64)	0.87 (0.29,2.64)	1.95 (0.96,3.95)	0.38 (0.06,2.26)	1.89 (0.61,5.83)	n/a	**HFL**	0.30 (-0.30,0.90)	-0.28 (-0.71,0.15)	0.11 (-0.72,0.94)	**-0.54 (-0.76,-0.33)**
	0.42 (0.12,1.46)	0.31 (0.07,1.43)	0.88 (0.18,4.26)	0.64 (0.17,2.41)	0.43 (0.11,1.70)	0.10 (0.01,1.07)	0.54 (0.07,4.25)	0.32 (0.06,1.62)	0.24 (0.04,1.64)	0.45 (0.20,1.02)	1.01 (0.29,3.50)	0.20 (0.03,1.54)	0.98 (0.58,1.68)	n/a	0.52 (0.18,1.49)	**BT**	-0.58 (-1.31,0.15)	-0.19 (-0.83,0.45)	**-0.84 (-1.46,-0.22)**
	0.50 (0.20,1.25)	0.36 (0.10,1.32)	1.04 (0.39,2.74)	0.75 (0.26,2.16)	0.51 (0.17,1.50)	0.12 (0.01,1.08)	0.63 (0.11,3.73)	0.38 (0.09,1.55)	0.29 (0.03,2.46)	0.53 (0.15,1.93)	1.19 (0.58,2.43)	0.23 (0.04,1.51)	1.15 (0.31,4.25)	n/a	0.61 (0.30,1.22)	1.17 (0.34,4.04)	**BL**	0.39 (-0.54,1.31)	-0.26 (-0.67,0.15)
	0.65 (0.17,2.46)	0.47 (0.09,2.38)	1.34 (0.26,7.01)	0.98 (0.24,4.00)	0.65 (0.15,2.82)	0.15 (0.01,1.71)	0.82 (0.10,6.86)	0.49 (0.09,2.66)	0.37 (0.06,2.41)	0.69 (0.33,1.43)	1.54 (0.40,5.87)	0.30 (0.04,2.49)	1.49 (0.76,2.94)	n/a	0.79 (0.25,2.53)	1.52 (0.74,3.10)	1.30 (0.34,4.93)	**BF**	-0.65 (-1.50,0.20)
	2.18 (1.18,4.04)	1.59 (0.52,4.81)	**4.55 (1.39,14.91)**	**3.30 (1.38,7.90)**	2.21 (0.95,5.18)	0.51 (0.06,4.24)	2.77 (0.47,16.35)	1.65 (0.46,5.98)	1.26 (0.16,9.89)	2.32 (0.74,7.25)	**5.21 (2.64,10.29)**	1.02 (0.17,6.02)	**5.05 (1.59,16.05)**	n/a	**2.67 (1.79,4.00)**	**5.14 (1.75,15.07)**	**4.38 (2.21,8.68)**	**3.38 (1.03,11.10)**	**SHM**

Note. Effect sizes represent summary odds ratios or standardised mean differences and 95% confidence intervals. For the lower triangle (remission), values lower than 1 favour the treatment in the corresponding row, while values higher than 1 favour the treatment in the corresponding column. For the upper triangle (continuous post-treatment depression severity scores), negative values favour the treatment in the corresponding row, while positive values favour the treatment in the corresponding column. aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.

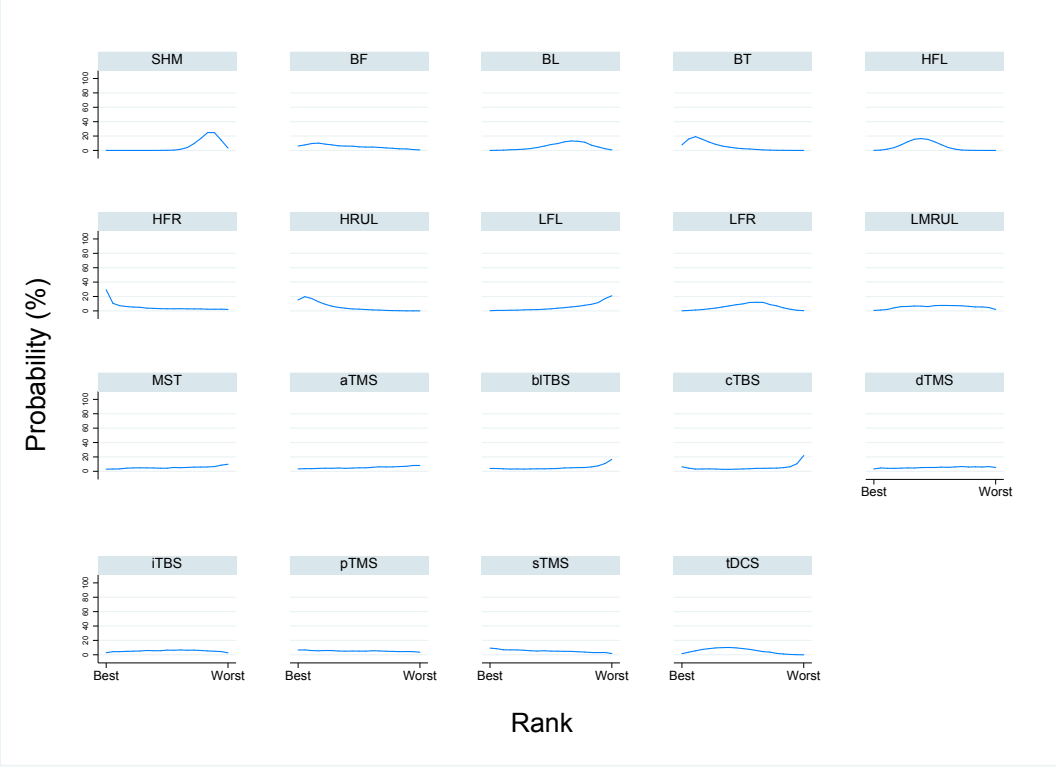
16. Ranking probabilities



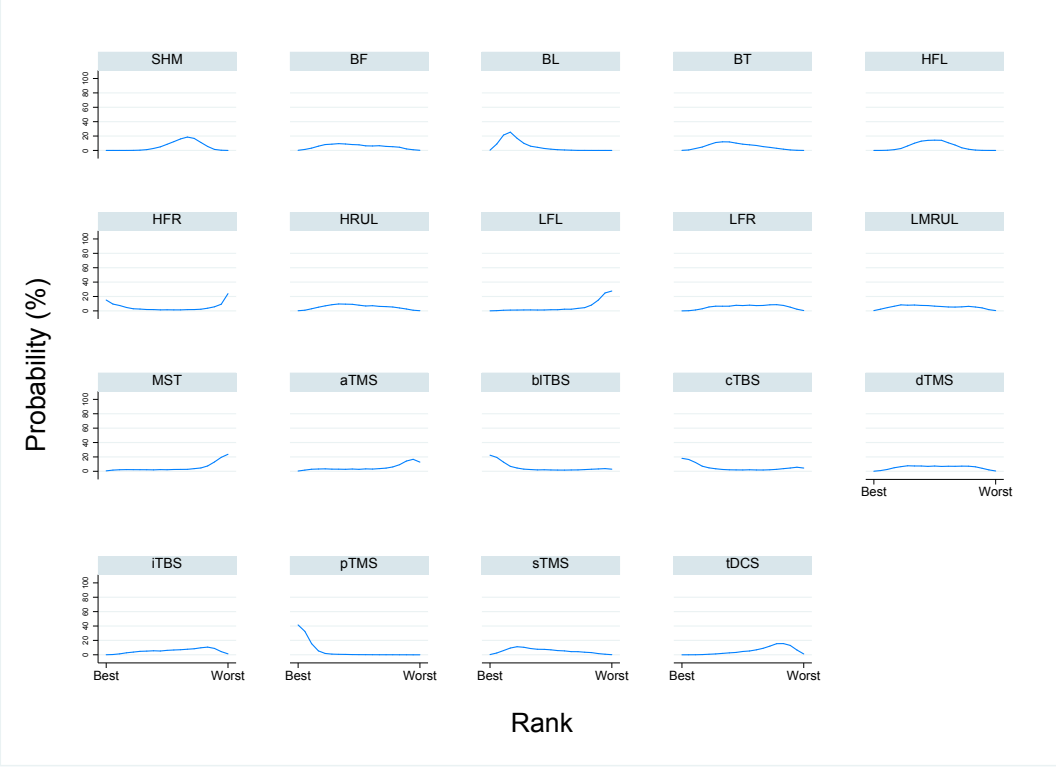
Supplementary Figure 11. **Ranking plots response rates**. aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.



Supplementary Figure 12. **Ranking plots remission rates**. aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.



Supplementary Figure 13. **Ranking plots continuous post-treatment depression severity scores**. aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.



Supplementary Figure 14. **Ranking plots all-cause discontinuation rates**. aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.

Supplementary Table 8. **Ranking probabilities, mean ranks and SUCRA values.**

	SHM	BF	BL	BT	HFL	HFR	HRUL	LFL	LFR	LMRUL	MST	aTMS	blTBS	cTBS	dTMS	iTBS	pTMS	sTMS	tDCS
Response																			
Best	0.0	0.7	2.7	36.9	0.0	1.6	12.5	0.7	0.3	0.0	14.8	0.7	9.1	0.1	0.2	0.9	18.5	0.4	0.1
2nd	0.0	1.5	7.7	27.8	0.0	1.3	26.9	0.6	1.3	0.0	9.9	0.8	7.4	0.0	0.3	1.9	11.6	0.6	0.3
3rd	0.0	5.6	10.8	14.1	0.3	1.8	20.6	0.9	2.9	0.3	15.6	1.5	8.1	0.1	0.3	3.0	12.2	1.3	0.5
4th	0.0	11.3	14.7	7.0	0.9	2.1	10.8	1.1	5.5	3.1	11.0	1.9	9.6	0.2	0.7	4.3	12.8	1.8	1.2
5th	0.0	9.0	17.2	4.2	2.5	2.4	7.2	1.1	7.9	7.2	7.4	2.3	9.1	0.3	1.0	6.2	10.7	2.1	2.0
6th	0.0	7.2	15.9	3.0	4.6	2.5	5.3	1.3	10.6	6.8	6.1	3.1	8.9	0.5	1.4	7.5	9.4	2.6	3.3
7th	0.0	7.1	12.2	2.2	9.0	3.0	4.1	1.6	12.1	7.2	4.9	3.2	7.7	0.5	2.2	8.6	6.5	3.0	4.8
8th	0.0	6.2	8.4	1.3	13.4	3.4	2.7	1.6	13.9	7.4	4.0	3.5	6.6	0.8	2.8	9.1	4.6	3.8	6.5
9th	0.0	5.8	5.2	1.2	16.7	3.0	2.6	1.8	12.7	6.6	3.7	4.5	6.6	0.9	3.5	9.0	3.7	3.9	8.5
10th	0.0	5.5	2.6	0.9	18.4	3.2	2.1	2.0	11.0	6.3	3.6	5.0	5.3	1.3	4.6	9.3	2.5	5.6	10.6
11th	0.0	5.7	1.6	0.7	15.9	4.2	1.7	2.6	8.2	7.3	3.7	5.7	4.9	1.9	6.0	9.4	2.1	6.6	11.9
12th	0.1	6.2	0.7	0.4	10.9	4.8	1.2	3.2	6.0	8.3	3.4	7.4	4.5	2.7	7.6	8.9	1.8	8.0	13.9
13th	0.2	6.3	0.3	0.2	5.2	6.2	0.9	4.3	4.0	8.7	3.0	9.3	4.1	3.7	10.5	8.0	1.5	10.1	13.7
14th	0.8	6.2	0.1	0.1	1.8	7.7	0.7	5.8	2.2	9.1	2.7	9.6	3.5	5.6	13.5	6.4	1.0	11.9	11.3
15th	3.6	5.5	0.0	0.1	0.4	9.6	0.4	7.4	0.9	7.7	2.2	11.9	2.4	8.0	15.4	4.3	0.5	13	6.9
16th	13.1	4.0	0.0	0.0	0.0	10.3	0.1	9.5	0.3	6.4	1.6	11.3	1.3	11.4	13.8	2.1	0.3	10.9	3.5
17th	32.1	2.8	0.0	0.0	0.0	9.2	0.0	10.2	0.0	3.8	1.1	8.1	0.6	13.8	9.2	0.8	0.1	7.2	0.9
18th	35.2	2.0	0.0	0.0	0.0	10.9	0.0	14.0	0.0	2.6	0.8	6.1	0.3	18.7	4.7	0.1	0.0	4.6	0.1
Worst	14.9	1.6	0.0	0.0	0.0	12.7	0.0	30.3	0.0	1.2	0.6	4.2	0.1	29.6	2.3	0.0	0.0	2.4	0.0
Mean Rank	17.4	9.2	5.5	2.6	9.5	13.5	4.0	15.5	8.2	10.9	6.0	12.8	6.9	16.5	13.5	9.3	4.7	12.7	11.2
SUCRA	0.1	0.5	0.8	0.9	0.5	0.3	0.8	0.2	0.6	0.4	0.7	0.3	0.7	0.1	0.3	0.5	0.8	0.4	0.4
Remission																			
Best	0.0	1.9	3.9	15.4	0.0	n/a	16.6	1.3	17.8	0.2	3.0	1.2	13.4	0.6	0.8	4.2	19.0	0.5	0.1
2nd	0.0	3.5	11.6	19.8	0.1	n/a	18.6	1.0	16.7	0.3	1.5	1.2	5.7	0.4	1.2	5.4	11.7	0.7	0.4
3rd	0.0	9.8	14.4	15.9	0.3	n/a	13.5	1.1	15.7	1.0	2.0	1.6	4.6	0.5	1.8	6.5	9.7	0.9	0.8
4th	0.0	9.7	14.4	11.8	0.9	n/a	11.6	1.3	14.1	3.3	2.2	1.8	5.4	0.5	3.0	7.9	9.0	1.6	1.5

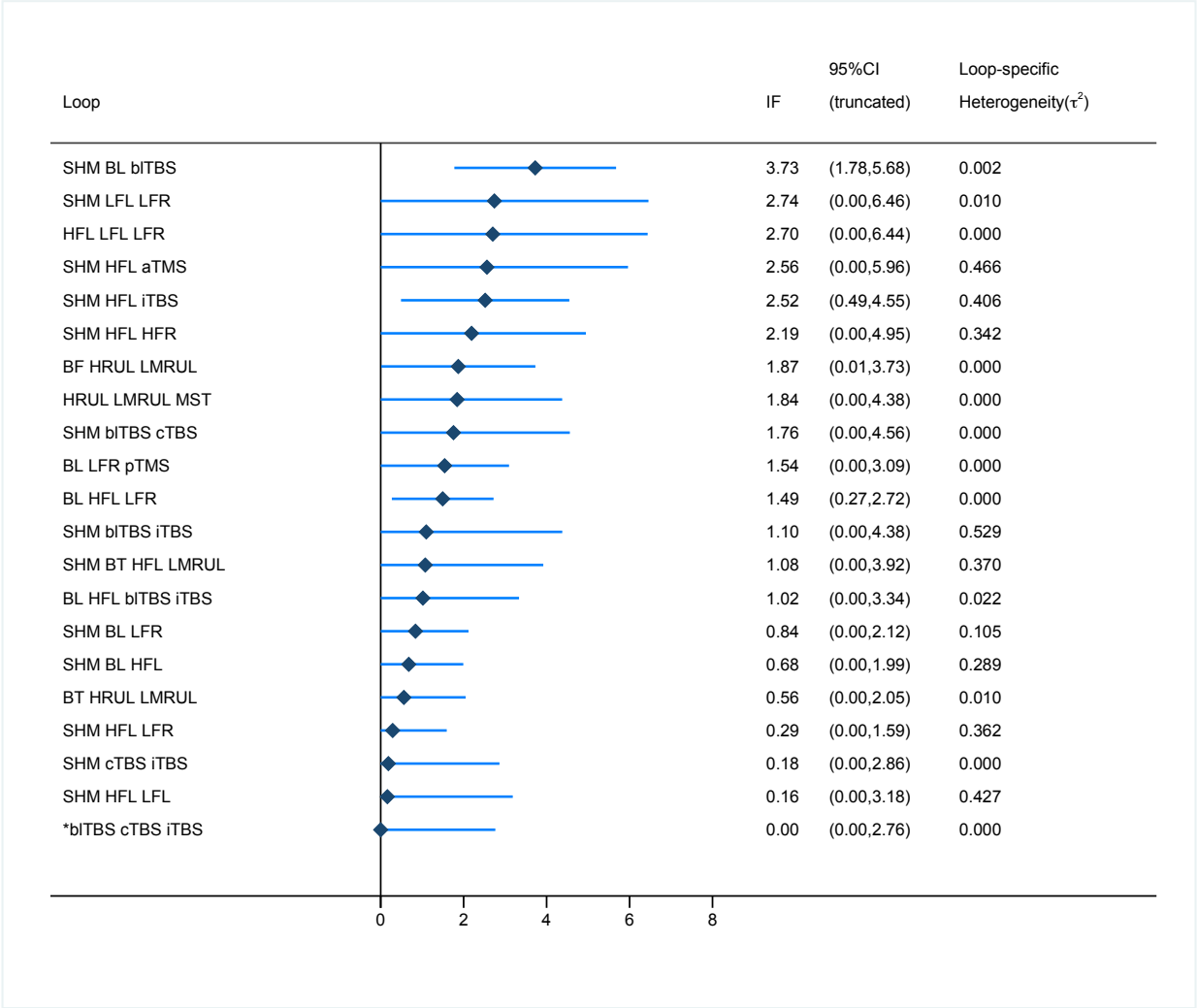
5th	0.0	9.0	14.3	10.4	2.7	n/a	10.1	1.5	11.6	4.6	2.3	2.3	4.8	0.6	4.1	8.6	8.4	2.1	2.6
6th	0.0	9.4	13.1	8.2	6.2	n/a	8.2	1.7	8.8	5.7	2.5	3.0	4.6	0.7	4.4	9.2	7.7	2.6	4.1
7th	0.0	9.7	10.3	5.8	9.8	n/a	6.1	1.9	6.2	7.0	2.7	3.6	4.5	0.9	5.8	10.1	6.9	3.2	5.5
8th	0.0	8.6	7.4	4.1	14.8	n/a	4.6	2.0	4.2	8.0	3.1	3.7	4.6	1.1	7.4	10.2	5.9	3.6	6.6
9th	0.0	8.1	4.7	3.2	19.0	n/a	3.6	2.7	2.5	8.4	3.0	4.3	4.7	1.2	7.8	9.4	4.6	4.6	8.4
10th	0.1	7.5	3.0	2.3	17.9	n/a	2.9	2.9	1.2	9.4	3.5	5.5	4.9	1.3	9.4	7.8	3.9	5.2	11.3
11th	0.1	6.7	1.6	1.4	14.6	n/a	1.8	3.4	0.7	10.3	4.4	6.4	5.2	1.7	10.2	7.1	3.8	7.0	13.5
12th	0.7	6.1	0.8	0.9	8.3	n/a	1.3	4.3	0.4	10.7	4.8	8.6	6.0	2.2	11.8	5.6	3.1	9.2	15.3
13th	3.4	4.4	0.3	0.5	3.9	n/a	0.7	6.3	0.1	11.2	6.2	10.9	6.5	2.9	11.2	3.9	2.7	11.5	13.5
14th	11.6	3.1	0.2	0.2	1.1	n/a	0.3	8.2	0.1	8.2	7.9	11.9	6.2	4.4	9.9	2.5	1.7	13.0	9.6
15th	26.9	1.5	0.1	0.1	0.3	n/a	0.1	9.1	0.0	5.9	8.1	10.7	5.9	5.2	6.4	1.0	1.2	12.6	5.0
16th	33.2	0.8	0.0	0.0	0.0	n/a	0.1	11.8	0.0	3.8	10.2	10.3	5.7	8.3	3.1	0.4	0.5	10.3	1.5
17th	19.8	0.3	0.0	0.0	0.0	n/a	0.0	20.7	0.0	1.6	16.5	9.2	4.9	16.9	1.2	0.2	0.3	8.2	0.3
Worst	4.3	0.0	0.0	0.0	0.0	n/a	0.0	19.0	0.0	0.2	15.9	3.8	2.7	50.4	0.3	0.1	0.1	3.1	0.1
Mean Rank	15.6	7.5	5.2	4.1	9.2	n/a	4.3	14.2	3.9	10.4	13	12.3	8.8	16.0	10.4	7.4	5.4	12.5	10.7
SUCRA	0.1	0.6	0.8	0.8	0.5	n/a	0.8	0.2	0.8	0.4	0.3	0.3	0.5	0.1	0.4	0.6	0.7	0.3	0.4
Continuous post-treatment depression severity																			
Best	0.0	6.1	0.0	7.7	0.1	29.4	15.3	0.2	0.1	0.6	3.0	3.3	4.0	6.3	3.3	2.9	6.7	9.3	1.6
2nd	0.0	7.7	0.2	15.9	0.5	10.5	19.7	0.6	0.6	1.2	3.2	3.7	3.9	4.4	4.7	4.3	6.8	8.5	3.6
3rd	0.0	9.6	0.4	19.2	1.8	7.2	17.3	0.7	1.2	2.0	3.3	3.7	3.5	3.1	4.2	4.3	5.9	7.0	5.6
4th	0.0	10.2	0.9	15.6	3.9	6.1	12.7	0.9	1.8	4.3	4.4	4.1	3.2	3.3	4.1	4.8	5.6	6.8	7.4
5th	0.0	8.8	1.3	11.7	7.6	5.3	9.2	0.9	2.9	5.9	4.7	4.3	3.2	3.4	4.4	5.0	6.0	6.8	8.5
6th	0.0	7.8	1.8	8.5	12.1	4.9	6.5	1.4	3.9	6.2	4.9	4.2	3.1	3.2	4.7	5.3	5.9	6.3	9.6
7th	0.0	6.5	2.7	6.0	15.6	3.8	4.8	1.6	5.5	6.7	4.7	4.6	3.3	2.7	4.6	6.0	5.3	5.6	10.0
8th	0.0	6.1	4.1	4.6	16.5	3.5	3.7	1.7	6.9	6.6	4.7	4.2	3.5	2.7	5.2	5.7	5.1	5.2	10.2
9th	0.1	6.0	6.0	3.3	15.4	3.1	2.7	2.3	8.6	5.9	4.3	4.5	3.4	3.0	5.3	5.7	5.2	5.6	9.6
10th	0.2	5.0	8.2	2.5	12.0	2.9	2.4	2.9	9.7	7.3	4.3	4.9	3.6	3.3	5.3	6.5	5.1	5.1	8.7
11th	0.4	4.7	9.6	2.0	7.9	2.9	1.9	3.8	11.7	7.6	5.4	4.9	3.9	3.6	5.8	6.3	5.1	5.1	7.5
12th	1.6	4.7	12.0	1.4	4.0	3.0	1.3	4.5	11.9	7.5	5.0	5.6	4.7	4.1	5.5	6.8	5.6	4.8	6.0

13th	4.1	4.2	13.2	0.7	1.8	2.8	1.1	5.5	11.8	7.3	5.4	6.2	4.9	4.2	6.1	6.3	5.4	4.8	4.4
14th	9.6	3.5	12.8	0.5	0.5	2.8	0.7	6.3	8.8	7.1	5.8	6.1	5.2	4.3	6.7	6.5	4.9	4.2	3.7
15th	16.8	2.9	11.5	0.2	0.2	2.7	0.4	7.8	7.0	6.3	5.9	6.2	5.3	4.4	6.0	6.0	4.7	3.8	1.9
16th	24.8	2.2	7.3	0.1	0.1	2.3	0.2	9.1	4.2	5.5	6.0	6.6	6.1	5.1	6.2	5.4	4.4	3.1	1.1
17th	24.7	2.1	4.9	0.1	0.0	2.3	0.1	11.6	2.3	5.5	6.6	7.0	7.6	6.4	6.0	5.0	4.5	3.1	0.5
18th	14.3	1.3	2.5	0.0	0.0	2.4	0.0	17.1	0.9	4.7	8.6	8.1	10.9	10.6	6.6	4.5	4.4	3.2	0.2
Worst	3.3	0.7	0.7	0.0	0.0	2.0	0.0	21.0	0.3	1.9	9.8	8.1	16.6	21.9	5.4	2.7	3.6	1.8	0.0
Mean Rank	16.0	7.4	12.4	4.6	8.0	6.1	4.3	15.2	11.0	10.8	11.5	11.4	12.4	12.4	10.8	10.2	9.3	8.1	8.0
SUCRA	0.2	0.6	0.4	0.8	0.6	0.7	0.8	0.2	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6
All-cause discontinuation																			
Best	0.0	0.2	0.4	0.1	0.0	15.1	0.2	0.0	0.0	0.4	0.6	0.4	22.5	18.1	0.1	0.1	41.5	0.3	0.0
2nd	0.0	1.4	9.0	0.7	0.0	9.5	0.9	0.3	0.2	2.4	1.7	1.7	19.3	16.5	1.1	0.4	32.6	2.5	0.0
3rd	0.0	3.2	21.4	2.7	0.2	7.4	2.9	0.9	1.2	4.6	2.2	2.9	12.8	12.3	2.6	1.3	15.4	5.9	0.1
4th	0.0	6.0	25.4	4.8	1.1	4.8	5.1	1.1	3.0	6.4	2.4	3.2	6.9	7.1	5.0	2.8	5.4	9.4	0.3
5th	0.1	8.2	16.9	8.1	2.7	2.9	7.0	1.1	5.5	8.4	2.3	3.4	4.6	4.8	6.5	3.7	1.8	11.2	0.7
6th	0.4	8.8	9.9	11.0	6.3	2.5	8.6	1.3	6.5	7.9	2.2	3.0	3.0	3.5	7.7	4.8	0.9	10.4	1.2
7th	1.1	9.5	5.9	12.0	10.1	1.9	9.6	1.3	6.5	8.1	2.2	3.0	2.5	2.6	7.4	5.1	0.7	8.7	1.9
8th	2.8	9.0	4.4	11.9	12.9	1.8	9.4	1.2	6.5	7.6	2.0	2.8	1.9	2.1	7.4	5.6	0.5	7.7	2.7
9th	5.0	8.2	2.7	10.2	14.0	1.4	9.1	1.2	7.8	7.4	2.4	3.2	2.2	2.0	6.9	5.3	0.3	7.6	3.3
10th	8.5	7.8	1.8	8.7	14.3	1.5	7.9	1.6	7.4	6.6	2.2	2.7	1.9	1.9	7.4	6.2	0.2	6.9	4.6
11th	12.2	6.4	1.0	7.8	14.1	1.4	6.8	1.6	7.9	6.1	2.6	3.4	1.7	2.1	6.8	6.7	0.2	5.9	5.3
12th	16.1	6.2	0.6	6.9	10.7	1.4	7.2	2.4	7.4	5.4	2.6	3.1	1.7	1.9	7.1	7.0	0.1	5.4	6.9
13th	18.6	6.6	0.3	5.3	7.6	1.8	6.3	2.3	7.5	5.3	2.7	3.7	1.9	1.8	7.0	7.8	0.1	4.4	9.0
14th	16.8	5.6	0.1	4.3	3.7	1.8	5.9	3.5	8.5	5.6	3.7	4.5	1.9	2.1	7.2	8.4	0.1	4.4	12.0
15th	11.1	5.2	0.1	3.0	1.7	2.3	5.4	4.5	8.6	6.3	4.7	6.1	2.4	2.7	7.1	9.7	0.1	3.6	15.4
16th	5.5	4.5	0.0	1.8	0.5	3.7	4.1	8.1	7.6	5.4	7.5	9.2	2.9	3.7	6.3	10.7	0.0	3.1	15.6
17th	1.5	2.1	0.0	0.7	0.1	5.6	2.6	15.0	5.2	4.2	13.0	14.3	3.3	4.6	4.2	8.9	0.0	1.7	13.1
18th	0.3	1.0	0.0	0.2	0.0	9.3	0.9	24.9	2.3	1.7	19.4	16.7	3.7	5.7	2.0	4.4	0.0	0.8	6.6
Worst	0.0	0.2	0.0	0.0	0.0	24.0	0.2	27.6	0.5	0.4	23.7	12.8	3.0	4.5	0.4	1.3	0.0	0.2	1.2

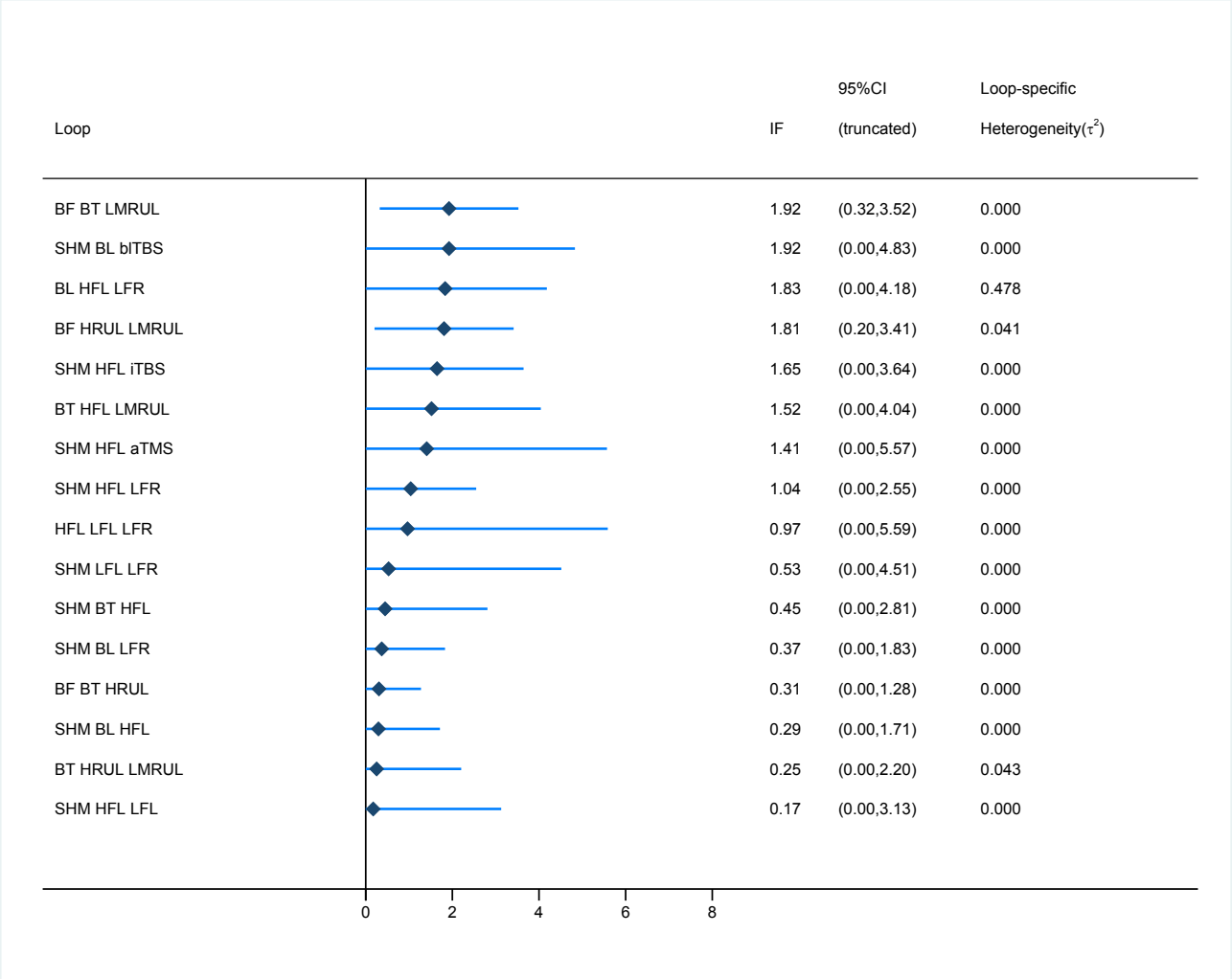
Mean Rank	12.5	9.4	4.7	8.8	9.7	10.5	9.6	16.2	11.0	9.5	14.8	13.7	5.9	7.0	10.3	12	2.1	8.4	13.9
SUCRA	0.4	0.5	0.8	0.6	0.5	0.5	0.5	0.2	0.4	0.5	0.2	0.3	0.7	0.7	0.5	0.4	0.9	0.6	0.3

Note. Ranking probabilities were estimated using a parametric bootstrap procedure with 10,000 resamples. SUCRA = Surface Under the Cumulative Ranking curve; aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.

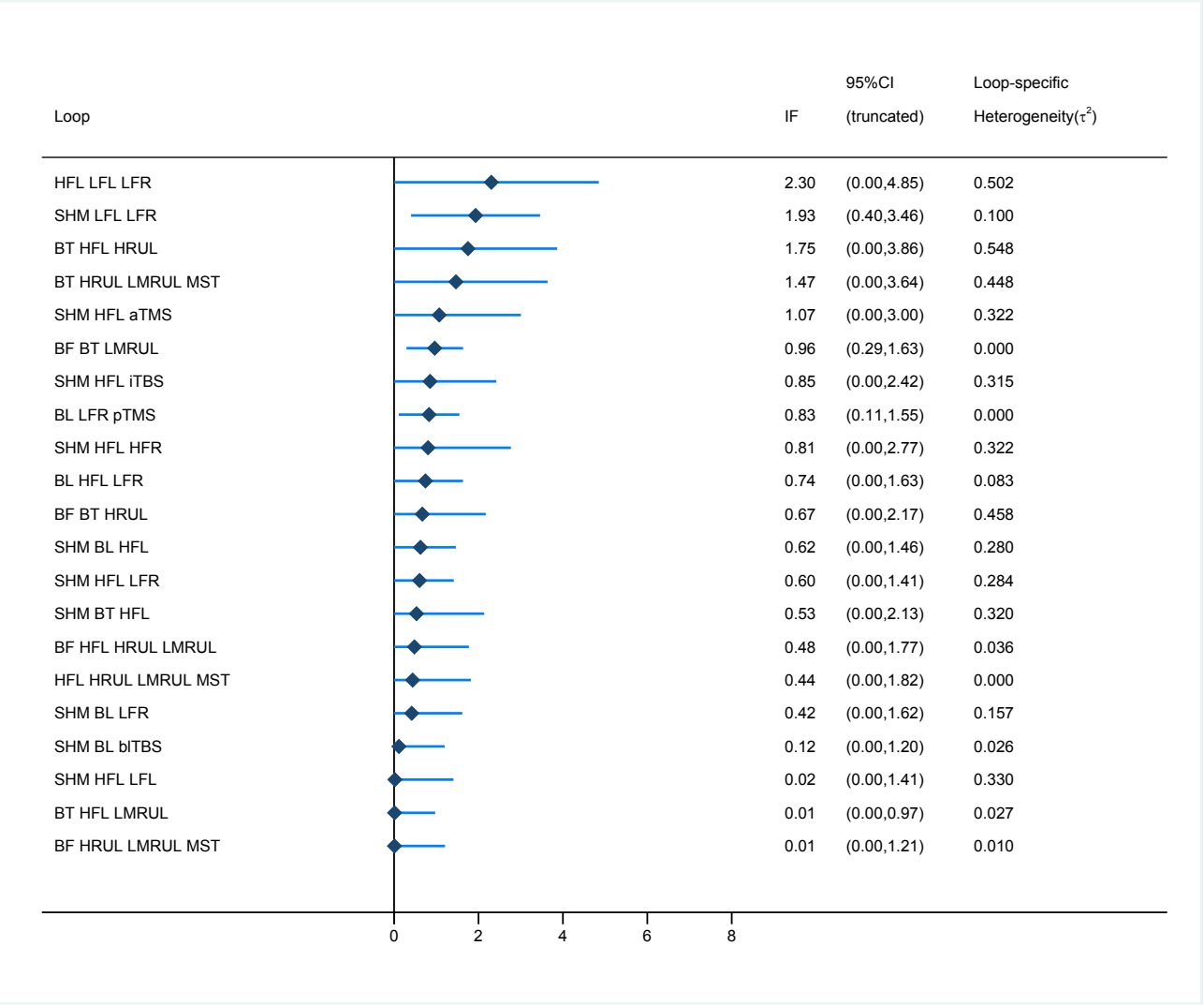
17. Inconsistency plots



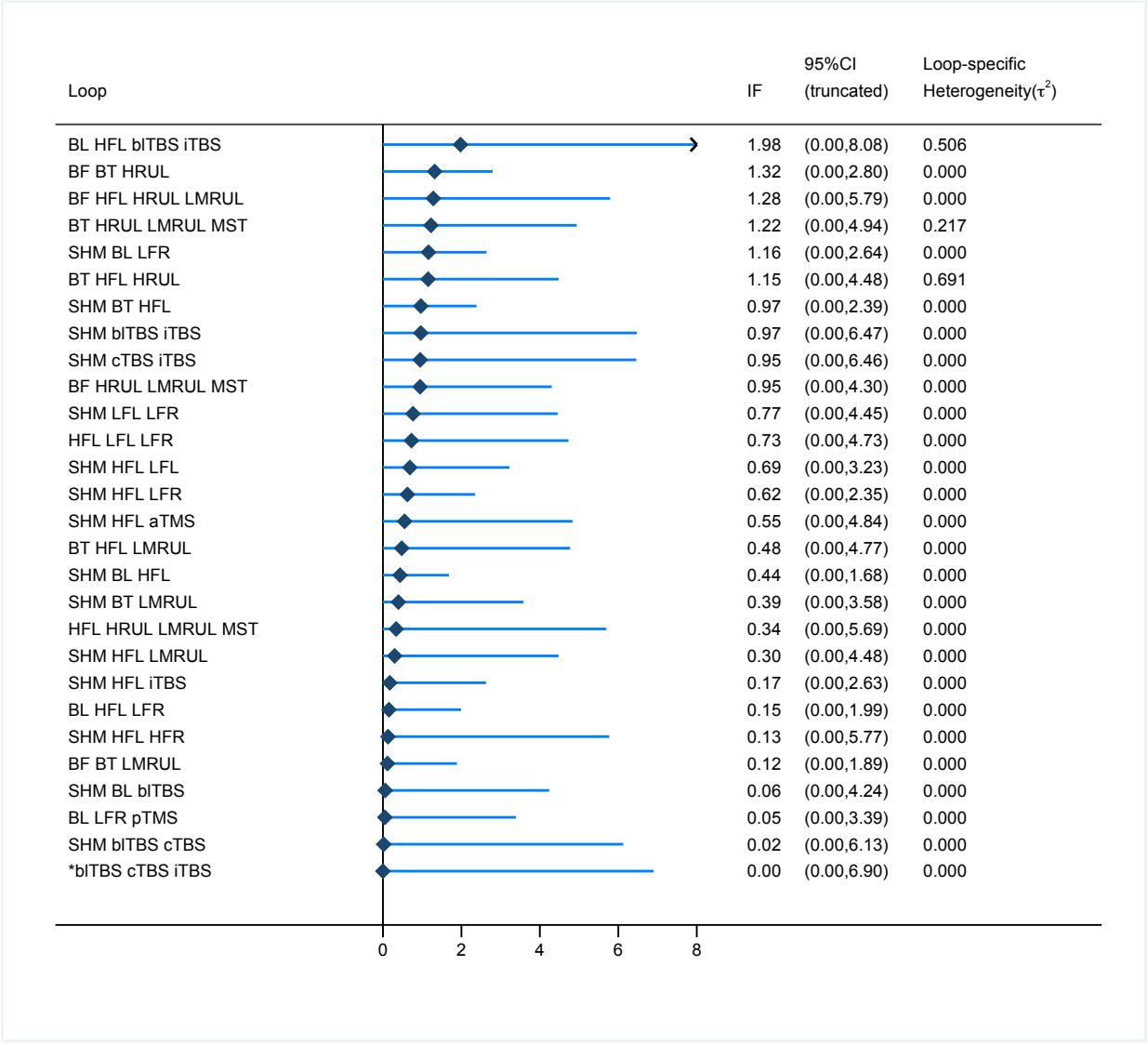
Supplementary Figure 15. **Inconsistency plot response rates**. *loop formed only of multi-arm trials and therefore necessarily consistent. IF = inconsistency factor; aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.



Supplementary Figure 16. **Inconsistency plot remission rates**. IF = inconsistency factor; aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.



Supplementary Figure 17. **Inconsistency plot continuous post-treatment depression severity**. IF = inconsistency factor; aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.



Supplementary Figure 18. **Inconsistency plot all-cause discontinuation**. *loop formed only of multi-arm trials and therefore necessarily consistent. IF = inconsistency factor; aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.

Note regarding loop-specific inconsistency:

Using different estimators of loop-specific heterogeneity (restricted maximum likelihood; empirical Bayes) and applying different assumptions about the heterogeneity variance (different comparison-specific heterogeneities for each loop; network-specific heterogeneity variance common across all loops and comparisons of $\tau = 0.02$) did not alter conclusions regarding loop-specific inconsistency.

Global Wald test for inconsistency models:

Response: $p = 0.42$

Remission: $p = 0.71$

Continuous post-treatment depression severity scores: $p = 0.09$

All-cause discontinuation: $p = 0.99$

18. Sensitivity analyses

Supplementary Table 9. **Network meta-analysis of response and all-cause discontinuation rates (excluding tDCS).**

	All-cause discontinuation																	
Response	**sTMS**	3.37 (0.92,12.38)	0.72 (0.26,2.03)	0.85 (0.32,2.24)	1.57 (0.14,18.13)	1.93 (0.18,20.47)	0.53 (0.11,2.55)	0.43 (0.07,2.65)	0.91 (0.30,2.79)	0.79 (0.30,2.05)	0.36 (0.08,1.61)	0.91 (0.32,2.54)	0.80 (0.02,26.93)	0.87 (0.41,1.84)	0.96 (0.38,2.44)	1.47 (0.61,3.52)	0.92 (0.32,2.65)	0.72 (0.36,1.44)
	0.34 (0.09,1.26)	**pTMS**	**0.21 (0.06,0.81)**	**0.25 (0.07,0.92)**	0.47 (0.04,6.19)	0.57 (0.05,6.85)	**0.16 (0.03,0.93)**	**0.13 (0.02,0.95)**	0.27 (0.07,1.11)	**0.23 (0.08,0.72)**	**0.11 (0.02,0.59)**	0.27 (0.07,1.02)	0.24 (0.01,8.84)	**0.26 (0.08,0.79)**	0.28 (0.08,1.01)	0.44 (0.16,1.16)	0.27 (0.07,1.06)	**0.21 (0.07,0.65)**
	0.63 (0.19,2.04)	1.82 (0.58,5.69)	**iTBS**	1.17 (0.42,3.28)	2.17 (0.19,24.42)	2.66 (0.26,27.58)	0.73 (0.15,3.49)	0.59 (0.09,3.71)	1.26 (0.40,3.95)	1.09 (0.41,2.92)	0.49 (0.11,2.27)	1.25 (0.44,3.58)	1.10 (0.03,37.38)	1.20 (0.59,2.47)	1.33 (0.51,3.44)	2.03 (0.82,5.05)	1.28 (0.44,3.73)	1.00 (0.46,2.14)
	1.09 (0.32,3.68)	3.16 (0.95,10.56)	1.74 (0.60,5.06)	**dTMS**	1.86 (0.16,21.41)	2.27 (0.21,24.18)	0.63 (0.13,3.01)	0.50 (0.08,3.13)	1.08 (0.35,3.29)	0.93 (0.36,2.42)	0.42 (0.09,1.90)	1.07 (0.38,3.01)	0.94 (0.03,31.80)	1.03 (0.49,2.18)	1.13 (0.45,2.88)	1.74 (0.72,4.16)	1.09 (0.38,3.13)	0.85 (0.43,1.70)
	1.95 (0.42,8.96)	**5.66 (1.26,25.38)**	3.11 (0.85,11.34)	1.79 (0.42,7.55)	**cTBS**	1.23 (0.06,24.03)	0.34 (0.02,5.18)	0.27 (0.02,4.89)	0.58 (0.05,7.11)	0.50 (0.04,5.72)	0.23 (0.02,3.38)	0.58 (0.05,6.79)	0.51 (0.01,32.89)	0.55 (0.05,5.86)	0.61 (0.05,6.91)	0.93 (0.08,10.30)	0.59 (0.05,6.98)	0.46 (0.04,4.80)
	0.45 (0.11,1.86)	1.32 (0.34,5.07)	0.72 (0.23,2.30)	0.42 (0.11,1.56)	**0.23 (0.06,0.97)**	**blTBS**	0.27 (0.02,3.93)	0.22 (0.01,3.72)	0.47 (0.04,5.35)	0.41 (0.04,4.23)	0.19 (0.01,2.56)	0.47 (0.04,5.11)	0.42 (0.01,25.60)	0.45 (0.05,4.39)	0.50 (0.05,5.19)	0.76 (0.08,7.52)	0.48 (0.04,5.25)	0.37 (0.04,3.60)
	1.00 (0.24,4.14)	2.90 (0.72,11.65)	1.60 (0.46,5.58)	0.92 (0.24,3.48)	0.51 (0.10,2.55)	2.20 (0.50,9.80)	**aTMS**	0.81 (0.09,7.19)	1.73 (0.33,8.96)	1.49 (0.32,6.98)	0.67 (0.10,4.67)	1.71 (0.35,8.36)	1.51 (0.04,62.09)	1.65 (0.41,6.60)	1.81 (0.40,8.32)	2.78 (0.62,12.41)	1.74 (0.35,8.64)	1.36 (0.33,5.60)
	0.36 (0.06,2.27)	1.05 (0.17,6.45)	0.57 (0.10,3.20)	0.33 (0.06,1.94)	0.18 (0.03,1.34)	0.79 (0.12,5.28)	0.36 (0.05,2.38)	**MST**	2.14 (0.42,10.78)	1.85 (0.30,11.27)	0.84 (0.10,7.18)	2.12 (0.44,10.26)	1.87 (0.04,86.69)	2.04 (0.37,11.10)	2.25 (0.44,11.37)	3.44 (0.59,20.15)	2.16 (0.43,10.88)	1.69 (0.31,9.16)
	0.73 (0.16,3.24)	2.11 (0.49,9.16)	1.16 (0.30,4.42)	0.67 (0.16,2.72)	0.37 (0.07,1.97)	1.60 (0.34,7.62)	0.73 (0.15,3.44)	2.02 (0.67,6.09)	**LMRUL**	0.86 (0.29,2.57)	0.39 (0.08,1.93)	0.99 (0.43,2.31)	0.87 (0.02,30.58)	0.95 (0.39,2.33)	1.05 (0.47,2.33)	1.61 (0.58,4.47)	1.01 (0.46,2.22)	0.79 (0.33,1.90)
	0.55 (0.19,1.60)	1.60 (0.64,3.95)	0.88 (0.38,2.04)	0.51 (0.20,1.29)	0.28 (0.08,1.03)	1.21 (0.39,3.79)	0.55 (0.17,1.75)	1.53 (0.29,7.92)	0.76 (0.22,2.63)	**LFR**	0.45 (0.11,1.95)	1.15 (0.42,3.13)	1.01 (0.03,33.81)	1.10 (0.56,2.19)	1.22 (0.50,2.99)	1.86 (0.99,3.49)	1.17 (0.42,3.26)	0.91 (0.47,1.77)
	1.81 (0.27,12.09)	5.27 (0.81,34.21)	2.90 (0.49,17.24)	1.67 (0.27,10.38)	0.93 (0.12,7.15)	4.00 (0.57,28.16)	1.82 (0.26,12.77)	5.04 (0.52,49.05)	2.50 (0.34,18.53)	3.30 (0.61,17.98)	**LFL**	2.54 (0.55,11.82)	2.24 (0.06,90.30)	2.44 (0.63,9.45)	2.69 (0.62,11.72)	4.12 (0.99,17.17)	2.59 (0.55,12.21)	2.02 (0.53,7.73)
	0.27 (0.06,1.32)	0.79 (0.17,3.75)	0.43 (0.10,1.82)	0.25 (0.06,1.11)	**0.14 (0.02,0.80)**	0.60 (0.12,3.09)	0.27 (0.05,1.40)	0.75 (0.23,2.47)	**0.37 (0.19,0.74)**	0.49 (0.13,1.90)	0.15 (0.02,1.19)	**HRUL**	0.88 (0.03,29.99)	0.96 (0.44,2.08)	1.06 (0.61,1.83)	1.62 (0.64,4.09)	1.02 (0.60,1.73)	0.80 (0.37,1.72)
	1.20 (0.21,6.81)	3.48 (0.62,19.40)	1.91 (0.38,9.61)	1.10 (0.21,5.81)	0.61 (0.09,4.07)	2.64 (0.44,15.97)	1.20 (0.20,7.23)	3.33 (0.39,28.42)	1.65 (0.26,10.53)	2.18 (0.47,10.13)	0.66 (0.07,5.94)	4.42 (0.64,30.32)	**HFR**	1.09 (0.03,34.34)	1.20 (0.04,39.79)	1.84 (0.06,60.14)	1.16 (0.03,39.61)	0.90 (0.03,28.44)
	0.64 (0.24,1.70)	1.85 (0.73,4.69)	1.02 (0.51,2.05)	0.59 (0.25,1.36)	0.33 (0.10,1.12)	1.41 (0.48,4.12)	0.64 (0.22,1.82)	1.77 (0.37,8.59)	0.88 (0.28,2.78)	1.16 (0.70,1.94)	0.35 (0.07,1.83)	2.35 (0.66,8.35)	0.53 (0.12,2.31)	**HFL**	1.10 (0.58,2.08)	1.69 (0.95,2.99)	1.06 (0.47,2.37)	0.83 (0.61,1.12)
	0.22 (0.05,1.02)	0.65 (0.15,2.88)	0.36 (0.09,1.40)	**0.21 (0.05,0.86)**	**0.12 (0.02,0.62)**	0.50 (0.10,2.40)	0.23 (0.05,1.08)	0.62 (0.19,2.04)	**0.31 (0.17,0.55)**	0.41 (0.12,1.45)	**0.12 (0.02,0.93)**	0.83 (0.48,1.45)	0.19 (0.03,1.22)	0.35 (0.11,1.15)	**BT**	1.53 (0.68,3.45)	0.96 (0.53,1.73)	0.75 (0.40,1.41)
	0.41 (0.14,1.18)	1.19 (0.52,2.72)	0.66 (0.28,1.52)	**0.38 (0.15,0.96)**	**0.21 (0.06,0.76)**	0.91 (0.30,2.70)	0.41 (0.13,1.31)	1.14 (0.22,5.93)	0.57 (0.16,1.97)	0.75 (0.43,1.31)	0.23 (0.04,1.25)	1.52 (0.39,5.85)	0.34 (0.07,1.59)	0.64 (0.38,1.08)	1.83 (0.51,6.49)	**BL**	0.63 (0.24,1.63)	**0.49 (0.29,0.84)**
	0.59 (0.11,3.08)	1.71 (0.34,8.75)	0.94 (0.21,4.29)	0.54 (0.11,2.62)	0.30 (0.05,1.85)	1.30 (0.23,7.23)	0.59 (0.11,3.26)	1.64 (0.44,6.06)	0.81 (0.38,1.72)	1.07 (0.26,4.51)	0.33 (0.04,2.73)	2.17 (0.90,5.27)	0.49 (0.07,3.59)	0.92 (0.24,3.59)	**2.62 (1.10,6.27)**	1.43 (0.34,6.03)	**BF**	0.78 (0.35,1.74)

	2.00 (0.78,5.11)	**5.80 (2.31,14.58)**	**3.19 (1.55,6.55)**	1.83 (0.83,4.04)	1.02 (0.31,3.42)	**4.40 (1.53,12.68)**	2.00 (0.68,5.87)	**5.55 (1.14,27.02)**	2.75 (0.86,8.78)	**3.63 (2.19,6.03)**	1.10 (0.21,5.73)	**7.36 (2.07,26.20)**	1.67 (0.39,7.21)	**3.13 (2.30,4.26)**	**8.88 (2.72,28.99)**	**4.86 (2.96,7.97)**	3.39 (0.87,13.24)	**SHM**

Note. Effect sizes represent summary odds ratios and 95% confidence intervals. For the lower triangle (response rates), values lower than 1 favour the treatment in the corresponding row, while values higher than 1 favour the treatment in the corresponding column. For the upper triangle (all-cause discontinuation rates), values lower than 1 favour the treatment in the corresponding row while values higher than 1 favour the treatment in the corresponding column. Orange shaded cells indicate deviation from full network meta-analysis including tDCS. aTMS = accelerated Transcranial Magnetic Stimulation; BF = Bifrontal Electroconvulsive Therapy; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.

Supplementary Table 10. **Network meta-analysis of response and all-cause discontinuation rates (excluding ECT and MST).**

	All-cause discontinuation													
Response	**tDCS**	1.62 (0.70,3.78)	**5.36 (1.60,17.97)**	1.10 (0.44,2.75)	1.37 (0.59,3.20)	2.52 (0.23,27.65)	3.07 (0.30,31.07)	0.81 (0.18,3.61)	1.25 (0.55,2.86)	0.57 (0.14,2.36)	1.25 (0.04,40.82)	1.32 (0.74,2.36)	**2.34 (1.13,4.85)**	1.17 (0.72,1.91)
	1.24 (0.36,4.25)	**sTMS**	3.31 (0.90,12.15)	0.68 (0.24,1.91)	0.85 (0.32,2.24)	1.55 (0.13,17.89)	1.89 (0.18,20.14)	0.50 (0.10,2.40)	0.77 (0.30,2.01)	0.35 (0.08,1.58)	0.77 (0.02,26.03)	0.81 (0.38,1.73)	1.44 (0.60,3.46)	0.72 (0.36,1.44)
	0.44 (0.13,1.48)	0.35 (0.08,1.63)	**pTMS**	**0.21 (0.05,0.78)**	**0.26 (0.07,0.94)**	0.47 (0.04,6.23)	0.57 (0.05,6.87)	**0.15 (0.03,0.89)**	**0.23 (0.08,0.72)**	**0.11 (0.02,0.59)**	0.23 (0.01,8.71)	**0.25 (0.08,0.76)**	0.44 (0.16,1.16)	**0.22 (0.07,0.66)**
	0.84 (0.30,2.37)	0.67 (0.17,2.73)	1.92 (0.49,7.53)	**iTBS**	1.24 (0.44,3.49)	2.28 (0.20,25.63)	2.78 (0.27,28.85)	0.73 (0.15,3.49)	1.13 (0.42,3.04)	0.51 (0.11,2.37)	1.13 (0.03,38.40)	1.20 (0.58,2.45)	2.12 (0.85,5.27)	1.06 (0.49,2.29)
	1.43 (0.47,4.38)	1.15 (0.27,4.93)	3.28 (0.77,14.00)	1.71 (0.47,6.23)	**dTMS**	1.83 (0.16,21.13)	2.24 (0.21,23.78)	0.59 (0.12,2.84)	0.91 (0.35,2.37)	0.41 (0.09,1.86)	0.91 (0.03,30.74)	0.96 (0.45,2.04)	1.70 (0.71,4.08)	0.85 (0.43,1.70)
	2.63 (0.63,10.92)	2.11 (0.38,11.60)	**6.02 (1.12,32.43)**	3.13 (0.75,13.00)	1.83 (0.36,9.29)	**cTBS**	1.22 (0.06,23.95)	0.32 (0.02,4.94)	0.50 (0.04,5.67)	0.23 (0.02,3.35)	0.50 (0.01,32.21)	0.52 (0.05,5.55)	0.93 (0.08,10.25)	0.47 (0.04,4.86)
	0.61 (0.17,2.21)	0.49 (0.10,2.40)	1.39 (0.30,6.47)	0.72 (0.20,2.64)	0.42 (0.09,1.91)	0.23 (0.05,1.08)	**bITBS**	0.26 (0.02,3.76)	0.41 (0.04,4.21)	0.18 (0.01,2.55)	0.41 (0.01,25.15)	0.43 (0.04,4.17)	0.76 (0.08,7.51)	0.38 (0.04,3.66)
	1.31 (0.33,5.16)	1.05 (0.20,5.52)	2.99 (0.58,15.34)	1.56 (0.35,6.88)	0.91 (0.19,4.42)	0.50 (0.08,3.00)	2.16 (0.40,11.69)	**aTMS**	1.55 (0.33,7.25)	0.70 (0.10,4.86)	1.55 (0.04,63.72)	1.63 (0.41,6.55)	2.89 (0.65,12.94)	1.45 (0.35,5.95)
	0.74 (0.33,1.65)	0.59 (0.17,2.03)	1.69 (0.58,4.93)	0.88 (0.32,2.39)	0.51 (0.17,1.57)	0.28 (0.07,1.15)	1.22 (0.35,4.27)	0.56 (0.15,2.15)	**LFR**	0.45 (0.11,1.95)	1.00 (0.03,33.41)	1.06 (0.53,2.10)	**1.87 (1.00,3.50)**	0.94 (0.48,1.82)
	2.42 (0.41,14.34)	1.94 (0.26,14.51)	5.54 (0.76,40.34)	2.88 (0.44,18.85)	1.69 (0.24,11.78)	0.92 (0.11,7.72)	3.99 (0.52,30.59)	1.85 (0.23,14.78)	3.28 (0.58,18.74)	**LFL**	2.21 (0.05,89.07)	2.33 (0.60,9.02)	4.12 (0.99,17.20)	2.07 (0.54,7.89)
	1.59 (0.29,8.73)	1.28 (0.18,8.91)	3.65 (0.53,25.03)	1.90 (0.31,11.53)	1.11 (0.17,7.22)	0.61 (0.08,4.77)	2.63 (0.37,18.85)	1.22 (0.16,9.10)	2.16 (0.40,11.65)	0.66 (0.07,6.67)	**HFR**	1.05 (0.03,33.20)	1.87 (0.06,61.08)	0.93 (0.03,29.43)
	0.84 (0.43,1.62)	0.67 (0.21,2.11)	1.92 (0.64,5.76)	1.00 (0.42,2.35)	0.59 (0.21,1.62)	0.32 (0.08,1.21)	1.38 (0.42,4.51)	0.64 (0.19,2.17)	1.14 (0.64,2.01)	0.35 (0.06,1.87)	0.53 (0.11,2.61)	**HFL**	1.77 (0.99,3.15)	0.89 (0.65,1.21)
	0.55 (0.25,1.20)	0.44 (0.13,1.49)	1.25 (0.46,3.43)	0.65 (0.24,1.74)	0.38 (0.13,1.15)	**0.21 (0.05,0.84)**	0.90 (0.27,2.99)	0.42 (0.11,1.59)	0.74 (0.39,1.40)	0.23 (0.04,1.30)	0.34 (0.06,1.84)	0.65 (0.37,1.16)	**BL**	**0.50 (0.29,0.86)**
	2.72 (1.53,4.84)	2.19 (0.73,6.56)	**6.24 (2.10,18.53)**	**3.24 (1.37,7.70)**	1.90 (0.72,4.99)	1.04 (0.28,3.82)	**4.49 (1.41,14.30)**	2.08 (0.60,7.27)	**3.69 (2.10,6.51)**	1.13 (0.21,6.08)	1.71 (0.34,8.49)	**3.25 (2.31,4.56)**	**4.99 (2.90,8.59)**	**SHM**

Note. Effect sizes represent summary odds ratios and 95% confidence intervals. For the lower triangle (response rates), values lower than 1 favour the treatment in the corresponding row, while values higher than 1 favour the treatment in the corresponding column. For the upper triangle (all-cause discontinuation rates), values lower than 1 favour the treatment in the corresponding row while values higher than 1 favour the treatment in the corresponding column. Orange shaded cells indicate deviation from full network meta-analysis including Electroconvulsive Therapy (ECT) and Magnetic Seizure Therapy (MST). aTMS = accelerated Transcranial

Magnetic Stimulation; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.

Supplementary Table 11a. **Network meta-analysis of response and all-cause discontinuation rates (excluding overall high risk of bias):**

Component 1.

	All-cause discontinuation													
Response	**tDCS**	1.62 (0.70,3.78)	**4.87 (1.44,16.51)**	1.33 (0.14,12.72)	1.37 (0.59,3.20)	2.59 (0.23,29.52)	3.04 (0.29,31.83)	0.78 (0.17,3.49)	2.01 (0.72,5.62)	0.59 (0.14,2.46)	1.23 (0.04,40.00)	1.27 (0.70,2.29)	1.99 (0.92,4.30)	1.17 (0.72,1.91)
	1.23 (0.33,4.54)	**sTMS**	3.00 (0.81,11.16)	0.82 (0.08,8.25)	0.85 (0.32,2.24)	1.60 (0.13,19.09)	1.88 (0.17,20.62)	0.48 (0.10,2.32)	1.24 (0.40,3.86)	0.36 (0.08,1.64)	0.76 (0.02,25.50)	0.78 (0.36,1.68)	1.23 (0.50,3.04)	0.72 (0.36,1.44)
	0.41 (0.11,1.53)	0.34 (0.06,1.74)	**pTMS**	0.27 (0.02,3.21)	0.28 (0.08,1.05)	0.53 (0.04,7.35)	0.63 (0.05,7.75)	**0.16 (0.03,0.96)**	0.41 (0.11,1.59)	**0.12 (0.02,0.68)**	0.25 (0.01,9.43)	**0.26 (0.08,0.81)**	0.41 (0.15,1.09)	**0.24 (0.08,0.73)**
	0.92 (0.22,3.89)	0.75 (0.13,4.33)	2.24 (0.39,12.72)	**iTBS**	1.03 (0.10,10.33)	1.94 (0.10,36.40)	2.28 (0.13,40.66)	0.58 (0.04,8.01)	1.51 (0.14,16.27)	0.44 (0.03,5.81)	0.92 (0.02,55.05)	0.95 (0.10,8.79)	1.49 (0.15,14.48)	0.88 (0.10,7.93)
	1.45 (0.43,4.82)	1.18 (0.25,5.62)	3.51 (0.74,16.77)	1.57 (0.29,8.34)	**dTMS**	1.89 (0.16,22.55)	2.22 (0.20,24.35)	0.57 (0.12,2.74)	1.47 (0.47,4.56)	0.43 (0.09,1.94)	0.89 (0.03,30.12)	0.92 (0.43,1.98)	1.45 (0.59,3.60)	0.85 (0.43,1.70)
	2.72 (0.60,12.23)	2.21 (0.36,13.45)	**6.59 (1.10,39.58)**	2.94 (0.58,15.02)	1.88 (0.33,10.56)	**cTBS**	1.17 (0.06,23.05)	0.30 (0.02,4.80)	0.78 (0.06,9.90)	0.23 (0.01,3.49)	0.47 (0.01,31.30)	0.49 (0.04,5.41)	0.77 (0.07,8.87)	0.45 (0.04,4.89)
	0.61 (0.15,2.40)	0.49 (0.09,2.71)	1.48 (0.28,7.68)	0.66 (0.14,3.03)	0.42 (0.08,2.11)	0.22 (0.05,1.12)	**blTBS**	0.26 (0.02,3.79)	0.66 (0.06,7.74)	0.19 (0.01,2.75)	0.40 (0.01,25.36)	0.42 (0.04,4.21)	0.65 (0.06,6.71)	0.38 (0.04,3.81)
	1.26 (0.29,5.43)	1.02 (0.17,6.01)	3.05 (0.53,17.52)	1.36 (0.21,8.79)	0.87 (0.16,4.72)	0.46 (0.07,3.15)	2.06 (0.34,12.62)	**aTMS**	2.58 (0.49,13.64)	0.75 (0.11,5.24)	1.57 (0.04,64.76)	1.63 (0.41,6.51)	2.56 (0.56,11.70)	1.50 (0.36,6.20)
	0.78 (0.32,1.89)	0.63 (0.17,2.40)	1.89 (0.59,6.12)	0.85 (0.20,3.62)	0.54 (0.16,1.84)	0.29 (0.06,1.31)	1.28 (0.32,5.08)	0.62 (0.15,2.64)	**LFR**	0.29 (0.06,1.39)	0.61 (0.02,21.45)	0.63 (0.25,1.59)	0.99 (0.35,2.79)	0.58 (0.24,1.43)
	2.41 (0.39,14.70)	1.96 (0.25,15.47)	5.84 (0.76,45.07)	2.61 (0.30,22.34)	1.66 (0.23,12.28)	0.89 (0.10,7.94)	3.95 (0.48,32.32)	1.92 (0.23,16.29)	3.08 (0.52,18.28)	**LFL**	2.08 (0.05,84.12)	2.15 (0.55,8.38)	3.39 (0.79,14.57)	1.99 (0.52,7.62)
	1.57 (0.27,9.28)	1.28 (0.17,9.81)	3.81 (0.50,28.88)	1.70 (0.20,14.18)	1.08 (0.15,7.78)	0.58 (0.07,5.04)	2.58 (0.32,20.52)	1.25 (0.15,10.33)	2.01 (0.34,11.87)	0.65 (0.06,7.01)	**HFR**	1.03 (0.03,32.53)	1.63 (0.05,53.63)	0.95 (0.03,30.08)
	0.80 (0.39,1.63)	0.65 (0.19,2.21)	1.93 (0.59,6.32)	0.86 (0.22,3.36)	0.55 (0.18,1.67)	0.29 (0.07,1.22)	1.31 (0.36,4.71)	0.63 (0.17,2.33)	1.02 (0.53,1.97)	0.33 (0.06,1.83)	0.51 (0.10,2.71)	**HFL**	1.57 (0.83,2.98)	0.92 (0.66,1.29)
	0.50 (0.21,1.16)	0.40 (0.11,1.50)	1.20 (0.40,3.62)	0.54 (0.13,2.21)	0.34 (0.10,1.14)	**0.18 (0.04,0.80)**	0.81 (0.23,2.94)	0.39 (0.09,1.66)	0.64 (0.29,1.41)	0.21 (0.03,1.24)	0.32 (0.05,1.85)	0.62 (0.33,1.19)	**BL**	0.59 (0.33,1.06)
	2.78 (1.52,5.11)	2.26 (0.70,7.31)	**6.76 (2.10,21.73)**	3.02 (0.82,11.15)	1.92 (0.68,5.46)	1.03 (0.26,4.07)	**4.58 (1.33,15.69)**	2.22 (0.58,8.42)	**3.57 (1.86,6.85)**	1.16 (0.21,6.38)	1.78 (0.33,9.46)	**3.50 (2.37,5.16)**	**5.62 (3.10,10.19)**	**SHM**

Note. Effect sizes represent summary odds ratios and 95% confidence intervals. For the lower triangle (response rates), values lower than 1 favour the treatment in the corresponding row, while values higher than 1 favour the treatment in the corresponding column. For the upper

triangle (all-cause discontinuation rates), values lower than 1 favour the treatment in the corresponding row while values higher than 1 favour the treatment in the corresponding column. Orange shaded cells indicate deviation from full network meta-analysis including trials with overall high risk of bias. aTMS = accelerated Transcranial Magnetic Stimulation; BL = Bilateral repetitive Transcranial Magnetic Stimulation; blTBS = bilateral Theta Burst Stimulation; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; HFR = High-Frequency Right repetitive Transcranial Magnetic Stimulation; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; pTMS = priming Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.

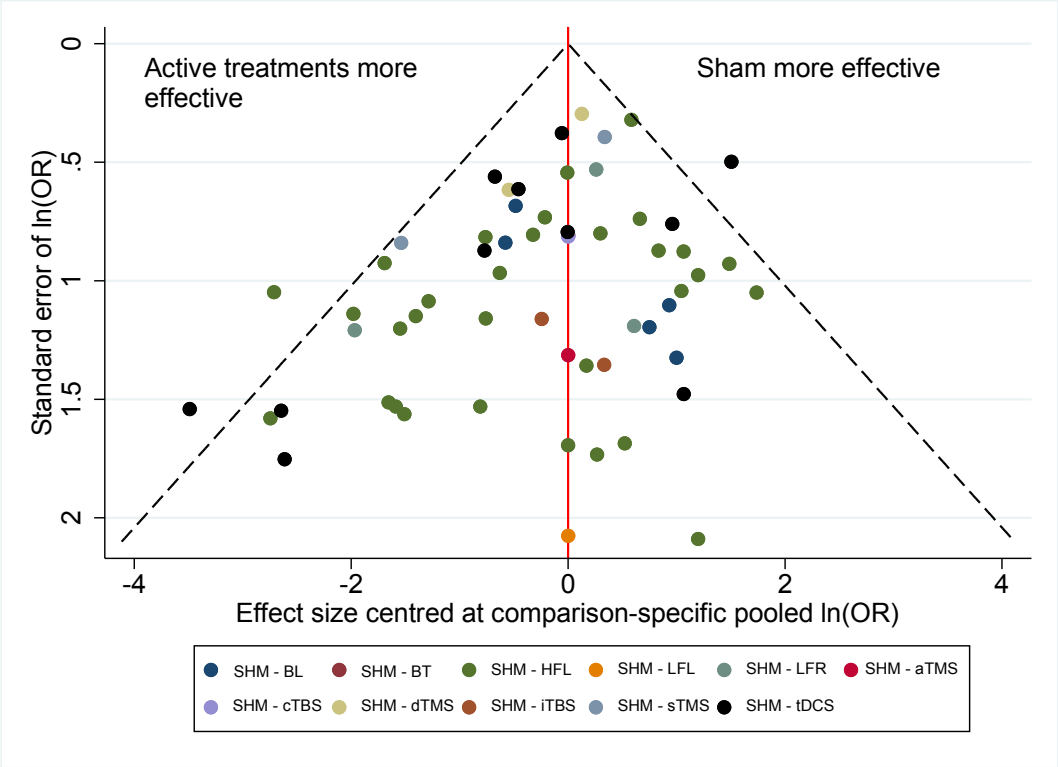
Supplementary Table 11b. **Network meta-analysis of response and all-cause discontinuation rates (excluding overall high risk of bias):**

Component 2.

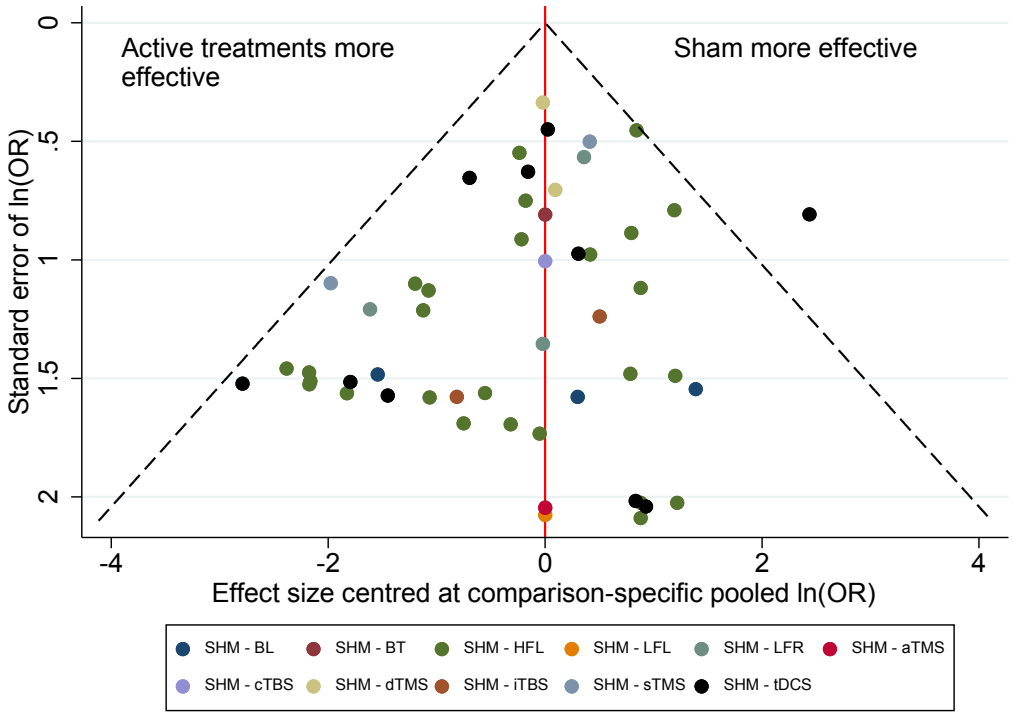
	All-cause discontinuation				
Response	**MST**	1.40 (0.23,8.46)	1.61 (0.24,10.61)	1.49 (0.23,9.66)	1.32 (0.18,9.75)
	0.94 (0.25,3.55)	**HRUL**	1.15 (0.60,2.17)	1.06 (0.56,2.02)	0.94 (0.30,2.91)
	0.93 (0.24,3.56)	0.99 (0.62,1.56)	**BT**	0.93 (0.47,1.81)	0.82 (0.27,2.54)
	3.91 (0.88,17.37)	**4.17 (1.65,10.54)**	**4.22 (1.79,9.95)**	**BF**	0.89 (0.33,2.36)
	3.61 (0.96,13.62)	**3.86 (2.06,7.24)**	**3.90 (2.32,6.57)**	0.92 (0.47,1.83)	**LMRUL**

Note. Effect sizes represent summary odds ratios and 95% confidence intervals. For the lower triangle (response rates), values lower than 1 favour the treatment in the corresponding row, while values higher than 1 favour the treatment in the corresponding column. For the upper triangle (all-cause discontinuation rates), values lower than 1 favour the treatment in the corresponding row while values higher than 1 favour the treatment in the corresponding column. Orange shaded cells indicate deviation from full network meta-analysis including trials with overall high risk of bias. BF = Bifrontal Electroconvulsive Therapy; BT = Bitemporal Electroconvulsive Therapy; HRUL = High-Dose Right Unilateral Electroconvulsive Therapy; LMRUL = Low to Moderate-Dose Right Unilateral Electroconvulsive Therapy; MST = Magnetic Seizure Therapy.

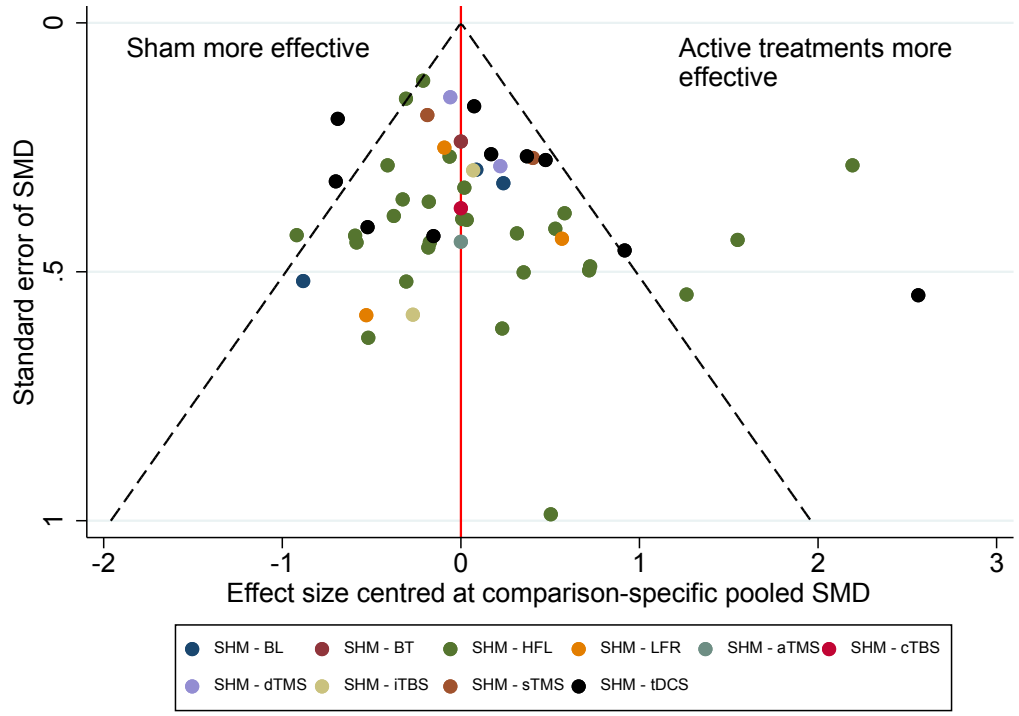
19. Small-study effects



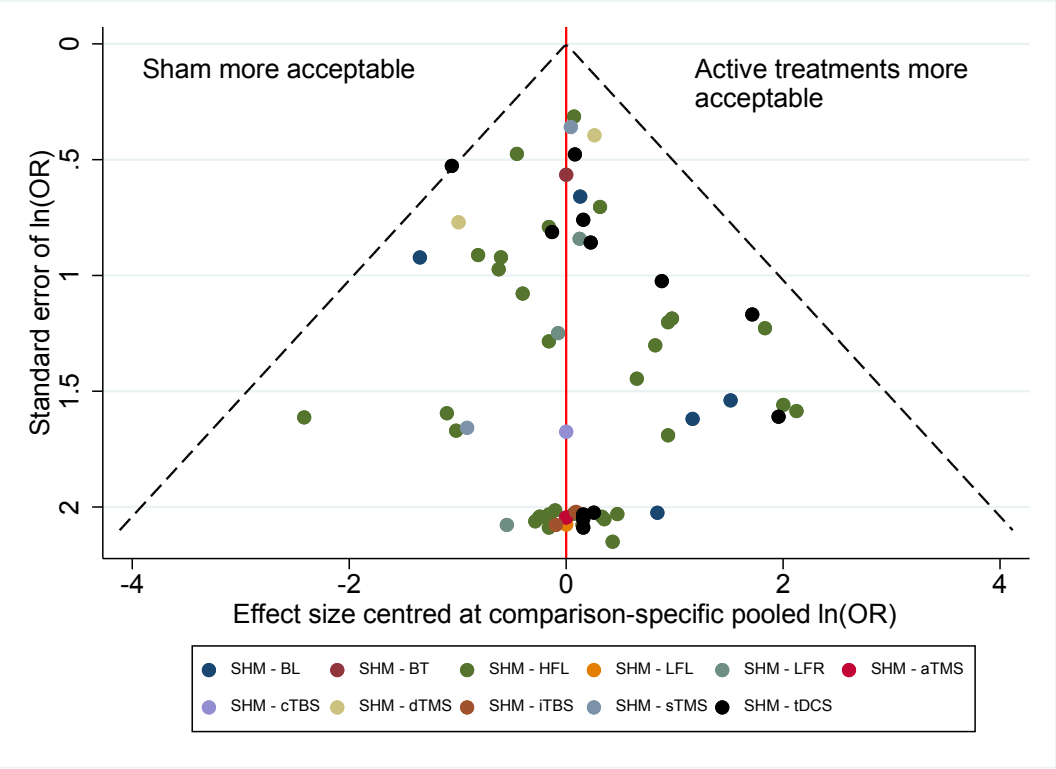
Supplementary Figure 19. **Comparison-adjusted funnel plot response rates**. aTMS = accelerated Transcranial Magnetic Stimulation; BL = Bilateral repetitive Transcranial Magnetic Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.



Supplementary Figure 20. **Comparison-adjusted funnel plot remission rates**. aTMS = accelerated Transcranial Magnetic Stimulation; BL = Bilateral repetitive Transcranial Magnetic Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.



Supplementary Figure 21. **Comparison-adjusted funnel plot continuous post-treatment depression severity**. aTMS = accelerated Transcranial Magnetic Stimulation; BL = Bilateral repetitive Transcranial Magnetic Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; iTBS = intermittent Theta Burst Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.



Supplementary Figure 22. **Comparison-adjusted funnel plot all-cause discontinuation rates**. aTMS = accelerated Transcranial Magnetic Stimulation; BL = Bilateral repetitive Transcranial Magnetic Stimulation; BT = Bitemporal Electroconvulsive Therapy; cTBS = continuous Theta Burst Stimulation; dTMS = deep Transcranial Magnetic Stimulation; HFL = High-Frequency Left repetitive Transcranial Magnetic Stimulation; iTBS = intermittent Theta Burst Stimulation; LFL = Low-Frequency Left repetitive Transcranial Magnetic Stimulation; LFR = Low-Frequency Right repetitive Transcranial Magnetic Stimulation; SHM = Sham; sTMS = synchronised Transcranial Magnetic Stimulation; tDCS = transcranial Direct Current Stimulation.