

Figure S1. Quality assessment of (A) overall and (B) study-level risk of bias, using Cochrane’s risk of bias assessment tool, indicating quality with high ratings, unclear or low risk of bias, according to 6 evaluation criteria for each study, as presented in detail.

Figure S1A.

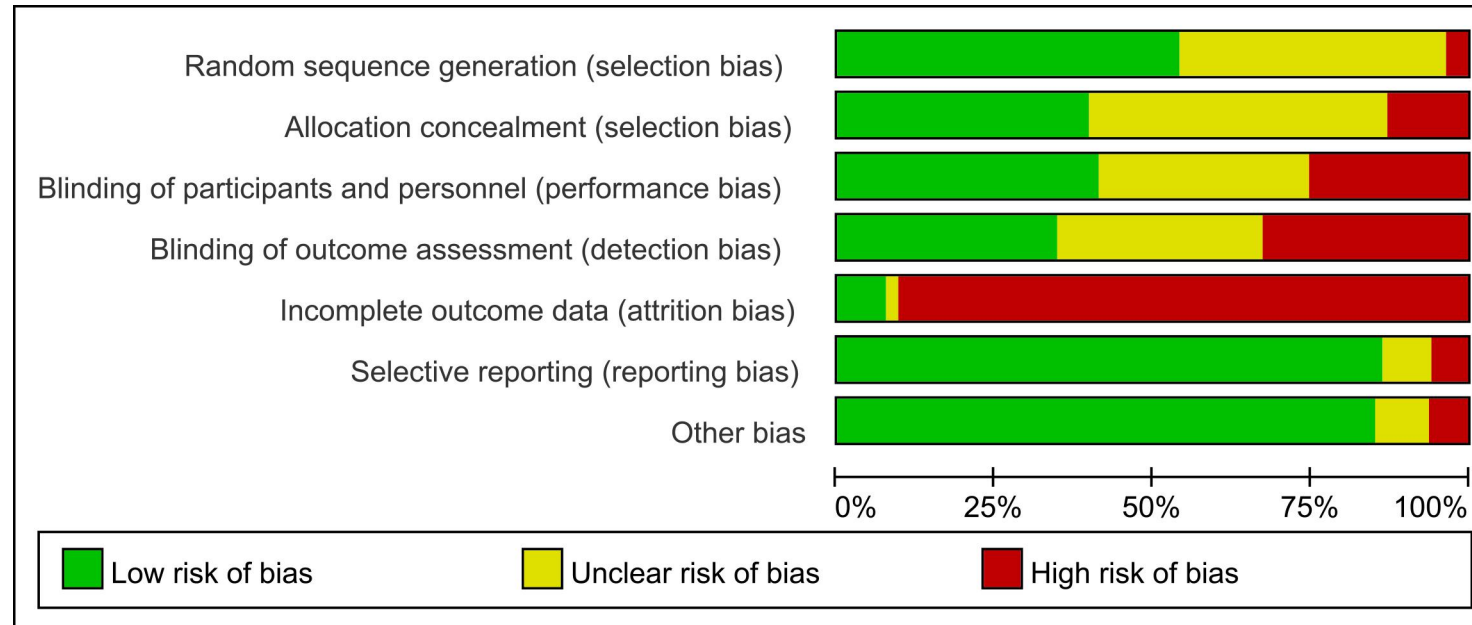


Figure S1B.

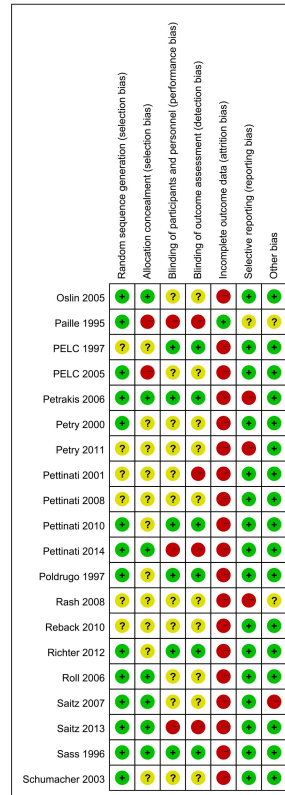
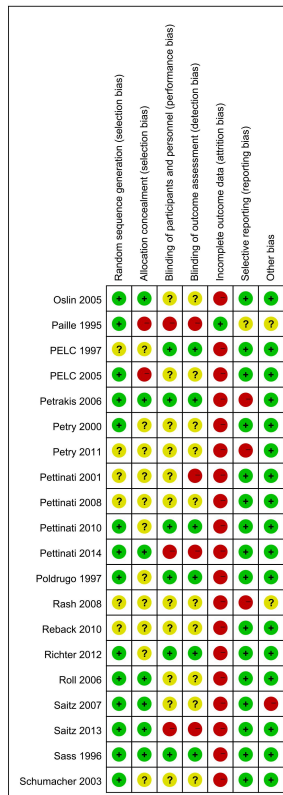
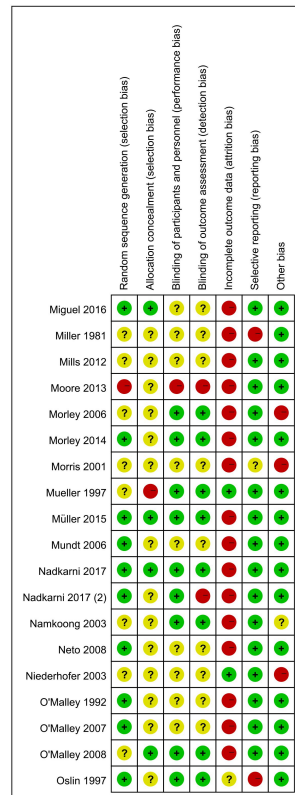
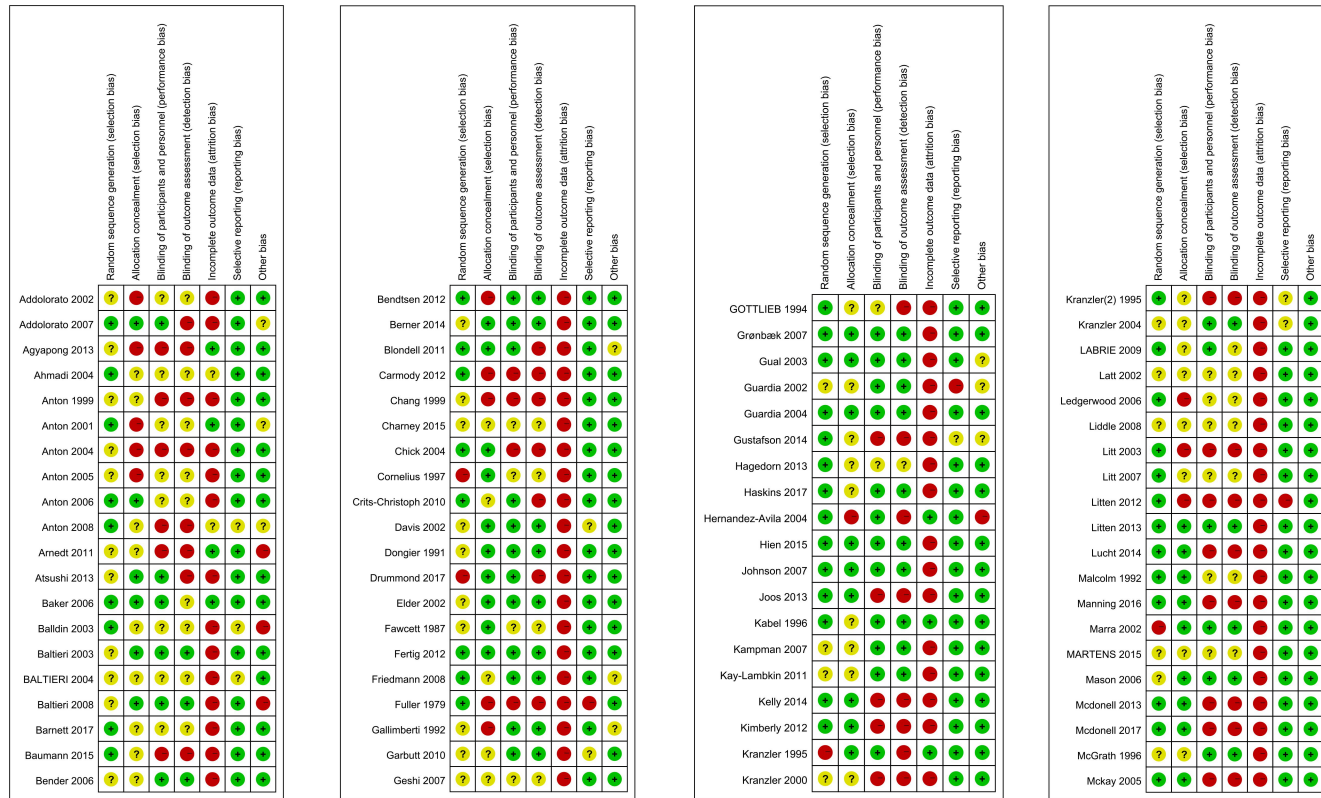
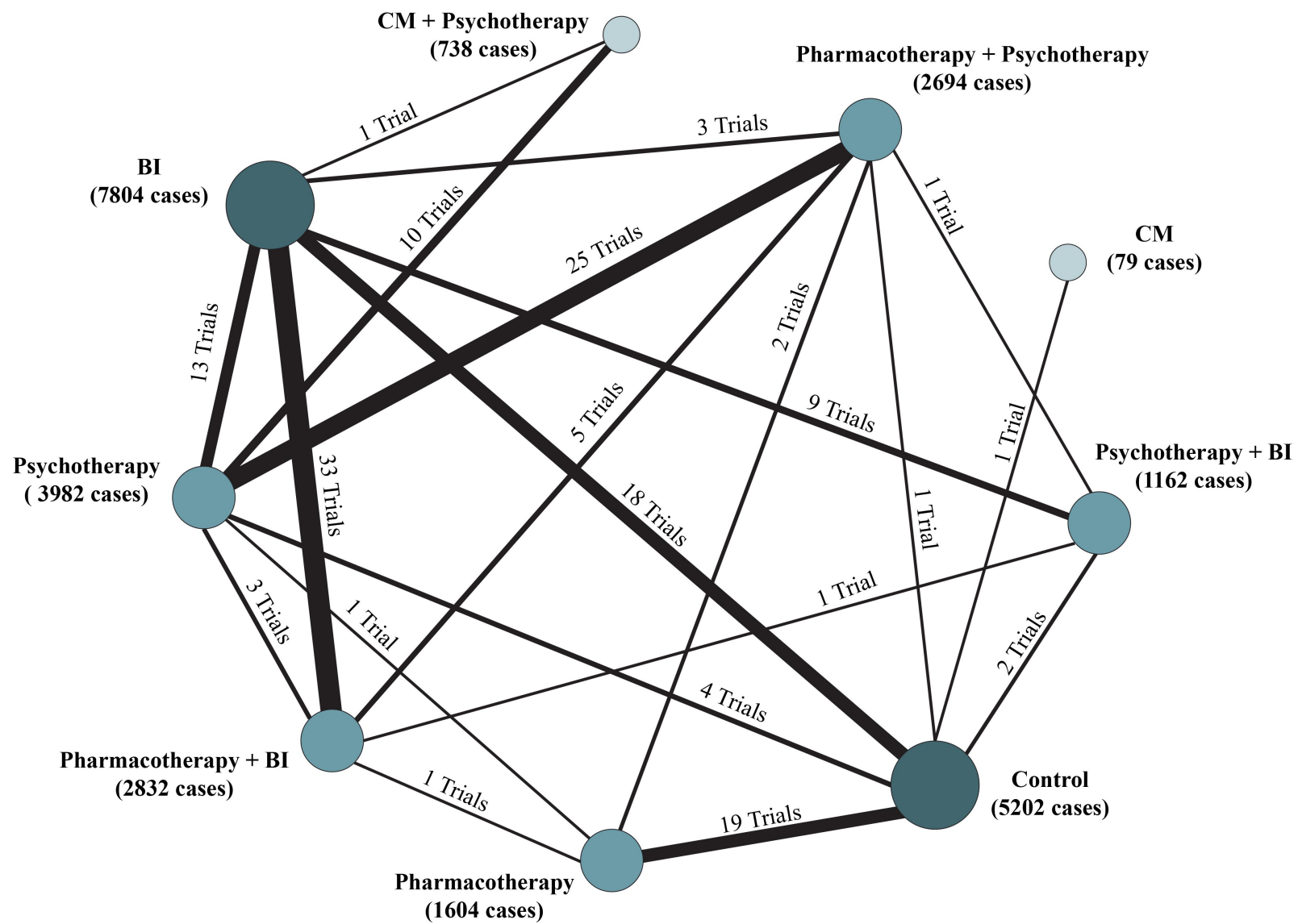


Figure S2. Network connections of included studies with the available direct comparisons for abstinence rates regarding (A) treatment sessions and (B) follow-up sessions. The details of sample size and trial numbers were presented.

Figure S2A.

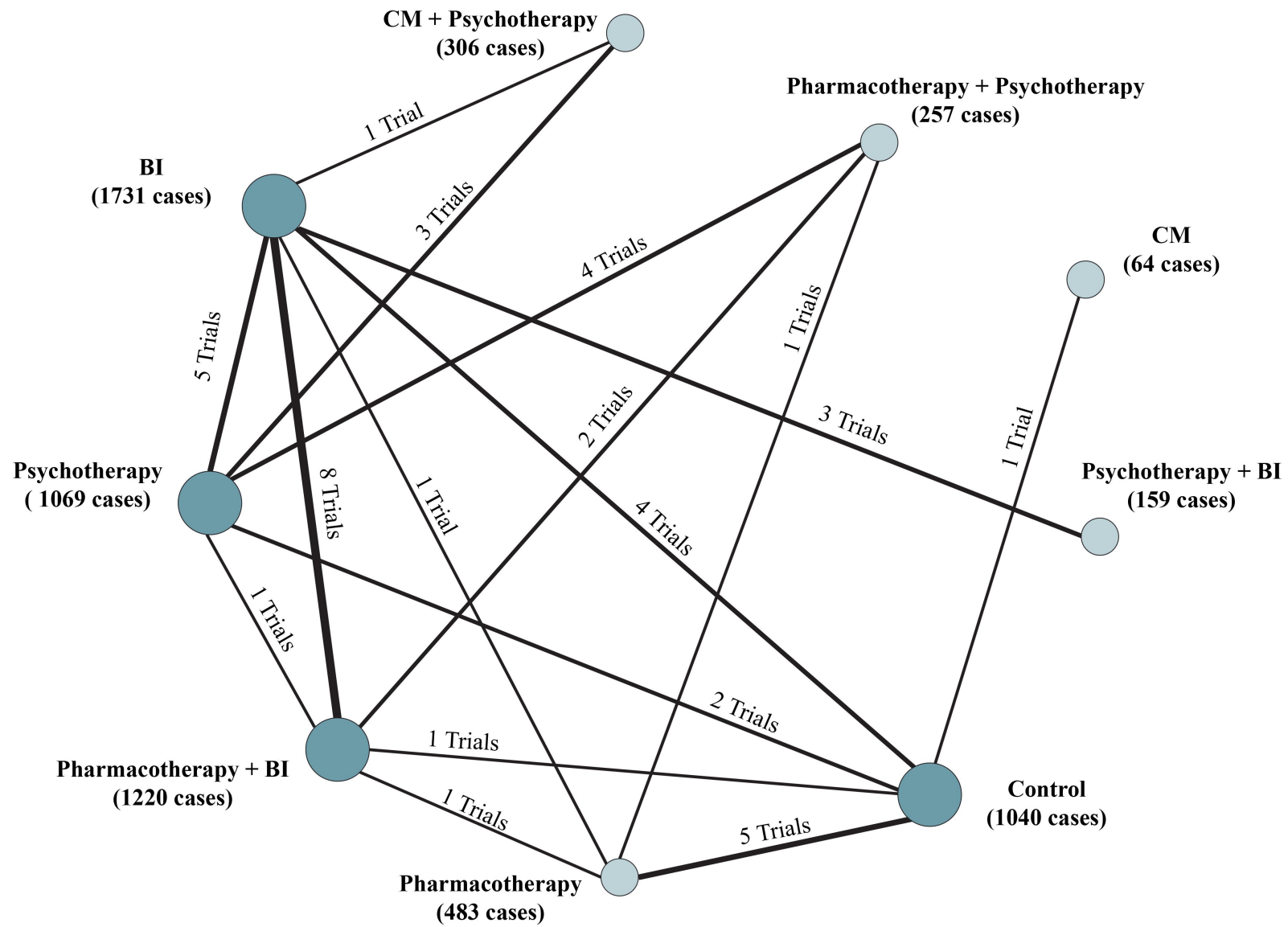


The size of circles and width of lines respectively represent the number of included sample sizes and trails.

- ≥ 5000 cases
- ≥ 1000 and < 5000 cases
- < 1000 cases

CM, contingency management; BI, Brief Intervention.

Figure S2B.



The size of circles and width of lines respectively represent the number of included sample sizes and trials. CM, contingency management; BI, Brief Intervention.

● ≥ 1000 and < 5000 cases
● < 1000 cases

Figure S3. Direct meta-analysis of interventions versus control regarding the abstinence rates of (A) treatment sessions and (B) follow-up sessions. The details were consistently exhibited in Table S6.

Figure S3A.

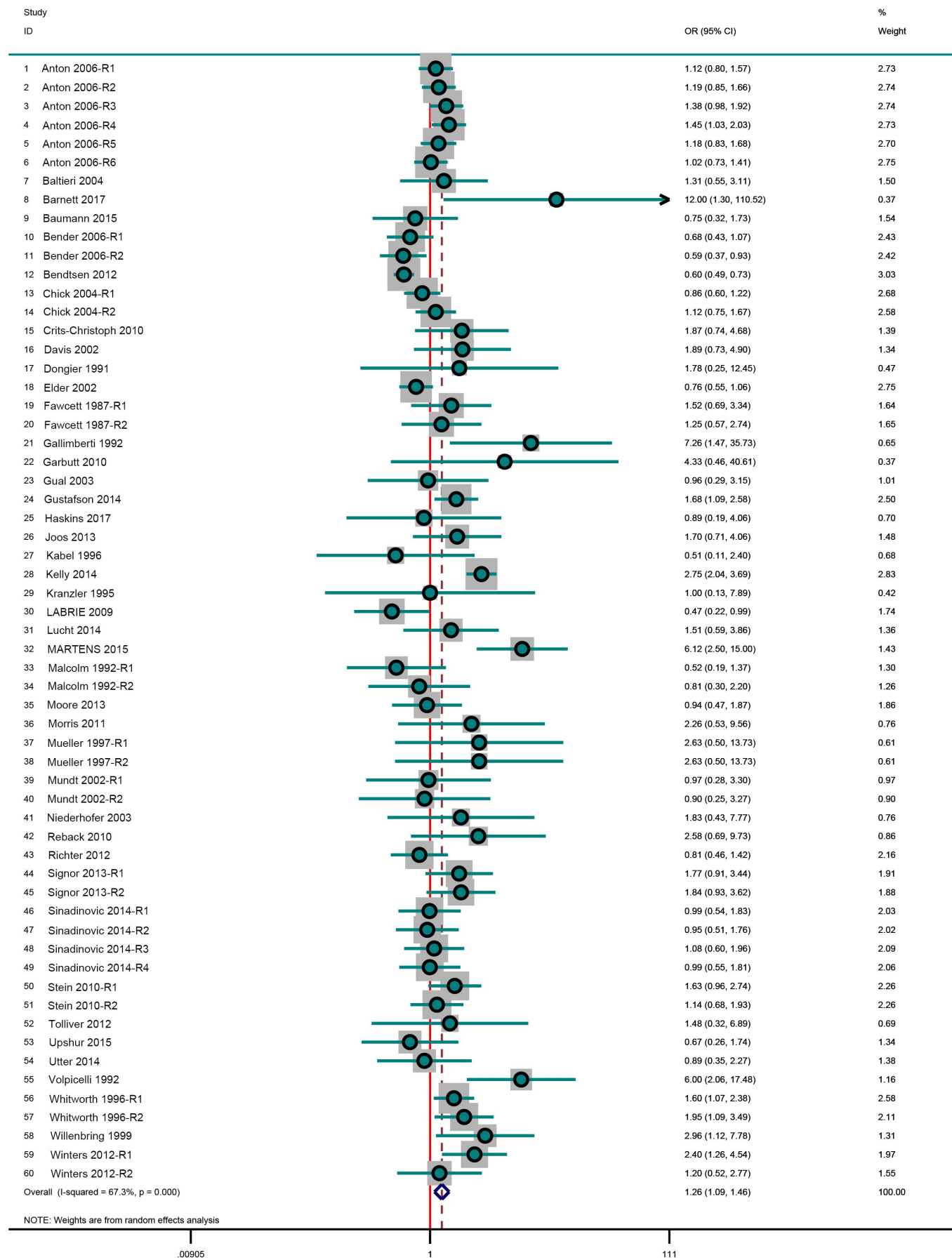


Figure S3B.

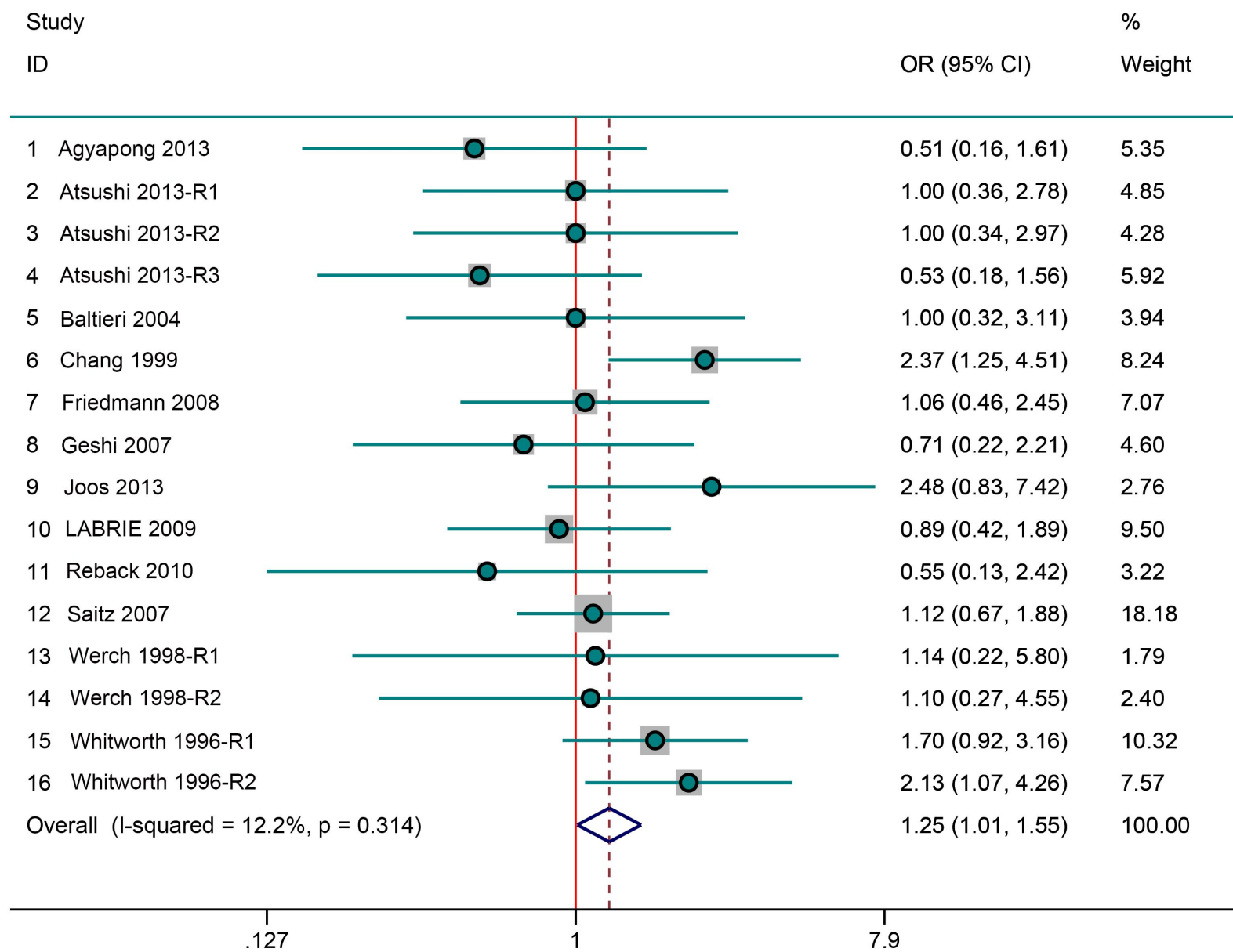


Figure S4. Direct meta-analysis of best rank intervention versus other interventions regarding the abstinence rates of (A) treatment sessions and (B) follow-up sessions. The detailed overall and subgroup effects were also exhibited in Table S7.

Figure S4A.

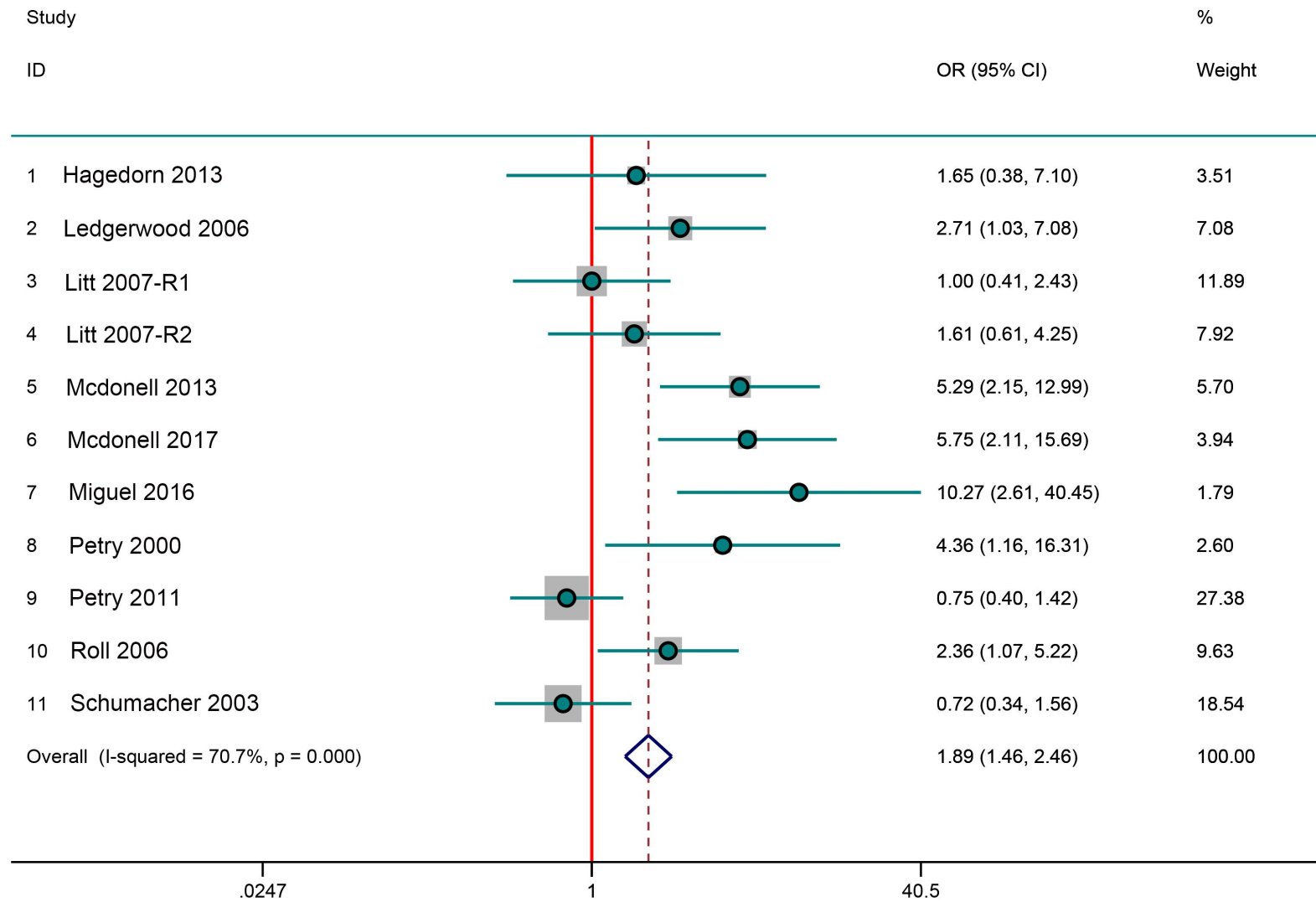


Figure S4B.

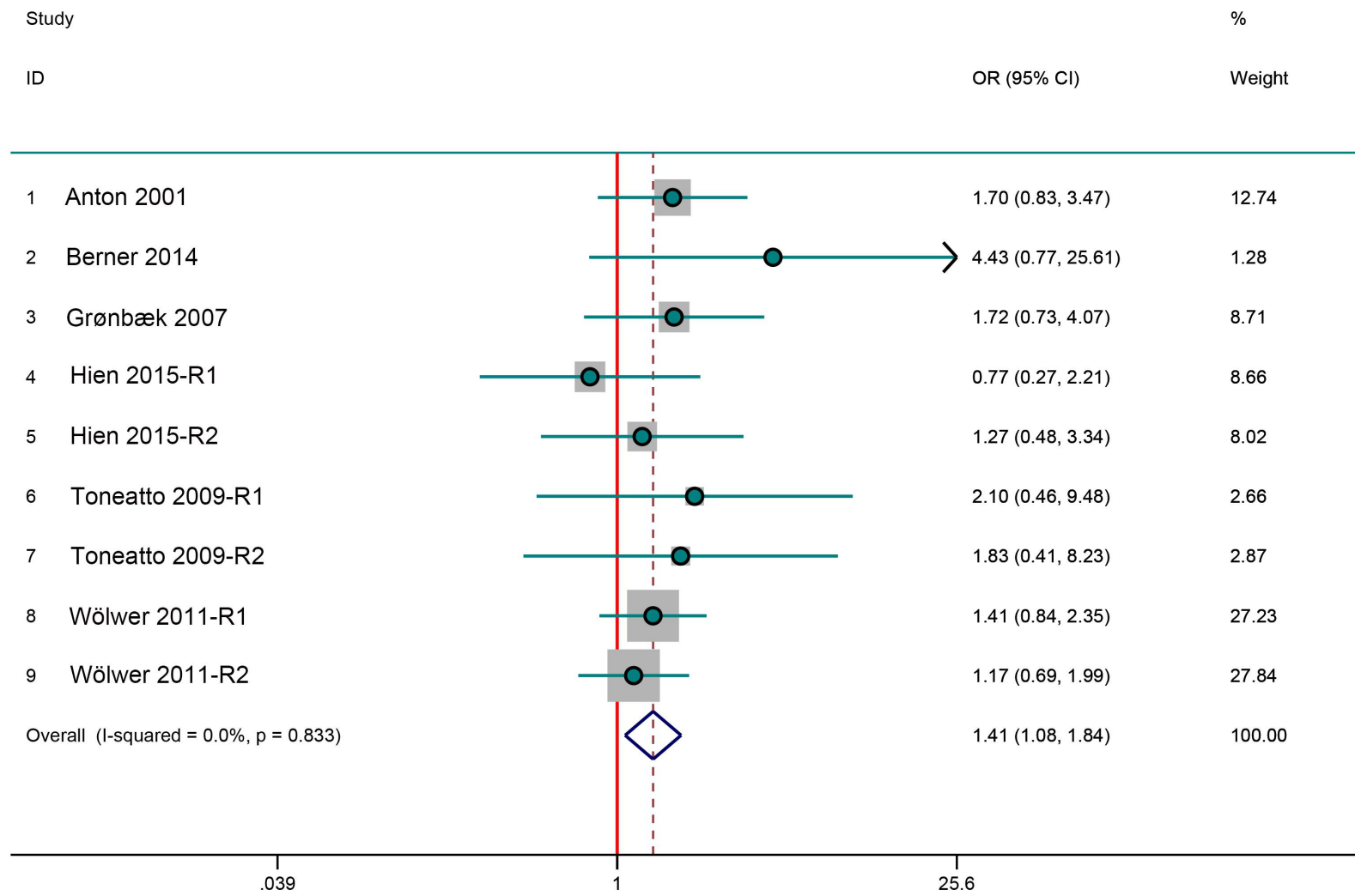


Figure S5. Publication bias of studies on abstinence rates regarding (A) treatment sessions and (B) follow-up sessions was assessed by funnel plots. All studies are centered on the summary effect estimate of their respective comparisons [μ_{XY} (logOR for the present study)], which is represented by the vertical red line.

Figure S5A.

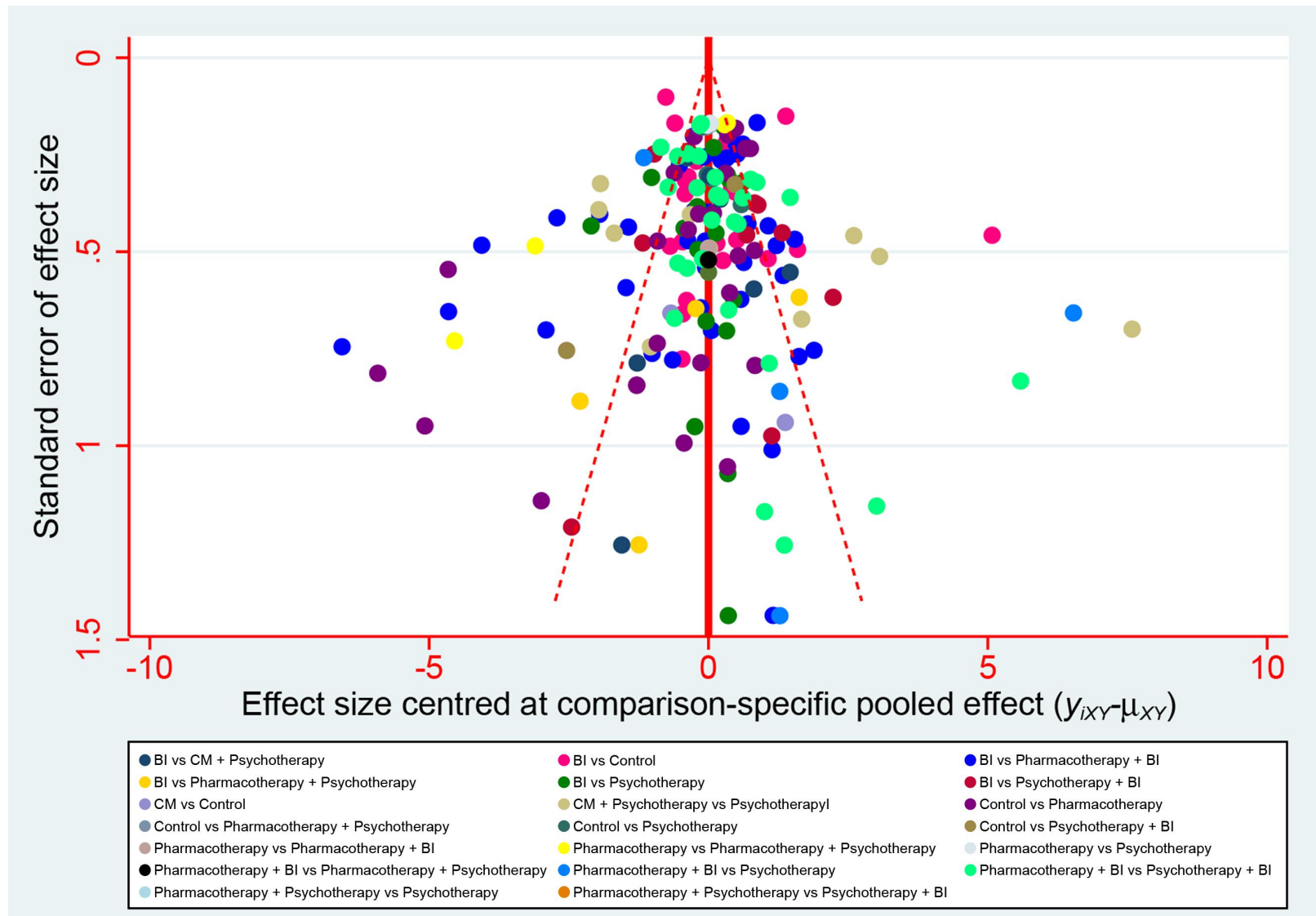


Figure S5B.

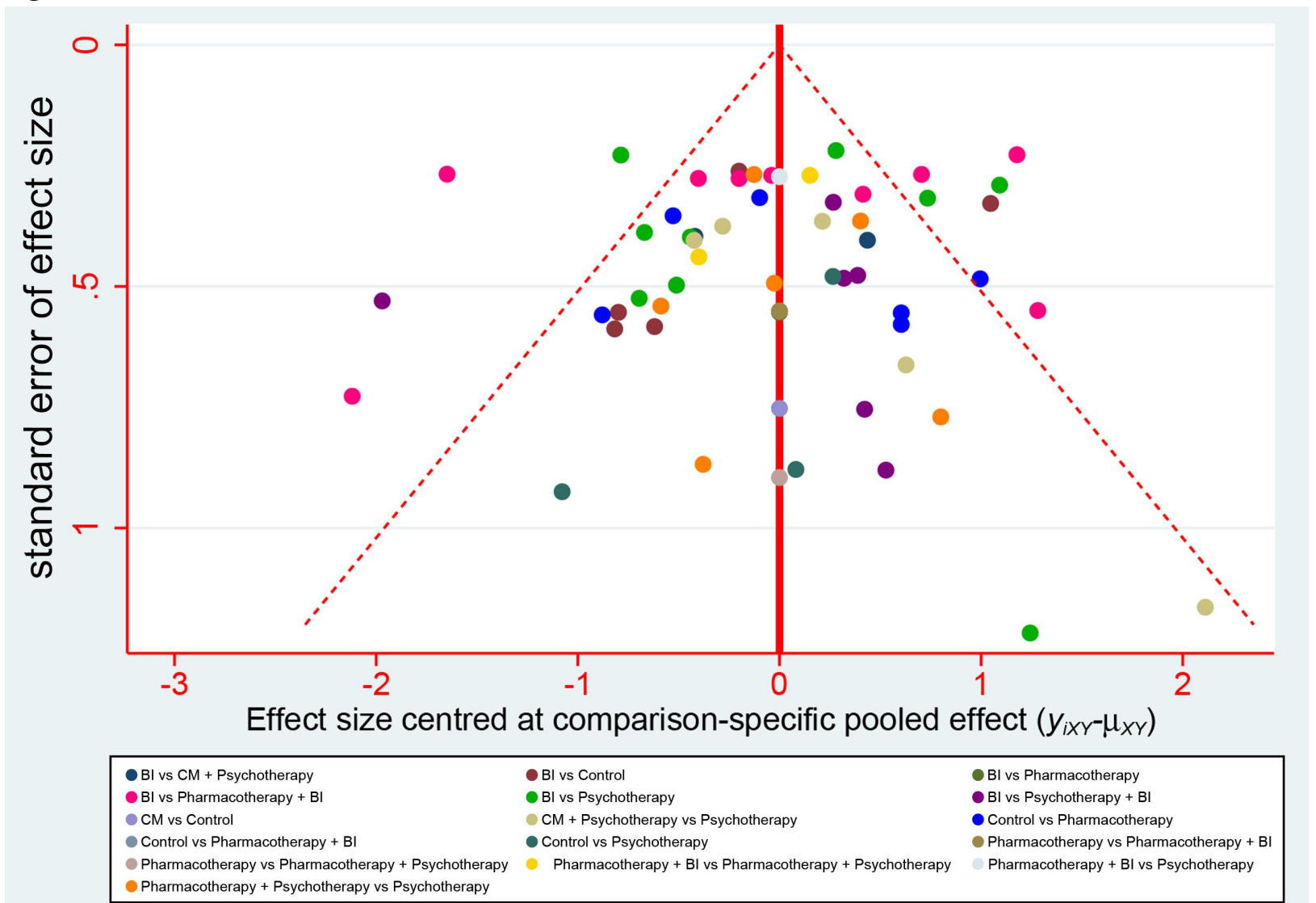


Table S1. Databases: MEDLINE. Citations were taken from 1964 to present (No publication status restriction).

# No.	Search	Results
1	exp (alcohol) AND ((consumption) OR abuse) OR dependence) OR disorder)/	4767213
2	exp binge drinking/	5080
3	exp excessive drinking/	3996
4	1 OR 2 OR 3	4796352
5	(brief or brief intervention or BI). ti,ab.	1011824
6	5 AND 4	170724
7	(mental intervention or psychological intervention or psychological support). ti,ab.	4170079
8	(motivational interviewing or MI or motivational enhancement therapy or MET). ti,ab.	1565463
9	(cognitive behavioral therapy or CBT or coping skills intervention). ti,ab.	117864
10	(TSF or 12-Step Facilitation). ti,ab.	1286
11	(therapeutic community or TC or family therapy). ti,ab.	6956
12	(vocational rehabilitation or VR). ti,ab.	2355
13	7 OR 8 OR 9 OR 10 OR 11 OR 12	2025513
14	13 AND 4	578426
15	(pharmacotherapy or pharmacological intervention or medical intervention). ti,ab.	4684189
16	((5-HT (serotonin) partial agonists OR anticonvulsants OR antipsychotics OR benzodiazepines OR beta-blockers OR monoamine oxidase inhibitors (MAOIs) OR noradrenaline re-uptake inhibitors (NARIs) OR noradrenergic and specific serotonergic antidepressants (NaSSAs) OR reversible inhibitors of monoamine oxidase A (RIMAs) OR serotonin antagonist and re-uptake inhibitors (SARIs) OR serotonin and noradrenaline re-uptake inhibitors (SNRIs) OR selective serotonin re-uptake inhibitors (SSRIs) OR tricyclic antidepressants (TCAs))). ti,ab.	11533
17	15 OR 16	4684442

18	17 AND 4	1298644
19	(acupuncture or moxibustion). ti,ab.	28011
20	19 AND 4	13938
21	(contingency management or CM or behavioral economic supplement). ti,ab.	350499
22	21 AND 4	71333
23	(random or prospective). ti,ab.	1134069
24	(randomized controlled trial). ti,ab.	589286
25	23 OR 24	1775771
26	6 OR 14 OR 18 OR 20 OR 22	7256376
27	25 AND 26	3265426
28	human.sh	17613440
29	animal.sh.	6343795
30	29 NOT 28	5214790
31	27 NOT 30	42369

Table S2. General information about the included RCTs. [BI: Brief Intervention; CM: Contingency Management; √: Marked as Available Data]

Author	Time of Pub.	Country	Study Arms	Interventional Application					Sample Size	Abstinent Rate	
				BI	CM	Pharmacotherapy	Psychotherapy	Control		Treatment Session	Follow-up Session
Addolorato	2002	Italy	2	√		√			39	√	
Addolorato	2007	Italy	2	√		√			84	√	
Agyapong	2013	Ireland	2	√				√	48	√	√
Ahmadi	2004	Iran	2	√		√			116	√	
Anton	1999	USA	2			√	√		131	√	
Anton	2001	USA	2			√	√		131	√	√
Anton	2004	USA	2			√	√		270	√	
Anton	2005	USA	4			√	√		160	√	
Anton	2006	USA	4			√	√	√	1226	√	
Anton	2008	USA	2			√	√		288	√	
Arnedt	2011	USA	2	√			√		17	√	
Atsushi	2014	Japan	4	√		√		√	109		√
Baker	2006	Australia	2	√			√		54	√	√
Balldin	2003	Sweden	4	√		√	√		118	√	
Baltieri	2003	Brazil	2	√		√			75	√	√
Baltieri	2004	Brazil	2			√		√	75	√	√
Baltieri	2008	Brazil	2	√		√			155	√	
Barnett	2017	USA	2		√			√	29	√	
Baumann	2015	Germany	2	√				√	629	√	
Bender	2006	Germany	2			√		√	299	√	
Bendtsen	2012	Sweden	2	√				√	2336	√	
Berner	2014	Germany	2			√	√		96	√	√
Blondell	2011	USA	2				√	√	138	√	
Carmody	2012	USA	2				√	√	162	√	√
Chang	1999	USA	2	√				√	250		√
Charney	2015	Canada	2			√	√		265	√	
Chick	2004	UK	2			√		√	492	√	
Cornelius	1997	USA	2	√		√			51	√	
Crits-Christoph	2010	USA	2	√				√	118	√	
Davis	2002	USA	2	√				√	84	√	
Dongier	1991	Canada	2			√		√	23	√	
Drummond	2017	UK	2	√			√		94	√	
Elder	2002	USA	2	√				√	630	√	
Fawcett	1987	USA	2			√		√	104	√	
Fertig	2012	USA	2	√		√			130	√	
Friedmann	2008	USA	2			√		√	173		√
Fuller	1979	USA	2	√		√			128	√	
Gallimberti	1992	Italy	2			√		√	71	√	
Garbutt	2010	USA	2			√		√	80	√	

Geshi	2007	Japan	2	√				√	71		√
GOTTLIEB	1994	USA	2	√		√			100	√	
Grønbæk	2007	Denmark	2	√		√	√		87		√
Gual	2003	Spain	2			√		√	83	√	
Guardia	2002	Spain	2	√		√			202	√	
Guardia	2004	Spain	2			√	√		60	√	
Gustafson	2014	USA	2	√				√	349	√	
Hagedorn	2013	USA	2		√		√		191	√	√
Haskins	2017	USA	2	√				√	212	√	
Hernandez-Avila	2004	USA	2	√		√			41	√	
Hien	2015	USA	2			√	√		69	√	√
Johnson	2007	USA	2			√	√		364	√	
Joos	2013	Belgium	2			√		√	83	√	√
Kabel	1996	USA	2			√		√	28	√	
Kampman	2007	USA	2			√	√		61	√	
Kay-Lambkin	2011	Australia	2	√			√		274	√	
Kelly	2014	Kenya	2	√				√	752	√	
Kimberly	2012	USA	2	√			√		117	√	
Kranzler	1995	USA	2			√		√	40	√	
Kranzler (2)	1995	USA	2			√	√		94	√	
Kranzler	2000	USA	2			√	√		183	√	
Kranzler	2004	USA	2			√	√		315	√	
LABRIE	2009	USA	2				√	√	285	√	√
Latt	2002	Australia	2	√		√			107	√	
Ledgerwood	2006	USA	2		√		√		142	√	
Liddle	2008	USA	2	√			√		224	√	√
Litt	2003	USA	2	√			√		128	√	√
Litt	2007	USA	3	√	√		√		195	√	√
Litten	2012	USA	2	√		√			215	√	
Litten	2013	USA	2	√		√			197	√	
Lucht	2014	Germany	2	√				√	80	√	
Malcolm	1992	USA	2			√		√	67	√	
Manning	2016	Australia	2	√			√		83	√	
Marra	2002	France	2	√		√			31	√	
MARTENS	2015	USA	2	√				√	325	√	
Mason	2006	USA	2	√		√			592	√	
Mcdonell	2013	USA	2		√		√		176	√	
Mcdonell	2017	USA	2		√		√		79	√	
McGrath	1996	USA	2	√		√			56	√	
Mckay	2005	USA	2	√			√		359	√	√
Miguel	2016	Brazil	2		√		√		65	√	
Miller	1981	USA	2	√			√		31	√	√

Mills	2012	Australia	2	√			√		103	√	√
Moore	2013	UK	2	√				√	554	√	
Morley	2006	Australia	2	√		√			94	√	
Morley	2014	Australia	2			√	√		42	√	
Morris	2001	Australia	2			√		√	71	√	
Mueller	1997	USA	2			√		√	27	√	
Müller	2015	Germany	2	√		√			56	√	√
Mundt	2006	USA	3	√				√	60	√	
Nadkarni	2017	India	2	√			√		336	√	
Nadkarni (2)	2017	India	2	√			√		316	√	
Namkoong	2003	South Korea	2			√	√		142	√	
Neto	2008	Portugal	2	√			√		209	√	
Niederhofer	2003	Austria	2			√		√	26	√	
O'Malley	1992	USA	3	√		√	√		104	√	
O'Malley	2007	Ireland	2			√	√		93	√	
O'Malley	2008	USA	2	√		√			101	√	
Oslin	1997	USA	2	√		√			44	√	
Oslin	2005	USA	2	√		√			74	√	
Paille	1995	France	2	√		√			438	√	√
PELC	1997	Belgium	2	√		√			188	√	
PELC	2005	France	2	√		√			100	√	
Petrakis	2006	USA	2			√	√		254	√	
Petry	2000	USA	2		√		√		42	√	
Petry	2011	USA	2		√		√		244	√	
Pettinati	2001	USA	2	√		√			100	√	
Pettinati	2008	USA	2			√	√		208	√	
Pettinati	2010	USA	2			√	√		170	√	
Pettinati	2014	USA	2			√	√		80	√	
Poldrugo	1997	Italy	2	√		√			246	√	√
Rash	2008	USA	2		√		√		208		√
Reback	2010	USA	2		√			√	131	√	√
Richter	2012	Germany	2			√		√	201	√	
Roll	2006	USA	2		√		√		113	√	
Saitz	2007	USA	2	√				√	287		√
Saitz	2013	USA	2	√			√		532	√	
Sass	1996	Germany	2	√		√			272	√	√
Schumacher	2003	UK	2		√		√		127	√	
Signor	2013	Brazil	2	√				√	147	√	
Sinadinovic	2014	Sweden	3	√			√	√	633	√	
Stein	2010	USA	2	√				√	245	√	
Stephanie	2003	USA	4	√		√	√		113	√	
Tempesta	2000	Italy	2	√		√			329	√	√

Tolliver	2012	USA	2			√		√	33	√	
Toneatto	2009	Canada	2			√	√		52	√	√
Upshur	2015	USA	2	√				√	76	√	
Utter	2014	USA	2	√				√	181	√	
Volpicelli	1992	Canada	2			√		√	70	√	
Volpicelli	1997	Canada	2	√		√			97	√	
Werch	1998	USA	2				√	√	211	√	√
Whitworth	1996	Austria	2			√		√	448	√	√
Wiesbeck	2001	Germany	2	√		√			281	√	√
Wildt	2002	Netherland	2	√		√	√		241	√	
Willenbring	1999	USA	2	√				√	75	√	
Winters	2012	USA	2	√			√	√	315	√	
Winters	2014	USA	2	√			√	√	280	√	
Wölwer	2011	Germany	3	√		√	√		371	√	√

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Table S3. Sensitivity Analysis: Pooled odds ratios and credible intervals of (*) the main analysis represents our main results and were also presented in Figure 3 in the main text; (a) "USA only" indicates the pooled estimation of data extracted from all USA papers; (b) Data were extracted from treatment and follow-up sessions lasting more than 12 weeks; (c) Trials of reporting discontinuous abstinence were excluded, and all the continuous abstinence data was pooled-estimated in the network meta-analysis. All the results of (a), (b) and (c) were used for comparison with the main analysis (*) to complete sensitivity analysis.

Intervention	Treatment session				Follow-up session			
	Main analysis(*)	USA only ^(a)	≥ 12 weeks ^(b)	Continuous abstinent ^(c)	Main analysis(*)	USA only ^(a)	≥ 12 weeks ^(b)	Continuous abstinent ^(c)
	Compare to BI							
CM	2.75 (0.31, 31.82)	1.23 (0.32, 4.53)	3.23 (0.38, 37.95)	2.70 (0.32, 31.34)	1.47 (0.24, 10.96)	1.85 (0.21, 17.65)	1.36 (0.21, 10.00)	1.53 (0.22, 11.54)
CM + Psychotherapy	4.06 (2.07, 8.18)	2.53 (1.45, 4.44)	3.70 (2.06, 6.51)	5.30 (2.88, 8.05)	0.81 (0.42, 1.52)	0.87 (0.38, 1.87)	0.52 (0.19, 1.45)	0.94 (0.46, 1.89)
Control	0.81 (0.59, 1.12)	0.81 (0.59, 1.09)	0.92 (0.67, 1.26)	0.78 (0.57, 1.07)	0.76 (0.46, 1.22)	0.95 (0.42, 2.04)	0.72 (0.40, 1.25)	0.81 (0.44, 1.46)
Pharmacotherapy	0.96 (0.64, 1.48)	1.08 (0.69, 1.70)	1.32 (0.87, 2.00)	0.92 (0.62, 1.36)	0.52 (0.26, 1.02)	0.49 (0.13, 1.74)	0.53 (0.25, 1.12)	0.50 (0.22, 1.09)
Pharmacotherapy + BI	1.87 (1.40, 2.49)	1.54 (1.08, 2.20)	2.01 (1.54, 2.62)	2.08 (1.65, 2.66)	0.53 (0.39, 0.74)	0.70 (0.33, 1.51)	0.50 (0.34, 0.74)	0.53 (0.38, 0.75)
Pharmacotherapy + Psychotherapy	1.43 (0.96, 2.22)	1.26 (0.87, 1.85)	1.41 (0.98, 2.08)	1.42 (0.98, 2.11)	0.48 (0.27, 0.84)	0.66 (0.27, 1.68)	0.51 (0.25, 1.06)	0.44 (0.21, 0.86)
Psychotherapy	1.23 (0.87, 1.76)	1.10 (0.80, 1.52)	1.14 (0.81, 1.59)	1.35 (0.98, 1.87)	0.75 (0.52, 1.06)	0.84 (0.53, 1.37)	0.80 (0.50, 1.29)	0.72 (0.49, 1.06)
Psychotherapy + BI	1.48 (0.79, 2.78)	1.72 (1.03, 2.95)	1.77 (0.89, 3.47)	1.08 (0.46, 2.52)	1.65 (0.71, 3.92)	1.39 (0.32, 6.03)	1.51 (0.58, 4.22)	1.42 (0.42, 4.85)
	Compare to CM							
CM + Psychotherapy	1.46 (0.12, 14.07)	2.05 (0.52, 8.66)	1.14 (0.10, 10.23)	2.70 (0.19, 27.80)	0.55 (0.07, 3.74)	0.47 (0.05, 4.46)	0.39 (0.04, 3.21)	0.62 (0.07, 4.75)
Control	0.30 (0.03, 2.59)	0.66 (0.18, 2.44)	0.29 (0.03, 2.32)	0.29 (0.03, 2.39)	0.52 (0.07, 3.05)	0.51 (0.06, 4.03)	0.53 (0.08, 3.21)	0.53 (0.07, 3.34)
Pharmacotherapy	0.35 (0.03, 3.13)	0.89 (0.24, 3.41)	0.41 (0.04, 3.44)	0.34 (0.03, 2.80)	0.35 (0.05, 2.18)	0.26 (0.03, 2.58)	0.40 (0.05, 2.65)	0.32 (0.04, 2.28)
Pharmacotherapy + BI	0.68 (0.06, 5.98)	1.25 (0.33, 4.95)	0.62 (0.05, 5.24)	0.77 (0.07, 6.60)	0.36 (0.05, 2.30)	0.38 (0.04, 3.78)	0.37 (0.05, 2.52)	0.35 (0.04, 2.53)
Pharmacotherapy + Psychotherapy	0.51 (0.04, 4.78)	1.03 (0.28, 4.00)	0.44 (0.04, 3.76)	0.53 (0.04, 4.58)	0.33 (0.04, 2.17)	0.36 (0.03, 3.71)	0.38 (0.04, 2.81)	0.28 (0.03, 2.21)
Psychotherapy	0.44 (0.04, 3.99)	0.90 (0.24, 3.48)	0.35 (0.03, 2.95)	0.50 (0.04, 4.31)	0.51 (0.07, 3.19)	0.46 (0.05, 4.09)	0.59 (0.08, 4.09)	0.47 (0.06, 3.30)
Psychotherapy + BI	0.54 (0.04, 5.09)	1.40 (0.35, 5.75)	0.55 (0.04, 5.03)	0.39 (0.03, 4.04)	1.12 (0.14, 8.60)	0.76 (0.05, 10.65)	1.11 (0.12, 9.76)	0.91 (0.09, 9.28)
	Compare to CM + Psychotherapy							
Control	0.20 (0.10, 0.40)	0.32 (0.18, 0.57)	0.25 (0.13, 0.46)	0.11 (0.04, 0.28)	0.93 (0.44, 2.05)	1.09 (0.38, 3.07)	1.38 (0.44, 4.35)	0.87 (0.35, 2.10)
Pharmacotherapy	0.24 (0.11, 0.48)	0.43 (0.22, 0.82)	0.36 (0.19, 0.69)	0.13 (0.05, 0.33)	0.63 (0.26, 1.63)	0.57 (0.13, 2.37)	1.02 (0.31, 3.64)	0.53 (0.19, 1.52)
Pharmacotherapy + BI	0.46 (0.22, 0.95)	0.61 (0.32, 1.17)	0.54 (0.30, 1.02)	0.29 (0.11, 0.74)	0.65 (0.33, 1.35)	0.81 (0.28, 2.57)	0.96 (0.33, 2.77)	0.56 (0.26, 1.22)

Pharmacotherapy + Psychotherapy	0.35 (0.18, 0.68)	0.50 (0.29, 0.86)	0.38 (0.22, 0.67)	0.20 (0.08, 0.48)		0.59 (0.28, 1.29)	0.76 (0.27, 2.24)	0.97 (0.30, 3.19)	0.46 (0.18, 1.15)
Psychotherapy	0.30 (0.17, 0.54)	0.44 (0.27, 0.70)	0.31 (0.19, 0.50)	0.19 (0.08, 0.44)		0.93 (0.51, 1.68)	0.97 (0.48, 2.00)	1.52 (0.58, 4.24)	0.76 (0.39, 1.53)
Psychotherapy + BI	0.37 (0.14, 0.90)	0.69 (0.33, 1.44)	0.48 (0.20, 1.16)	0.15 (0.04, 0.53)		2.04 (0.71, 6.05)	1.60 (0.30, 8.81)	2.87 (0.70, 13.32)	1.52 (0.37, 6.09)
	Compare to Control								
Pharmacotherapy	1.18 (0.88, 1.60)	1.35 (0.91, 1.98)	1.43 (1.05, 1.97)	1.17 (0.87, 1.61)		0.68 (0.40, 1.16)	0.52 (0.18, 1.44)	0.74 (0.41, 1.36)	0.61 (0.32, 1.17)
Pharmacotherapy + BI	2.30 (1.51, 3.51)	1.91 (1.21, 3.03)	2.18 (1.46, 3.27)	2.66 (1.83, 3.93)		0.70 (0.40, 1.26)	0.74 (0.25, 2.30)	0.70 (0.38, 1.35)	0.65 (0.34, 1.27)
Pharmacotherapy + Psychotherapy	1.76 (1.17, 2.73)	1.57 (1.04, 2.32)	1.54 (1.03, 2.36)	1.82 (1.21, 2.78)		0.63 (0.32, 1.31)	0.70 (0.23, 2.20)	0.70 (0.30, 1.72)	0.53 (0.22, 1.29)
Psychotherapy	1.51 (1.04, 2.21)	1.36 (0.95, 1.95)	1.23 (0.85, 1.83)	1.72 (1.18, 2.55)		0.99 (0.57, 1.70)	0.89 (0.41, 1.99)	1.11 (0.58, 2.18)	0.88 (0.45, 1.71)
Psychotherapy + BI	1.82 (0.90, 3.71)	2.14 (1.24, 3.76)	1.91 (0.95, 3.91)	1.37 (0.56, 3.41)		2.18 (0.84, 6.01)	1.47 (0.28, 7.91)	2.09 (0.70, 6.97)	1.74 (0.45, 6.95)
	Compare to Pharmacotherapy								
Pharmacotherapy + BI	1.95 (1.18, 3.18)	1.42 (0.80, 2.49)	1.52 (0.94, 2.48)	2.26 (1.47, 3.50)		1.02 (0.50, 2.14)	1.42 (0.34, 6.85)	0.94 (0.42, 2.10)	1.06 (0.47, 2.45)
Pharmacotherapy + Psychotherapy	1.49 (0.97, 2.34)	1.16 (0.74, 1.87)	1.08 (0.69, 1.69)	1.54 (1.01, 2.41)		0.93 (0.40, 2.21)	1.35 (0.30, 6.47)	0.96 (0.35, 2.60)	0.87 (0.31, 2.39)
Psychotherapy	1.27 (0.84, 1.96)	1.01 (0.65, 1.61)	0.86 (0.55, 1.33)	1.46 (0.98, 2.21)		1.44 (0.70, 3.01)	1.71 (0.48, 6.55)	1.49 (0.65, 3.49)	1.45 (0.61, 3.37)
Psychotherapy + BI	1.54 (0.72, 3.28)	1.59 (0.82, 3.06)	1.34 (0.63, 2.85)	1.17 (0.46, 2.94)		3.20 (1.08, 9.55)	2.85 (0.40, 21.44)	2.81 (0.84, 10.05)	2.88 (0.68, 12.59)
	Compare to Pharmacotherapy + BI								
Pharmacotherapy + Psychotherapy	0.76 (0.47, 1.28)	0.82 (0.49, 1.35)	0.71 (0.46, 1.08)	0.68 (0.45, 1.06)		0.91 (0.50, 1.63)	0.95 (0.29, 3.01)	1.01 (0.48, 2.14)	0.83 (0.38, 1.66)
Psychotherapy	0.66 (0.42, 1.03)	0.71 (0.45, 1.13)	0.57 (0.38, 0.84)	0.65 (0.44, 0.96)		1.41 (0.90, 2.20)	1.21 (0.48, 2.92)	1.59 (0.92, 2.76)	1.36 (0.84, 2.18)
Psychotherapy + BI	0.79 (0.40, 1.58)	1.11 (0.61, 2.08)	0.88 (0.43, 1.84)	0.52 (0.21, 1.25)		3.13 (1.26, 7.74)	1.98 (0.38, 10.36)	2.99 (1.06, 9.13)	2.67 (0.77, 9.60)
	Compare to Pharmacotherapy + Psychotherapy								
Psychotherapy	0.86 (0.63, 1.14)	0.87 (0.65, 1.15)	0.80 (0.61, 1.04)	0.95 (0.71, 1.25)		1.56 (0.94, 2.56)	1.27 (0.58, 2.81)	1.56 (0.85, 2.91)	1.65 (0.89, 3.22)
Psychotherapy + BI	1.03 (0.48, 2.19)	1.36 (0.74, 2.52)	1.25 (0.58, 2.65)	0.75 (0.30, 1.89)		3.47 (1.26, 9.52)	2.11 (0.36, 11.65)	2.96 (0.87, 10.59)	3.29 (0.83, 13.85)
	Compare to Psychotherapy								
Psychotherapy + BI	1.20 (0.58, 2.46)	1.57 (0.87, 2.82)	1.55 (0.75, 3.25)	0.79 (0.32, 2.00)		2.22 (0.89, 5.63)	1.67 (0.35, 7.70)	1.90 (0.65, 6.00)	1.98 (0.56, 7.14)

Table S4. Pairwise meta-analysis of different interventions versus controls regarding treatment sessions and follow-up sessions. The effects of overall and each intervention regarding treatment sessions and follow-up sessions were presented. [OR: odds ratio; CI: credible intervals].

	Intervention	No. of reports	Data Synthesis		
			OR (95% CI)	I-squared	P value
Treatment session	Overall				
	Intervention vs. Control	60	1.260 (1.091, 1.455)	67.30%	0.002
	Subgroup				
	Pharmacotherapy + Psychotherapy vs. Control	2	1.178 (1.002, 1.386)	15.30%	0.048
	Psychotherapy vs. Control	5	1.052 (0.907, 1.220)	22.70%	0.501
	Pharmacotherapy vs. Control	27	1.074 (1.002, 1.152)	47.70%	0.045
	CM vs. Control	2	1.306 (1.048, 1.627)	81.90%	0.017
	BI vs. Control	22	1.064 (1.003, 1.128)	78.60%	0.038
	Psychotherapy + BI vs. Control	2	1.500 (1.055, 2.133)	29.00%	0.024
Follow-up session	Overall				
	Intervention vs. Control	16	1.252 (1.012, 1.550)	12.20%	0.039
	Subgroup				
	BI vs. Control	5	1.062 (0.928, 1.216)	43.50%	0.381
	Pharmacotherapy + BI vs. Control	1	—	—	—
	Pharmacotherapy vs. Control	6	1.442 (1.094, 1.900)	0.00%	0.009
	Psychotherapy vs. Control	3	0.967 (0.552, 1.693)	0.00%	0.906
	CM vs. Control	1	—	—	—

Table S5. Pairwise meta-analysis of best rank intervention versus other interventions. Data of best rank intervention of treatment session (CM + psychotherapy) and follow-up session (pharmacotherapy + psychotherapy) were pooled-estimated. The effects of overall and each intervention were presented [OR: odds ratios; CI: credible intervals].

	Intervention	No. of reports	Data Synthesis		
			OR (95% CI)	I-squared	P value
Treatment session	Overall				
	CM + Psychotherapy vs. Other Interventions	11	2.191 (1.290, 3.720)	70.70%	0.004
	Subgroup				
	CM + Psychotherapy vs. BI	1	—	—	—
	CM + Psychotherapy vs. Psychotherapy	10	2.277 (1.271, 4.081)	73.60%	0.006
Follow-up session	Overall				
	Pharmacotherapy + Psychotherapy vs. Other Interventions	9	1.409 (1.079, 1.840)	0.00%	0.012
	Subgroup				
	Pharmacotherapy + Psychotherapy vs. Pharmacotherapy	1	—	—	—
	Pharmacotherapy + Psychotherapy vs. Pharmacotherapy + BI	2	1.302 (0.830, 2.041)	0.00%	0.251
	Pharmacotherapy + Psychotherapy vs. Psychotherapy	6	1.410 (1.005, 1.978)	0.00%	0.046

Table S6. A node-splitting model was used to test the direct and indirect effects. Potential inconsistency may exist if P-value < 0.05 and indicates results' lack of robustness.

Treatment session					Follow-up session				
Comparison	Direct Effect	Indirect Effect	Overall	P-Value	Comparison	Direct Effect	Indirect Effect	Overall	P-Value
BI vs. CM + Psychotherapy	0.42 (-0.95, 1.78)	1.77 (1.02, 2.56)	1.39 (0.74, 2.08)	0.07	BI vs. CM + Psychotherapy	0.39 (-0.47, 1.27)	0.11 (-0.88, 1.12)	0.21 (-0.42, 0.86)	0.66
BI vs. Control	-0.36 (-0.72, 0.00)	0.27 (-0.36, 0.91)	-0.20 (-0.52, 0.11)	0.07	BI vs. Control	0.03 (-0.52, 0.61)	0.77 (-0.06, 1.61)	0.27 (-0.20, 0.78)	0.15
BI vs. Pharmacotherapy + BI	0.64 (0.34, 0.93)	6.92E62 (-4.86E62, 7.86E62)	0.63 (0.34, 0.91)	0.86	BI vs. Pharmacotherapy	0.67 (-0.71, 2.11)	0.65 (-0.11, 1.44)	0.66 (-0.02, 1.34)	0.98
BI vs. Pharmacotherapy + Psychotherapy	1.26 (-0.16, 2.64)	0.26 (-0.15, 0.70)	0.36 (-0.05, 0.79)	0.17	BI vs. Pharmacotherapy + BI	0.71 (0.37, 1.05)	0.20 (-0.77, 1.13)	0.63 (0.30, 0.95)	0.29
BI vs. Psychotherapy	0.39 (-0.03, 0.81)	-0.12 (-0.67, 0.43)	0.20 (-0.14, 0.56)	0.13	BI vs. Psychotherapy	0.30 (-0.13, 0.72)	0.31 (-0.33, 0.92)	0.29 (-0.06, 0.65)	0.99
BI vs. Psychotherapy + BI	0.38 (-0.23, 1.00)	1.79E62 (-2.55E62, 7.78E62)	0.40 (-0.22, 1.01)	0.68	Control vs. Pharmacotherapy + BI	-0.29 (-1.71, 1.08)	0.46 (-0.16, 1.05)	0.36 (-0.23, 0.91)	0.31
Control vs. Pharmacotherapy	0.19 (-0.11, 0.49)	-0.24 (-1.37, 0.03)	0.16 (-0.13, 0.47)	0.13	Control vs. Psychotherapy	-0.64 (-1.63, 0.33)	0.30 (-0.35, 0.92)	0.01 (-0.53, 0.56)	0.12
Control vs. Pharmacotherapy + Psychotherapy	0.14 (-0.62, 0.93)	0.72 (0.26, 1.22)	0.56 (0.15, 1.00)	0.21	Pharmacotherapy vs. Pharmacotherapy + BI	-0.53 (-1.94, 0.88)	0.10 (-0.68, 0.85)	-0.02 (-0.76, 0.69)	0.41
Control vs. Psychotherapy	-0.10 (-0.76, 0.56)	0.60 (0.16, 1.04)	0.40 (0.04, 0.78)	0.08	Pharmacotherapy + BI vs. Pharmacotherapy + Psychotherapy	0.29 (-0.58, 1.14)	-0.01 (-0.81, 0.77)	0.10 (-0.49, 0.69)	0.61
Control vs. Psychotherapy + BI	1.13E62 (-3.33E62, 1.31E62)	0.59 (-0.10, 1.31)	0.60 (-0.09, 1.28)	0.62	Pharmacotherapy + BI vs. Psychotherapy	-0.02 (-1.15, 1.12)	-0.40 (-0.87, 0.08)	-0.34 (-0.79, 0.11)	0.52
Pharmacotherapy vs. Pharmacotherapy + BI	-4.48E62 (-1.09E62, 8.7E62)	0.67 (0.18, 1.16)	0.66 (0.16, 1.15)	0.61	Pharmacotherapy + Psychotherapy vs. Psychotherapy	-0.33 (-0.87, 0.23)	-0.80 (-1.80, 0.17)	-0.45 (-0.94, 0.06)	0.37
Pharmacotherapy vs. Pharmacotherapy + Psychotherapy	0.41 (-0.21, 1.07)	0.30 (-0.28, 0.89)	0.39 (-0.04, 0.85)	0.80					

Pharmacotherapy vs. Psychotherapy	-0.18 (-0.96, 0.61)	0.31 (-0.16, 0.77)	0.24 (-0.19, 0.67)	0.29	
Pharmacotherapy + BI vs. Pharmacotherapy + Psychotherapy	0.66 (-0.65, 2.05)	-0.39 (-0.89, 0.13)	-0.27 (-0.76, 0.25)	0.14	
Pharmacotherapy + BI vs. Psychotherapy	-0.42 (-1.97, 1.04)	-0.43 (-0.87, 0.03)	-0.42 (-0.86, 0.03)	0.99	
Pharmacotherapy + BI vs. Psychotherapy + BI	3.56E62 (-1.64E62, 6.73E62)	-0.24 (-0.91, 0.46)	-0.23 (-0.90, 0.45)	0.33	
Pharmacotherapy + Psychotherapy vs. Psychotherapy	-0.10 (-0.40, 0.20)	-0.28 (-1.04, 0.46)	-0.16 (-0.46, 0.14)	0.65	
Pharmacotherapy + Psychotherapy vs. Psychotherapy + BI	5.55E62 (-6.13E62, 1.22E62)	0.01 (-0.74, 0.77)	0.04 (-0.72, 0.75)	0.99	

Table S7. Overall GRADE quality of evidence. The quality was rated by direct comparison and indirect estimation. Higher ratings were assigned to network meta-analysis estimates if the ratings were coherent between direct and indirect comparisons.

Outcomes	Comparison		Quality of the evidence (Treatment Session)	Quality of the evidence (Follow-up Session)
Abstinent Rate	BI	CM	⊕	⊕
		CM + Psychotherapy	⊕	⊕
		Control	⊕ ⊕ ⊕ ⊕	⊕ ⊕ ⊕ ⊕
		Pharmacotherapy	⊕ ⊕	⊕ ⊕
		Pharmacotherapy + BI	⊕ ⊕ ⊕ ⊕	⊕ ⊕ ⊕
		Pharmacotherapy + Psychotherapy	⊕ ⊕ ⊕	⊕ ⊕
		Psychotherapy	⊕ ⊕ ⊕	⊕ ⊕ ⊕
		Psychotherapy + BI	⊕ ⊕	⊕ ⊕
	CM	CM + Psychotherapy	⊕	⊕
		Control	⊕	⊕
		Pharmacotherapy	⊕ ⊕	⊕ ⊕
		Pharmacotherapy + BI	⊕ ⊕	⊕
		Pharmacotherapy + Psychotherapy	⊕ ⊕	⊕ ⊕
		Psychotherapy	⊕ ⊕	⊕ ⊕
		Psychotherapy + BI	⊕ ⊕	⊕ ⊕
	CM + Psychotherapy	Control	⊕ ⊕	⊕
		Pharmacotherapy	⊕	⊕
		Pharmacotherapy + BI	⊕ ⊕	⊕
		Pharmacotherapy + Psychotherapy	⊕ ⊕ ⊕	⊕ ⊕
		Psychotherapy	⊕ ⊕ ⊕	⊕ ⊕ ⊕
		Psychotherapy + BI	⊕ ⊕ ⊕	⊕ ⊕
Control	Pharmacotherapy	⊕ ⊕ ⊕ ⊕	⊕ ⊕ ⊕	
	Pharmacotherapy + BI	⊕ ⊕ ⊕	⊕	

		Pharmacotherapy + Psychotherapy	⊕ ⊕ ⊕	⊕ ⊕ ⊕
		Psychotherapy	⊕ ⊕	⊕
		Psychotherapy + BI	⊕ ⊕ ⊕	⊕ ⊕
	Pharmacotherapy	Pharmacotherapy + BI	⊕ ⊕ ⊕	⊕ ⊕
		Pharmacotherapy + Psychotherapy	⊕ ⊕ ⊕	⊕ ⊕
		Psychotherapy	⊕	⊕ ⊕
		Psychotherapy + BI	⊕ ⊕ ⊕	⊕ ⊕
	Pharmacotherapy + BI	Pharmacotherapy + Psychotherapy	⊕ ⊕ ⊕	⊕ ⊕
		Psychotherapy	⊕ ⊕ ⊕	⊕ ⊕
		Psychotherapy + BI	⊕ ⊕ ⊕	⊕ ⊕
	Pharmacotherapy + Psychotherapy	Psychotherapy	⊕ ⊕ ⊕ ⊕	⊕ ⊕ ⊕
		Psychotherapy + BI	⊕ ⊕ ⊕	⊕ ⊕
	Psychotherapy	Psychotherapy + BI	⊕	⊕

GRADE Working Group grades of evidence

High quality (⊕ ⊕ ⊕ ⊕): Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality (⊕ ⊕ ⊕): Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality (⊕ ⊕): Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality (⊕): We are very uncertain about the estimate.