

Supplemental Material 4

Unique ID	1_chen_2022	Study ID	1	Assessor	NTM
Ref or Label	Chen et al. (2022)	Aim	assignment to intervention (the 'intention-to-treat' effect)		
Experimental	ApBM	Comparator	Sham	Source	Journal article(s); Non-commercial trial registry record (e.g. ClinicalTrials.gov record)
Outcome	Relapse rate at FU-6	Results	$\chi^2 (1, 105) = 1.36, p = 0.24$	Weight	1.57
Domain	Signalling question			Response	Comments
Bias arising from the randomization process	1.1 Was the allocation sequence random?			PY	It is stated that the trial is randomised, but
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?			NI	additional information on sequencing and blinding
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?			N	No support for differences in characteristics at baseline
	Risk of bias judgement			Some concerns	It is stated that the trial is randomised, but additional information on sequencing and blinding is scarceNo support for differences in characteristics at baseline
Bias due to deviations from intended interventions	2.1 Were participants aware of their assigned intervention during the trial?			PN	No information on patients' awareness of their group status is present and no information
	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?			NI	
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?			PN	No information is provided on deviations from intended intervention, however, no evidence to support that there were deviations
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?			NA	
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?			NA	
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?			Y	ITT with all participants including missing data were conducted
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to			NA	
	Risk of bias judgement			Low	No information on patients' awareness of their group status is present and no information blinding eitherNo information is provided on deviations from intended intervention, however, no evidence to support that there were deviationsITT with all participants including missing data were conducted
Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomized?			N	Almost half (n = 48) of the participants were missing (n = 105)
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?			PN	Missing participants were coded as relapsers, but no other analyses were carried out to correct for bias
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?			PY	There were no specifications of reasons for drop-outs in the experimental and sham group
	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?			PN	
	Risk of bias judgement			Some concerns	Almost half (n = 48) of the participants were missing (n = 105)Missing participants were coded as relapsers, but no other analyses were carried out to correct for biasThere were no specifications of reasons for drop-outs in the experimental and sham group separately. However, it was not likely that the missing data depended on the participants' health characteristics as the number of drop-outs were close to equal across the two groups
Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?			N	The classification of relapsers and abstainers were acceptable
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?			PN	There were no differences between measurement of abstinence across the two groups
	4.3 Were outcome assessors aware of the intervention received by study participants?			PN	Both assessors and participants were blinded, and no evidence of participants (self-reported drinking) were aware of their received intervention
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?			NA	
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?			NA	
	Risk of bias judgement			Low	The classification of relapsers and abstainers were acceptableThere were no differences between measurement of abstinence across the two groupsBoth assessors and participants were blinded, and no evidence of participants (self-reported drinking) were aware of their received intervention
Bias in selection of the reported result	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?			Y	A trial registration is present with the planned outcome measurements
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?			PN	No deviations between the prespecified and reported outcome measurements
	5.3 ... multiple eligible analyses of the data?			PN	There were no specifications of analyses plan in advance, but the analysis of the outcome data is sufficient and it is unlikely that other analyses were selectively omitted
	Risk of bias judgement			Low	A trial registration is present with the planned outcome measurementsNo deviations between the prespecified and reported outcome measurementsThere were no specifications of analyses plan in advance, but the analysis of the outcome data is sufficient and it is unlikely that other analyses were selectively omitted
Overall bias	Risk of bias judgement			Some concerns	Overall, some concerns are present due to the lack of sufficient details in the manuscript and the prespecified protocol, and a lack of adequate analyses of missing outcome data

Unique ID	2b_uyl_2018	Study ID	2b	Assessor	NTM
Ref or Label	Chen et al. (2022)	Aim	assignment to intervention (the 'intention-to-treat' effect)		
Experimental	AtBM + sham tDCS	Comparator	Sham AtBM + sham tDCS	Source	Journal article(s); Non-commercial trial registry record (e.g. ClinicalTrials.gov record)
Outcome	Relapse rate at FU-12	Results	$\chi^2 (3) = 2.10, p = 0.55$	Weight	0.91
Domain	Signalling question			Response	Comments
Bias arising from the randomization process	1.1 Was the allocation sequence random?			Y	Used covert randomisation list in Excel
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?			Y	
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?			N	No significant differences at baseline
	Risk of bias judgement			Low	Used covert randomisation list in ExcelNo significant differences at baseline

Bias due to deviations from intended interventions	2.1. Were participants aware of their assigned intervention during the trial?	N	In the supplementary material an assessment of blinding was conducted, and no significant
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	PN	
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	NA	
	2.4. If Y/PY to 2.3: Were these deviations likely to have affected the outcome?	NA	
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?	NA	
	2.6. Was an appropriate analysis used to estimate the effect of assignment to intervention?	Y	
	2.7. If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to	NA	
	Risk of bias judgement	Low	In the supplementary material an assessment of blinding was conducted, and no significant differences were found between the groups. For clinicians, no detailed information is provided other than they were blinded. They analysed all available participant data
Bias due to missing outcome data	3.1. Were data for this outcome available for all, or nearly all, participants randomized?	PN	Almost half of the participant data was missing at FU-12 No appropriate analyses were present in the study The missing outcome data could have been related to the health state/relapse status of the participants, and the proportion of missing participant data was higher in the experimental group compared to the sham group. No other evidence is present to support the missing data depended on participant's health/relapse status
	3.2. If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	PN	
	3.3. If N/PN to 3.2: Could missingness in the outcome depend on its true value?	PY	
	3.4. If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	PN	
	Risk of bias judgement	Some concerns	
Bias in measurement of the outcome	4.1. Was the method of measuring the outcome inappropriate?	PN	Although no biomarkers were included, relapse status was defined and assessed appropriately No evidence of the measurement being different between the groups Probably not, as they were blinded as well. This is, however, not entirely specified Although no biomarkers were included, relapse status was defined and assessed appropriately No evidence of the measurement being different between the groups Probably not, as they were blinded as well. This is, however, not entirely specified
	4.2. Could measurement or ascertainment of the outcome have differed between intervention groups?	N	
	4.3. Were outcome assessors aware of the intervention received by study participants?	PN	
	4.4. If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	NA	
	4.5. If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	NA	
	Risk of bias judgement	Low	
Bias in selection of the reported result	5.1. Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	PY	Although this is confusing, as the authors have not preregistered it as a primary outcome, they do provide reasons for this omission There is no evidence to support that they selected among multiple eligible outcome measurements No support for selection from multiple eligible analyses Although this is confusing, as the authors have not preregistered it as a primary outcome, they do provide reasons for this omission There is no evidence to support that they selected among multiple eligible outcome measurements No support for selection from multiple eligible analyses
	5.2. ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	PN	
	5.3. ... multiple eligible analyses of the data?	PN	
	Risk of bias judgement	Low	
Overall bias	Risk of bias judgement	Some concerns	Overall, the study has some limitations which are mainly based on the inadequate handling of missing outcome data

Unique ID	3e_dubuson_2021	Study ID	3e	Assessor	NTM
Ref or Label	Dubuson et al. (2021)	Aim	assignment to intervention (the 'intention-to-treat' effect)		
Experimental	ItBM + sham tDCS	Comparator	Sham ItBM + sham tDCS	Source	Journal article(s); Non-commercial trial registry record (e.g. ClinicalTrials.gov record)
Outcome	Relapse rate at FU-12	Results	lnOR = 0.16, SE = 0.60 (OR = 1.17, p = .79)	Weight	1.23
Domain	Signalling question			Response	Comments
Bias arising from the randomization process	1.1 Was the allocation sequence random?			PY	They state that a computer program was used to generate a random sequence. No baseline differences were present between the groups
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?			PY	
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?			PN	
	Risk of bias judgement			Low	They state that a computer program was used to generate a random sequence. No baseline differences were present between the groups
Bias due to deviations from intended interventions	2.1. Were participants aware of their assigned intervention during the trial?			PN	It is stated that the participants were blinded, but other information is scarce. Experimenters were No information on deviations from intended intervention ITT-analysis was performed in terms of classifying missing participants as relapsers, but no other analyses such as sensitivity analysis were conducted. Only participants completing post-evaluation were included, thus the relapsers and other drop-outs allocated to the interventions, were not included
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?			Y	
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?			PN	
	2.4. If Y/PY to 2.3: Were these deviations likely to have affected the outcome?			NA	
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?			NA	
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?			PY	
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to			NA	

	Risk of bias judgement	Low	It is stated that the participants were blinded, but other information is scarce. Experimenters were aware of the interventions given to each participantsNo information on deviations from intended interventionITT-analysis was performed in terms of classifying missing participants as relapsers, but no other analyses such as sensitivity analysis were conducted. Only participants completing post-evaluation were included, thus the relapsers and other drop-outs allocated to the interventions, were not includedThe missing participants were included as relapsers, and there is no evidence that the excluded participants randomised prior to the intervention, would have had an impact on the results
Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomized?	PN	An attrition of nearly 20 % in both groups, and no reasons for drop-outs during follow-up
	3.2 If N/PN/Ni to 3.1: Is there evidence that result was not biased by missing outcome data?	PN	No analyses correcting for bias or sensitivity analyses were conducted
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	PY	Yes, the missing participants could have dropped out due to relapse, However, no evidence of that
	3.4 If Y/PY/Ni to 3.3: Is it likely that missingness in the outcome depended on its true value?	PN	An attrition of nearly 20 % in both groups, and no reasons for drop-outs during follow-upNo analyses correcting for bias or sensitivity analyses were conductedYes, the missing participants could have dropped out due to relapse, However, no evidence of that the missingness differs substantially between the two groups nor that the patients dropped out during follow-up was due to relapse
	Risk of bias judgement	Some concerns	
Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	N	A phone call was scheduled to gather information on follow-up status, and a researcher blind to the intervention oversaw the follow-up interviews.
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	PN	No differences in diagnostic or the follow-up process was present between the two groups
	4.3 Were outcome assessors aware of the intervention received by study participants?	PN	Some of the researchers were not blinded, but the researcher overlooking the follow-up interviews were blinded
	4.4 If Y/PY/Ni to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	NA	
	4.5 If Y/PY/Ni to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	NA	
	Risk of bias judgement	Low	A phone call was scheduled to gather information on follow-up status, and a researcher blind to the intervention oversaw the follow-up interviews.No differences in diagnostic or the follow-up process was present between the two groupsSome of the researchers were not blinded, but the researcher overlooking the follow-up interviews were blindedYes, it could have been influenced by the researchers, as they were not blinded. As the relapse status is based on self-reported measures, and that the patients were not able to guess their intervention, it is not deemed likely that the assessment was influenced by knowledge of the intervention
Bias in selection of the reported result	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	Y	Yes, the preregistered trial specified the analysis of the outcome data
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	PN	No evidence of multiple eligible outcome measures
	5.3 ... multiple eligible analyses of the data?	PN	Although information is scarce on analyses in the preregistered trial, it is not deemed likely that multiple analyses were pre-specified and discarded during the analyses of the data
	Risk of bias judgement	Low	Yes, the preregistered trial specified the analysis of the outcome dataNo evidence of multiple eligible outcome measuresAlthough information is scarce on analyses in the preregistered trial, it is not deemed likely that multiple analyses were pre-specified and discarded during the analyses of the data
Overall bias	Risk of bias judgement	Some concerns	They state that a computer program was used to generate a random sequence. No baseline differences were present between the groupsIt is stated that the participants were blinded, but other information is scarce. Experimenters were aware of the interventions given to each participantsNo information on deviations from intended interventionITT-analysis was performed in terms of classifying missing participants as relapsers, but no other analyses such as sensitivity analysis were conducted. Only participants completing post-evaluation were included, thus the relapsers and other drop-outs allocated to the interventions, were not includedThe missing participants were included as relapsers, and there is no evidence that the excluded participants randomised prior to the intervention, would have had an impact on the resultsAn attrition of nearly 20 % in both groups, and no reasons for drop-outs during follow-upNo analyses correcting for bias or sensitivity analyses were conductedYes, the missing participants could have dropped out due to relapse, However, no evidence of that the missingness differs substantially between the two groups nor that the patients dropped out during follow-up was due to relapseA phone call was

Unique ID	4_eberl_2013	Study ID	4	Assessor	NTM
------------------	--------------	-----------------	---	-----------------	-----

Ref or Label	Eberl et al. (2013)	Aim	assignment to intervention (the 'intention-to-treat' effect)		
Experimental	AtBM	Comparator	TAU	Source	Journal article(s)
Outcome	Abstinence rate at FU-12	Results	$\chi^2(1) = 3.42, p = .039$	Weight	10.5
Domain	Signalling question			Response	Comments
Bias arising from the randomization process	1.1 Was the allocation sequence random?		PY		No information on randomization procedure, but given the research group it is deemed unlikely
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?		NI		Baseline characteristics were not reported in the study
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?		NI		No information on randomization procedure, but given the research group it is deemed unlikely that the allocation was not random. Concealment was probably also conducted, but due to the nature of the study, blinding of participants was not possible
	Risk of bias judgement		Some concerns		Baseline characteristics were not reported in the study
Bias due to deviations from intended interventions	2.1 Were participants aware of their assigned intervention during the trial?		PY		Although not explicitly addressed, the nature of the study, where the control group only received
	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?		PY		No evidence of deviations from the intended intervention
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?		PN		ITT-analyses were conducted including all participants, who completed the post-treatment
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?		NA		
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?		NA		
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?		PY		
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to		NA		
Bias due to missing outcome data	Risk of bias judgement		Low		Although not explicitly addressed, the nature of the study, where the control group only received TAU, the participants would probably become aware of their assigned intervention. The same would apply for the researchers assessing the participants
	3.1 Were data for this outcome available for all, or nearly all, participants randomized?		PN		No evidence of deviations from the intended intervention
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?		PN		ITT-analyses were conducted including all participants, who completed the post-treatment
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?		PY		
	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?		NI		
Bias in measurement of the outcome	Risk of bias judgement		High		There was an attrition of 30% for all randomized participants, and looking only at the participants completing post-treatment, the attrition is still 25%. The follow-up rates for each group are not reported
	4.1 Was the method of measuring the outcome inappropriate?		PN		There is no evidence of analyses correcting for bias or sensitivity analyses in the study
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?		PN		The missing outcome data at follow-up could well be a result of worsening of the participant's
	4.3 Were outcome assessors aware of the intervention received by study participants?		PY		There was an attrition of 30% for all randomized participants, and looking only at the participants completing post-treatment, the attrition is still 25%. The follow-up rates for each group are not reported
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?		PY		There is no evidence of analyses correcting for bias or sensitivity analyses in the study
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?		NI		The missing outcome data at follow-up could well be a result of worsening of the participant's status. As the follow-up rate is not reported per group, it is difficult to judge whether more relapsers (less with successful outcome) would have occurred in the TAU group due to a higher drop-out rate
Bias in selection of the reported result	Risk of bias judgement		High		The assessment of abstinence was conducted via questionnaires and phone calls
	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?		NI		It is not likely as the participants were all contacted online or by phone calls
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?		NI		The assessors are not blinded and it is easy to identify the control group, as they only received TAU
	5.3 ... multiple eligible analyses of the data?		NI		The assessors are not blinded and it is easy to identify the control group, as they only received TAU
Bias in selection of the reported result	Risk of bias judgement		Some concerns		The assessment of the outcome could have been influenced by the participant's awareness of their received intervention as well as the assessors knowledge of the interventions assigned. The nature of the study would deem it likely that the participants awareness of their assigned intervention could have affected the outcome, but there is no explicit information on which information the participants received nor if they were aware of the interventions
					It was not possible to identify a pre-registered protocol nor trial registration. Given the research group, it is not likely that the analyses conducted would diverge from a pre-specified analysis plan
Bias in selection of the reported result					Not possible to know whether multiple outcome measures were pre-specified, but it is not deemed likely
					Not possible to know whether multiple analyses were pre-specified, but it is not deemed likely
					Not possible to know whether multiple analyses were pre-specified, but it is not deemed likely
Bias in selection of the reported result	Risk of bias judgement		Some concerns		It was not possible to identify a pre-registered protocol nor trial registration. Given the research group, it is not likely that the analyses conducted would diverge from a pre-specified analysis plan
					Not possible to know whether multiple outcome measures were pre-specified, but it is not deemed likely
Bias in selection of the reported result					Not possible to know whether multiple analyses were pre-specified, but it is not deemed likely
					Not possible to know whether multiple analyses were pre-specified, but it is not deemed likely

Overall bias	Risk of bias judgement	High	The nature of the study design (no active control group) and the lack of information on pre-specified outcomes and analyses from a trial register or protocol results in an overall risk of bias that is high
--------------	------------------------	------	---

Unique ID	5a_manning_2021	Study ID	5a	Assessor	NTM
Ref or Label	Manning et al. (2021)	Aim	assignment to intervention (the "intention-to-treat" effect)		
Experimental	ApBM	Comparator	Sham	Source	Journal article(s); Trial protocol; Statistical analysis plan (SAP); Non-commercial trial registry record (e.g. ClinicalTrials.gov record)
Outcome	Abstinence rate at FU-2w	Results	1.9%; 95% CI, 0.04%-23.8%; p = .04	Weight	4.37
Domain	Signalling question			Response	Comments
Bias arising from the randomization process	1.1 Was the allocation sequence random?			Y	Yes the allocation sequence was random using a
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?			Y	1:1 allocation to treatment using permuted blocks
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?			N	No evidence of baseline differences
	Risk of bias judgement			Low	Yes the allocation sequence was random using a 1:1 allocation to treatment using permuted blocks of variable size and conducted by a researcher not assigned to the study. The allocation sequence was also concealed to the participantsNo evidence of baseline differences
Bias due to deviations from intended interventions	2.1 Were participants aware of their assigned intervention during the trial?			PN	No information on whether participants were aware of their assigned intervention, as this was
	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?			N	
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?			NA	
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?			NA	
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?			NA	
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?			Y	ITT-analysis was used including all randomized participants
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to			NA	
Bias due to missing outcome data	Risk of bias judgement			Low	No information on whether participants were aware of their assigned intervention, as this was not assessed by the researchers. But a questionnaire on ratings of the participants' own experience of the intervention effects did not show any differences. Also, the researchers were blinded to the intervention assignment, and no evidence of side-effects arising in one group that could indicate group assignmentITT-analysis was used including all randomized participants
Bias in measurement of the outcome	3.1 Were data for this outcome available for all, or nearly all, participants randomized?			PY	Low attrition rates were present in both groups (10%)
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?			NA	
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?			NA	
	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?			NA	
	Risk of bias judgement			Low	Low attrition rates were present in both groups (10%)No sensitivity analyses were conducted or analyses adjusting for biasIt is possible that the reasons for drop-outs could be due to the participants experiencing worsening of their health status and experiencing relapse. However, the number of drop-outs did not differ substantially between the two groups, so it is unlikely that the missingness depended on participants dropping out due to relapse
Bias in selection of the reported result	4.1 Was the method of measuring the outcome inappropriate?			PN	The participants were followed up by blinded researcher, which administered the TLFB to assess alcohol consumption. No biological markers were used to confirm the self-reported alcohol intake
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?			PN	No evidence of that the procedure could have resulted in measurement differences across the two groups
	4.3 Were outcome assessors aware of the intervention received by study participants?			PN	No, the assessors conducting the follow-up assessment were blinded to the intervention assignment, and in this case of self-reported alcohol, the participant (assessor) was probably not aware of the assigned intervention
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?			NA	
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?			NA	
	Risk of bias judgement			Low	The participants were followed up by blinded researcher, which administered the TLFB to assess alcohol consumption. No biological markers were used to confirm the self-reported alcohol intakeNo evidence of that the procedure could have resulted in measurement differences across the two groupsNo, the assessors conducting the follow-up assessment were blinded to the intervention assignment, and in this case of self-reported alcohol, the participant (assessor) was probably not aware of the assigned intervention
Bias in selection of the reported result	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?			Y	This paper is the first to report on results from an RCT, and the primary outcome specified in the published study protocol is abstinence two weeks after intervention.The analysis in this study was also in accordance with the pre-specified analysis
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?			N	There is no evidence of selection among multiple outcome measurements
	5.3 ... multiple eligible analyses of the data?			N	There is no evidence of selection among multiple eligible analyses

	Risk of bias judgement	Low	This paper is the first to report on results from an RCT, and the primary outcome specified in the published study protocol is abstinence two weeks after intervention. The analysis in this study was also in accordance with the pre-specified analysis. There is no evidence of selection among multiple outcome measurements. There is no evidence of selection among multiple eligible analyses.
Overall bias	Risk of bias judgement	Low	The overall risk of bias is low, but missing outcome data that has not been adjusted for, does increase the risk of bias.

Unique ID	5d_manning_2022	Study ID	5d	Assessor	NTM
Ref or Label	Manning et al. (2022)	Aim	assignment to intervention (the "intention-to-treat" effect)		
Experimental	ApBM	Comparator	Sham	Source	Journal article(s); Trial protocol; Statistical analysis plan (SAP); Non-commercial trial registry record (e.g. ClinicalTrials.gov record)
Outcome Domain	Abstinence rate at FU-12	Results	InOR = 0.28, SE = 0.30 (OR = 1.32, p = .36)	Weight	4.37
Bias arising from the randomization process	Signalling question			Response	Comments
	1.1 Was the allocation sequence random?			Y	Yes the allocation sequence was random using a 1:1 allocation to treatment using permuted blocks
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?			Y	
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?			PN	The only difference between the groups at baseline was history of previous withdrawal treatment episodes and rates of presence of additional drugs of concern, other than that there were no differences that could suggest a problem with the randomization
	Risk of bias judgement			Low	Yes the allocation sequence was random using a 1:1 allocation to treatment using permuted blocks of variable size and conducted by a researcher not assigned to the study. The allocation sequence was also concealed to the participants. The only difference between the groups at baseline was history of previous withdrawal treatment episodes and rates of presence of additional drugs of concern, other than that there were no differences that could suggest a problem with the randomization
Bias due to deviations from intended interventions	2.1 Were participants aware of their assigned intervention during the trial?			PN	No information on whether participants were aware of their assigned intervention, as this was
	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?			N	
	2.3. If Y/PY/Ni to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?			NA	
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?			NA	
	2.5. If Y/PY/Ni to 2.4: Were these deviations from intended intervention balanced between groups?			NA	
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?			Y	ITT-analysis was used including all randomized participants
	2.7 If N/PN/Ni to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to			NA	
Bias due to missing outcome data	Risk of bias judgement			Low	No information on whether participants were aware of their assigned intervention, as this was not assessed by the researchers. But a questionnaire on ratings of the participants' own experience of the intervention effects did not show any differences. Also, the researchers were blinded to the intervention assignment, and no evidence of side-effects arising in one group that could indicate group assignment. ITT-analysis was used including all randomized participants
	3.1 Were data for this outcome available for all, or nearly all, participants randomized?			PN	Low to moderate attrition rates were present in both groups (24%)
	3.2 If N/PN/Ni to 3.1: Is there evidence that result was not biased by missing outcome data?			PN	Sensitivity analyses were conducted adjusting for severity measures such as previous withdrawal treatment and co-morbid drug use - these did not change the results
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?			PN	It is possible that the reasons for drop-outs could be due to the participants experiencing
	3.4 If Y/PY/Ni to 3.3: Is it likely that missingness in the outcome depended on its true value?			NA	
Bias in measurement of the outcome	Risk of bias judgement			Low	Low attrition rates were present in both groups (10%). No sensitivity analyses were conducted or analyses adjusting for bias. It is possible that the reasons for drop-outs could be due to the participants experiencing worsening of their health status and experiencing relapse. However, the number of drop-outs did not differ substantially between the two groups, so it is unlikely that the missingness depended on participants dropping out due to relapse
	4.1 Was the method of measuring the outcome inappropriate?			PN	The participants were followed up by blinded researcher, which administered the TLFB to assess alcohol consumption. No biological markers were used to confirm the self-reported alcohol intake
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?			PN	No evidence of that the procedure could have resulted in measurement differences across the two groups
	4.3 Were outcome assessors aware of the intervention received by study participants?			PN	No, the assessors conducting the follow-up assessment were blinded to the intervention assignment, and in this case of self-reported alcohol, the participant (assessor) was probably not aware of the assigned intervention
	4.4 If Y/PY/Ni to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?			NA	
	4.5 If Y/PY/Ni to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?			NA	

	Risk of bias judgement	Low	The participants were followed up by blinded researcher, which administered the TLFB to assess alcohol consumption. No biological markers were used to confirm the self-reported alcohol intakeNo evidence of that the procedure could have resulted in measurement differences across the two groupsNo, the assessors conducting the follow-up assessment were blinded to the intervention assignment, and in this case of self-reported alcohol, the participant (assessor) was probably not aware of the assigned intervention
Bias in selection of the reported result	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	Y	This paper is the second to report on results from an RCT, and the primary outcome specified in the published study protocol is abstinence two weeks after intervention. The analysis in this study was also in accordance with the pre-specified analysis plan
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	N	There is no evidence of selection among multiple outcome measurements
	5.3 ... multiple eligible analyses of the data?	N	There is no evidence of selection among multiple eligible analyses
	Risk of bias judgement	Low	This paper is the first to report on results from an RCT, and the primary outcome specified in the published study protocol is abstinence two weeks after intervention.The analysis in this study was also in accordance with the pre-specified analysisThere is no evidence of selection among multiple outcome measurementsThere is no evidence of selection among multiple eligible analyses
Overall bias	Risk of bias judgement	Low	The overall risk of bias is low, but missing outcome data that has not been adjusted for, does increase the risk of bias

Unique ID	5h_garfield_2022	Study ID	5h	Assessor	NTM
Ref or Label	Garfield et al. (2022)	Aim	assignment to intervention (the 'intention-to-treat' effect)		
Experimental	ApBM	Comparator	Sham	Source	Journal article(s); Trial protocol; Statistical analysis plan (SAP); Non-commercial trial registry record (e.g. ClinicalTrials.gov record)
Outcome Domain	Craving (ACQ-SF-R) at FU-12	Results	$\beta = 0.04$, SE = 0.22, p = .85	Weight	4.37
Bias arising from the randomization process	Signalling question			Response	Comments
	1.1 Was the allocation sequence random?			Y	Yes the allocation sequence was random using a 1:1 allocation to treatment using permuted blocks
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?			Y	
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?			PN	The only difference between the groups at baseline was history of previous withdrawal treatment episodes and rates of presence of additional drugs of concern, other than that there were no differences that could suggest a problem with the randomization
	Risk of bias judgement			Low	Yes the allocation sequence was random using a 1:1 allocation to treatment using permuted blocks of variable size and conducted by a researcher not assigned to the study. The allocation sequence was also concealed to the participantsThe only difference between the groups at baseline was history of previous withdrawal treatment episodes and rates of presence of additional drugs of concern, other than that there were no differences that could suggest a problem with the randomization
Bias due to deviations from intended interventions	2.1 Were participants aware of their assigned intervention during the trial?			PN	No information on whether participants were aware of their assigned intervention, as this was
	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?			N	
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?			NA	
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?			NA	
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?			NA	
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?			Y	ITT-analysis was used including all randomized participants
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to			NA	
	Risk of bias judgement			Low	No information on whether participants were aware of their assigned intervention, as this was not assessed by the researchers. But a questionnaire on ratings of the participants' own experience of the intervention effects did not show any differences. Also, the researchers were blinded to the intervention assignment, and no evidence of side-effects arising in one group that could indicate group assignmentITT-analysis was used including all randomized participants
Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomized?			PN	Low to moderate attrition rates were present in both groups (32%)
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?			PN	No sensitivity analyses were conducted or analyses adjusting for bias
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?			PY	It is possible that the reasons for drop-outs could be due to the participants experiencing
	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?			PN	
	Risk of bias judgement			Some concerns	Low to moderate attrition rates were present in both groups (32%)No sensitivity analyses were conducted or analyses adjusting for biasIt is possible that the reasons for drop-outs could be due to the participants experiencing worsening of their health status and experiencing relapse. However, the number of drop-outs did not differ substantially between the two groups, so it is unlikely that the missingness depended on participants dropping out due to relapse
Bias in measurement of the	4.1 Was the method of measuring the outcome inappropriate?			N	The participants were followed up by blinded researcher, which administered the ACQ-SF-R

outcome	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	PN	No evidence of that the procedure could have resulted in measurement differences across the two groups
	4.3 Were outcome assessors aware of the intervention received by study participants?	PN	No, the assessors conducting the follow-up assessment were blinded to the intervention assignment, and in this case of self-reported alcohol, the participant (assessor) was probably not aware of the assigned intervention
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	NA	
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	NA	
	Risk of bias judgement	Low	The participants were followed up by blinded researcher, which administered the ACQ-SF-RNo evidence of that the procedure could have resulted in measurement differences across the two groupsNo, the assessors conducting the follow-up assessment were blinded to the intervention assignment, and in this case of self-reported alcohol, the participant (assessor) was probably not aware of the assigned intervention
Bias in selection of the reported result	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	Y	This paper is the third to report on results from an RCT, and the primary outcome specified in the published study protocol is abstinence two weeks after intervention. The analysis in this study was also in accordance with the pre-specified analysis plan
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	N	There is no evidence of selection among multiple outcome measurements
	5.3 ... multiple eligible analyses of the data?	N	There is no evidence of selection among multiple eligible analyses
	Risk of bias judgement	Low	This paper is the third to report on results from an RCT, and the primary outcome specified in the published study protocol is abstinence two weeks after intervention. The analysis in this study was also in accordance with the pre-specified analysis planThere is no evidence of selection among multiple outcome measurementsThere is no evidence of selection among multiple eligible analyses
Overall bias	Risk of bias judgement	Some concerns	The risk of bias is deemed to have "some concerns", which is a result of the number of missing outcome data at 3-months follow-up, which was not addressed adequately

Unique ID	6_grieder_2022	Study ID	6	Assessor	NTM
Ref or Label	Grieder et al. (2022)	Aim	assignment to intervention (the "intention-to-treat" effect)		
Experimental	ItBM	Comparator	Sham	Source	Journal article(s); Trial protocol; Non-commercial trial registry record (e.g. ClinicalTrials.gov record)
Outcome Domain	PDA at FU-3	Results	F (1,29) = 0.030, p = 0.863, eta = 0.001	Weight	0.73
Bias arising from the randomization process	Signalling question			Response	Comments
	1.1 Was the allocation sequence random?		Y		Random allocation was performed by an independent researcher using a block
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?		Y		
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?		N		No evidence of differences in baseline characteristics between the two groups
	Risk of bias judgement		Low		Random allocation was performed by an independent researcher using a block randomization. The list was stored and hidden from participants and researchersNo evidence of differences in baseline characteristics between the two groups
Bias due to deviations from intended interventions	2.1 Were participants aware of their assigned intervention during the trial?		PN		No evidence of adverse effects or that participants became aware of their intervention.
	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?		PN		
	2.3 If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?		NA		
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?		NA		
	2.5 If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?		NA		
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?		PN		Only per-protocol analyses were conducted and no evidence of how the authors addressed this issue
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?		PN		High attrition rates in both groups and lack of reasons for why the data was missing and how they were missing across the two groups, could indicate that the excluded/missing data might have had an impact on the result, but it is unlikely that this would have had a substantial impact on the overall result
	Risk of bias judgement		Some concerns		No evidence of adverse effects or that participants became aware of their intervention. In addition, there is no evidence of researchers being aware of the group assignmentOnly per-protocol analyses were conducted and no evidence of how the authors addressed this issueHigh attrition rates in both groups and lack of reasons for why the data was missing and how they were missing across the two groups, could indicate that the excluded/missing data might have had an impact on the result, but it is unlikely that this would have had a substantial impact on the overall result
Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomized?		PN		High attrition rates in both groups, but the control group experienced 50% attrition compared to 25% in the ItBM
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?		N		No sensitivity analyses were conducted and no adjustments for missing outcome data
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?		PY		Although the missing data could have been caused by some participants experiencing
	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?		PY		

	Risk of bias judgement	High	High attrition rates in both groups (30-40%)No sensitivity analyses were conducted and no adjustments for missing outcome dataAlthough the missing data could have been caused by some participants experiencing relapse, it is not likely that this was the case, nor is there evidence that the attrition differed substantially between the two groups
Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	N	They conducted the follow-up interview by phone, and it was conducted by an independent researcher
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	PN	The measurement process and data collection did not differ between the two groups
	4.3 Were outcome assessors aware of the intervention received by study participants?	PN	The researchers were blinded and there is no evidence of substantial group differences that could have made the assessors aware of group assignment
	4.4 If Y/PY/Ni to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	NA	
	4.5 If Y/PY/Ni to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	NA	
	Risk of bias judgement	Low	They conducted the follow-up interview by phone, and it was conducted by an independent researcherThe measurement process and data collection did not differ between the two groupsThe researchers were blinded and there is no evidence of substantial group differences that could have made the assessors aware of group assignment
Bias in selection of the reported result	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	Y	Yes, this was a substudy and the outcome and numerical result used for this assessment was not the primary outcome of interest for this study, but they have been pre-specified in the trial registration as well as the published protocol
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	PN	Although different outcome measurements have been pre-specified, these are used for a different study not assessed in this paper, so it is unlikely that some outcome measurements were excluded
	5.3 ... multiple eligible analyses of the data?	PN	Ahtough different analyses have been pre-specified, these were used for a different study that has not been assessed in this paper. It is unlikely that some analyses were omitted entirely
	Risk of bias judgement	Low	Yes, this was a substudy and the outcome and numerical result used for this assessment was not the primary outcome of interest for this study, but they have been pre-specified in the trial registration as well as the published protocolAlthough different outcome measurements have been pre-specified, these are used for a differen study not assessed in this paper, so it is unlikely that some outcome measurements were excludedAhtough different analyses have been pre-specified, these were used for a different study that has not been assessed in this paper. It is unlikely that some analyses were omitted entirely
Overall bias	Risk of bias judgement	High	The lack of ITT-analyses and the fact that the authors did not address the missing outcome data in the two groups, could have biased the overall result. It is deemed likely that this could have had a substantial impact on the outcome, as there was a difference between the attrition between the two groups, which could have biased the results.

Unique ID	7c_garfield_2024	Study ID	7c	Assessor	NTM
Ref or Label	Garfield et al. (2024)	Aim	assignment to intervention (the 'intention-to-treat' effect)		
Experimental	ApBM	Comparator	Sham	Source	Journal article(s); Non-commercial trial registry record (e.g. ClinicalTrials.gov record)
Outcome	SDD at FU-3	Results	$\beta = -1.11$; $p = .026$	Weight	1.36
Domain	Signalling question			Response	Comments
Bias arising from the randomization process	1.1 Was the allocation sequence random?			Y	Yes, the allocation sequence was random and described in detail in the paper. The allocation
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?			Y	Yes, the allocation sequence was random and described in detail in the paper. The allocation
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?			N	No differences in baseline characteristics
	Risk of bias judgement			Low	Yes, the allocation sequence was random and described in detail in the paper. The allocation was also kept concealed from the participantsNo differences in baseline characteristics
Bias due to deviations from intended interventions	2.1 Were participants aware of their assigned intervention during the trial?			PN	Although the authors did report on how many participants in each group who guessed that they
	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?			PN	participants in each group who guessed that they
	2.3. If Y/PY/Ni to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?			NA	
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?			NA	
	2.5 If Y/PY/Ni to 2.4: Were these deviations from intended intervention balanced between groups?			NA	
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?			Y	Yes, ITT-analyses were conducted for primary and secondary outcomes
	2.7 If N/PN/Ni to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to			NA	
	Risk of bias judgement			Low	Although the authors did report on how many participants in each group who guessed that they received the active treatment, this difference was not significant. Carers and assessors were blinded and not aware of the group assignmentITT-analyses were conducted
Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomized?			PN	Low to moderate attrition rates at FU-3 were present in both groups (approximately 30%)
	3.2 If N/PN/Ni to 3.1: Is there evidence that result was not biased by missing outcome data?			PN	There are only few reasons for missing participant data at each follow-up, so we cannot rule out the possibility of the result being biased

	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	PY	It is possible that the result could have been affected by participants experiencing
	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	PN	
	Risk of bias judgement	Some concerns	Low to moderate attrition rates at FU-3 were present in both groups (approximately 30%) There are only few reasons for missing participant data at each follow-up, so we cannot rule out the possibility of the result being biased it is possible that the result could have been affected by participants experiencing lapses/relapses, and thus consuming alcohol. However, we have no strong evidence to support that this was the case
Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	PN	They did not use standardised methods for gathering data on alcohol consumption, so they relied on in-game estimates of alcohol use
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	PN	Both groups were exposed to the same in-game prompts on when they had to report on alcohol consumption
	4.3 Were outcome assessors aware of the intervention received by study participants?	PN	Outcome assessors were the participants, and when the participants had to guess which intervention they received, no difference was found in their subjective experience of received treatment
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	NA	
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	NA	
	Risk of bias judgement	Low	They did not use standardised methods for gathering data on alcohol consumption, so they relied on in-game estimates of alcohol use Both groups were exposed to the same in-game prompts on when they had to report on alcohol consumption Outcome assessors were the participants, and when the participants had to guess which intervention they received, no difference was found in their subjective experience of received treatment
Bias in selection of the reported result	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	Y	Yes, the study was pre-registered in a trial registry, and adequate amount of details on outcomes and analyses were provided
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	PN	No evidence of selection among multiple pre-specified outcomes
	5.3 ... multiple eligible analyses of the data?	PN	No evidence of selection among multiple pre-specified analyses
	Risk of bias judgement	Low	Yes, the study was pre-registered in a trial registry, and adequate amount of details on outcomes and analyses were provided No evidence of selection among multiple pre-specified outcomes No evidence of selection among multiple pre-specified analyses
Overall bias	Risk of bias judgement	Some concerns	Overall, the risk of bias is considered to be low, but the high attrition rates in both groups and the lack of details on why the data was missing and analyses adjusting for these data, results in some concerns in terms of risk of bias

Unique ID	8b_kvamme_2019	Study ID	8b	Assessor	NTM
Ref or Label	Kvamme et al. (2019)	Aim	assignment to intervention (the 'intention-to-treat' effect)		
Experimental Outcome	ET-AiBM Relapse rate at FU-3	Comparator Results	Sham z = 1.03, p = .3	Source Weight	Journal article(s) 0.45
Domain	Signalling question		Response	Comments	
Bias arising from the randomization process	1.1 Was the allocation sequence random?		PY	The allocation sequence was random, and measures were in place to keep the sequence	
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?		PY		
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?		PN	Although, a difference DAQ between the two groups, where the ET-AiBM had a higher baseline score, it is not enough to suggest a problem with the randomisation	
	Risk of bias judgement		Low	The allocation sequence was random, and measures were in place to keep the sequence concealed until participants were assigned to the respective groups Although, a difference DAQ between the two groups, where the ET-AiBM had a higher baseline score, it is not enough to suggest a problem with the randomisation	
Bias due to deviations from intended interventions	2.1 Were participants aware of their assigned intervention during the trial?		PN	Measures were in place to keep the real objective of the training covert for participants in	
	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?		PN		
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?		NA		
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?		NA		
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?		NA		
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?		PN	No ITT-analyses were in place when assessing the number of relapsers at FU-3	
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?		PN	There is no evidence to suggest that the missing participants was substantial enough to have an impact on the overall result at FU-3	
	Risk of bias judgement		Some concerns	Measures were in place to keep the real objective of the training covert for participants in both groups. There is no evidence to suggest that they were aware of their assignment nor that the assessors were aware either No ITT-analyses were in place when assessing the number of relapsers at FU-3 There is no evidence to suggest that the missing participants was substantial enough to have an impact on the overall result at FU-3	
Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomized?		PY	Low attrition rates in both groups, albeit the sample size was small at the start of the randomisation	
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?		NA		
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?		NA		
	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?		NA		

	Risk of bias judgement	Low	Low attrition rates in both groups, albeit the sample size was small at the start of the randomisation
Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	PN	The relapse rate was assessed by contacting the participants by phone
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	PY	As the participants were included from both out- and inpatient facilities, it is possible that some participants in one of the two groups that were at Ringgården could have been easier to reach than participants enrolled in outpatient treatment
	4.3 Were outcome assessors aware of the intervention received by study participants?	NA	
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	NA	
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	NA	
	Risk of bias judgement	High	The relapse rate was assessed by contacting the participants by phoneAs the participants were included from both out- and inpatient facilities, it is possible that some participants in one of the two groups that were at Ringgården could have been easier to reach than participants enrolled in outpatient treatment
Bias in selection of the reported result	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	NI	It was not possible to obtain a pre-specified protocol or trial registration, and thus the only appropriate response is NI
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	NI	Not possible to obtain pre-specified information on outcome measures
	5.3 ... multiple eligible analyses of the data?	NI	Not possible to obtain pre-specified information on analyses
	Risk of bias judgement	Some concerns	It was not possible to obtain a pre-specified protocol or trial registration, and thus the only appropriate response is NI Not possible to obtain pre-specified information on outcome measures Not possible to obtain pre-specified information on analyses
Overall bias	Risk of bias judgement	High	Although this was a pilot study, missing information on why participants in one group were not reached at FU-3 and how many participants were enrolled at the out- vs. inpatient facility causes some elevated risks of bias

Unique ID	9c_kumar_2019	Study ID	9c	Assessor	NTM
Ref or Label	Kumar et al. (2019)	Aim	assignment to intervention (the 'intention-to-treat' effect)		
Experimental	ExRT	Comparator	TAU	Source	Journal article(s); Non-commercial trial registry record (e.g. ClinicalTrials.gov record)
Outcome Domain	Abstinence rate at FU-6	Results	ExRT: n = 16 (64%), TAU: n = 5 (20%)	Weight	0.84
	Signalling question			Response	Comments
Bias arising from the randomization process	1.1 Was the allocation sequence random?		PY		The allocation process was random, but they were matched on age and education. There is no
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?		NI		
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?		PN		There were significant differences between the two groups in terms of working memory, which could suggest a problem with the randomization
	Risk of bias judgement		Some concerns		The allocation process was random, but they were matched on age and education. There is no information on concealment of the allocation sequence. Due to the nature of the study, the study could only have been blinded for the participantsThere were significant differences between the two groups in terms of working memory, which could suggest a problem with the randomization
Bias due to deviations from intended interventions	2.1 Were participants aware of their assigned intervention during the trial?		PY		The nature of the study could have allowed for the participants being blinded, but it is not stated
	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?		Y		
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?		PN		Participants in both groups were admitted to inpatient treatment, and they all received treatment each day, so it is unlikely that deviations arose due to the trial context
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?		NA		
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?		NA		
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?		PN		No information on ITT analyses were given by the authors
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?		PN		There is no evidence of differences between the number of participants reached at follow-up in each of the two groups
	Risk of bias judgement		Some concerns		The nature of the study could have allowed for the participants being blinded, but it is not stated by the authors, and thus it is assumed that they probably were aware. Researchers and assessors would be aware of the group assignmentParticipants in both groups were admitted to inpatient treatment, and they all received treatment each day, so it is unlikely that deviations arose due to the trial contextNo information on ITT analyses were given by the authorsThere is no evidence of differences between the number of participants reached at follow-up in each of the two groups
Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomized?		N		There were high attrition rates in both groups
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?		PN		There is no evidence from the study that the result was affected by the participants not reached at follow up
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?		PY		There is no specific details on why participants could not be reached after discharge. However,
	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?		PY		

	Risk of bias judgement	High	There were high attrition rates in both groups There is no evience from the study that the result was affected by the participants not reached at follow up There is no specfic details on why participants could not be reached after discharge. However, the number of missing participants were equal in both groups, and there is no evidence to support that the missingness was due to relapse status
Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	PN	There is no information on how the authors assessed the alcohol consumption at each follow-up, but it is assumed that they would adhere to standard protocols such as telephone interviews with the participants
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	PN	There is no evidence that one group would have been required to part take in additional visits to the treatment center, as they were all admitted to an inpatient treatment facility that required treatment sessions each day
	4.3 Were outcome assessors aware of the intervention received by study participants?	PY	The assessors were not blinded
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	PY	Yes, they could have influenced the results unintentionally, and it is also believed that the
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	PN	There is no information on how the authors assessed the alcohol consumption at each follow-up, but it is assumed that they would adhere to standard protocols such as telephone interviews with the participants There is no evidence that one group would have been required to part take in additional visits to the treatment center, as they were all admitted to an inpatient treatment facility that required treatment sessions each day The assessors were not blinded Yes, they could have influenced the results unintentionally, and it is also believed that the difference between the nature of the interventions influenced the assessment outcome
Bias in selection of the reported result	Risk of bias judgement	Some concerns	
	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	Y	The study was pre-registered in a clinical trial database
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	PN	There was no evidence of multiple eligible outcome measurements
	5.3 ... multiple eligible analyses of the data?	NI	There was no information on specification on analyses
	Risk of bias judgement	Some concerns	The study was pre-registered in a clinical trial database There was no evidence of multiple eligible outcome measurements There was no evidence of multiple eligible analyses of the data
Overall bias	Risk of bias judgement	High	Issues with the allocation procedure, differences at baseline, and measurement of the outcome results in an overall high risk of bias

Unique ID	10c laurens_2023	Study ID	10c	Assessor	NTM
Ref or Label	Laurens et al. (2023)	Aim	assignment to intervention (the 'intention-to-treat' effect)		
Experimental	ApBM	Comparator	TAU	Source	Journal article(s); Trial protocol; Non-commercial trial registry record (e.g. ClinicalTrials.gov record)
Outcome	SDD at FU-6	Results	ApBM: 18.1 (SE = 3.8); ApBM: 18.1 (SE = 3.8)	Weight	3.78
Domain	Signalling question			Response	Comments
Bias arising from the randomization process	1.1 Was the allocation sequence random?		PY		Allocation sequence is random and computer-generated without involvement from
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?		PY		
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?		PY		Probably, this was due to the ApBM group having more participants with dependence than the sham group. The remaining partipants fulfilled the criteria for abuse instead.
	Risk of bias judgement		Some concerns		Allocation sequence is random and computer-generated without involvement from investigators. The sequence was concealed from the participants Probably, this was due to the ApBM group having more participants with dependence than the sham group. The remaining participants fulfilled the criteria for abuse instead.
Bias due to deviations from intended interventions	2.1 Were participants aware of their assigned intervention during the trial?		PN		No evidence of participants being aware of their assigned intervention during the trial nor that the
	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?		PN		
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?		NA		
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?		NA		
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?		NA		
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?		PY		Intention-to-treat principles were applied by means of multiple imputation
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to		NA		
	Risk of bias judgement		Low		No evidence of participants being aware of their assigned intervention during the trial nor that the carers were aware of the group assignment as everything was administered online Intention-to-treat principles were applied by means of multiple imputation
Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomized?		PN		High attrition rates of 60-40% for ApBM and sham, respectively
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?		PN		Sensitivity analyses were conducted but on for those who received primary treatment online vs. face-to-face and above and below 6 completed sessions. Nothing on the participants who were potentially missing due to having relapsed and thus consumed alcohol
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?		PY		The missingness could have been due to
	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?		PY		participants consuming alcohol, and giving that

	Risk of bias judgement	High	High attrition rates of 60-40% for ApBM and sham, respectivelySensitivity analyses were conducted but on for those who received primary treatment online vs. face-to-face and above and below 6 completed sessions. Nothing on the participants who were potentially missing due to having relapsed and thus consumed alcoholThe missingness could have been due to participants consuming alcohol, and giving that the training group who experienced the largest attrition was also the group where higher number of participants fulfilled criteria for dependence, this could be used as evidence to support that the missingness depended on the true value
Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	PN	No they measured alcohol consumption via self-report online
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	PN	No, but some participants attended face-to-face treatment which could have differed from the online treatment, but sensitivity analyses were conducted to adjust for this without it changing the result
	4.3 Were outcome assessors aware of the intervention received by study participants?	PN	No evidence of assessors (participant self-report) being aware of the intervention received
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	NA	
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	NA	
	Risk of bias judgement	Low	No they measured alcohol consumption via self-report onlineNo, but some participants attended face-to-face treatment which could have differed from the online treatment, but sensitivity analyses were conducted to adjust for this without it changing the resultNo evidence of assessors (participant self-report) being aware of the intervention received
Bias in selection of the reported result	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	Y	It is specified in a published protocol and a trial registration
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	PN	No evidence of selection of multiple pre-defined outcomes
	5.3 ... multiple eligible analyses of the data?	PN	No evidence of selection of multiple pre-defined analyses
	Risk of bias judgement	Low	It is specified in a published protocol and a trial registrationNo evidence of selection of multiple pre-defined outcomesNo evidence of selection of multiple pre-defined analyses
Overall bias	Risk of bias judgement	High	The high attrition rates that differ between the two groups and the evidence of the ApBM group having more participants with alcohol dependence, suggest that missingness in the outcome could have been due to the ApBM group consuming alcohol. Although MI was used, no sensitivity analyses were conducted to adjust for this bias, which results in an overall high risk of bias in this study

Unique ID	11_manning_2016	Study ID	11	Assessor	NTM
Ref or Label	Manning et al. (2016)	Aim	assignment to intervention (the 'intention-to-treat' effect)		
Experimental	ApBM	Comparator	Sham	Source	Journal article(s); Non-commercial trial registry record (e.g. ClinicalTrials.gov record)
Outcome	Abstinence rate at FU-3	Results	v2 = 3.32, p = 0.07, Cramer's V = 0.22	Weight	1.79
Domain	Signalling question			Response	Comments
Bias arising from the randomization process	1.1 Was the allocation sequence random?		Y		Yes, the allocation sequence was generated on a computer by an independent researcher using
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?		Y		
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?		PN		No significant differences at baseline was reported
	Risk of bias judgement		Low		Yes, the allocation sequence was generated on a computer by an independent researcher using permuted blocks. The allocation sequence was concealed, but no other information on whether both researchers and participants were blindedNo significant differences at baseline was reported
Bias due to deviations from intended interventions	2.1 Were participants aware of their assigned intervention during the trial?		PN		Although blinding was not stated, there was no evidence in the study that participants were
	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?		PN		
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?		NA		
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?		NA		
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?		NA		
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?		PY		ITT-analyses were conducted using all participants irrespective of whether they completed all sessions, but they did not include all randomized participants
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to		NA		
	Risk of bias judgement		Low		Although blinding was not stated, there was no evidence in the study that participants were aware of their intervention received. It is also unlikely that the researchers involved in the follow-up assessment was aware of the intervention received by the participant!ITT-analyses were conducted using all participants irrespective of whether they completed all sessions, but they did not include all randomized participants (mITT)
Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomized?		PN		An attrition of approximately 20% two weeks after discharge
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?		PY		Logistic regressions using baseline drinking and severity was used, and here the model was non-significant
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?		NA		
	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?		NA		

	Risk of bias judgement	Low	An attrition of approximately 20% two weeks after dischargeLogistic regressions using baseline drinking and severity was used, and here the model was non-significant
Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	PN	The abstinence and alcohol consumption variables were measured using TLFB by telephone
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	PN	No difference between the two groups in terms of additional visits to the clinic and the follow-up was conducted by phone
	4.3 Were outcome assessors aware of the intervention received by study participants?	PY	The assessors conducting the TLFB were blind to the group assignment and the participants as assessors were most likely not aware of their intervention, but this can not be clearly determined
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	PN	It is possible that the participants as outcome assessors (self-report) could have been aware
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	NA	
	Risk of bias judgement	Low	The abstinence and alcohol consumption variables were measured using TLFB by telephoneNo difference between the two groups in terms of additional visits to the clinic and the follow-up was conducted by phoneThe assessors conducting the TLFB were blind to the group assignment and the participants as assessors were most likely not aware of their intervention, but this can not be clearly determinedIt is possible that the participants as outcome assessors (self-report) could have been aware of their assigned intervention, but little evidence to support this statement and the attrition across the groups were almost identical
Bias in selection of the reported result	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	Y	The trial was pre-registered in ClinicalTrials.gov and the data is handled in accordance with the plan specified
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	PN	No evidence of selection among multiple outcomes
	5.3 ... multiple eligible analyses of the data?	PN	No evidence of selection among multiple outcomes
	Risk of bias judgement	Low	The trial was pre-registered in ClinicalTrials.gov and the data is handled in accordance with the plan specifiedNo evidence of selection among multiple outcomesNo evidence of selection among multiple outcomes
Overall bias	Risk of bias judgement	Low	Modified intention to treat analyses not using all randomized participants was used, but it is not enough to leave concerns in terms of overall risk of bias

Unique ID	12b_peerenboom_2022	Study ID	12b	Assessor	NTM
Ref or Label	Peerenboom (2022)	Aim	assignment to intervention (the "intention-to-treat" effect)		
Experimental	ApBM	Comparator	Sham	Source	Journal article(s); Non-commercial trial registry record (e.g. ClinicalTrials.gov record)
Outcome	Abstinence rate at FU-12	Results	$\chi^2(3) = 1.618, p = .655$	Weight	7.61
Domain	Signalling question			Response	Comments
Bias arising from the randomization process	1.1 Was the allocation sequence random?		PY		The generation of allocation sequence is described. Allocation sequence was generated
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?		PY		
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?		PN		No indications of differences between the groups at baseline
	Risk of bias judgement		Low		The generation of allocation sequence is described. Allocation sequence was generated on a computer, and it was concealed from the participantsNo indications of differences between the groups at baseline
Bias due to deviations from intended interventions	2.1 Were participants aware of their assigned intervention during the trial?		PY		Although carers and researchers were blinded, as the outcome assessors were clinicians at the treatment facility, it is not possible to rule out that participants and researchers were aware of their group assignment due to the design of the trial, where they had already undergone AAT training before enrolling in the studyNo deviations from intended intervention
	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?		PY		
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?		PN		
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?		NA		
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?		NA		
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?		Y		ITT-analyses were conducted using all randomized participants
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to		NA		
	Risk of bias judgement		Low		Although carers and researchers were blinded, as the outcome assessors were clinicians at the treatment facility, it is not possible to rule out that participants and researchers were aware of their group assignment due to the design of the trial, where they had already undergone AAT training before enrolling in the studyNo deviations from intended interventionITT-analyses were conducted using all randomized participants
Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomized?		PN		High attrition rates at FU-3 were present in both groups (approximately 50%)
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?		PN		No reasons for why the participants did not respond, so it cannot be ruled out that they had relapsed
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?		PY		It is possible that the missingness could indeed be due to the fact that participants had
	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?		PN		
	Risk of bias judgement		Some concerns		High attrition rates at FU-3 were present in both groups (approximately 50%)No reasons for why the participants did not respond, so it cannot be ruled out that they had relapsedIt is possible that the missingness could indeed be due to the fact that participants had experienced relapse. The attrition rates, however, are similar across the two groups, and given the home-based intervention, it is not deemed likely that the participants had actually relapsed

Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	PN	Little information on how the clinicians gathered information on relapse status, but it was most likely based on self-report
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	PN	No difference between the two groups in terms of follow-up assessments, as they were conducted as a part of their primary treatment and by the primary health care providers
	4.3 Were outcome assessors aware of the intervention received by study participants?	PY	The assessors were both the clinicians and the participants themselves. The clinicians were probably not aware of the group assignment, but it cannot be ruled out that the participants were aware of it
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	PY	It is also possible that the outcome may have been influenced by the fact that some
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	PN	
	Risk of bias judgement	Some concerns	Little information on how the clinicians gathered information on relapse status, but it was most likely based on self-reportNo difference between the two groups in terms of follow-up assessments, as they were conducted as a part of their primary treatment and by the primary health care providersThe assessors were both the clinicians and the participants themselves. The clinicians were probably not aware of the group assignment, but it cannot be ruled out that the participants were aware of itIt is also possible that the outcome may have been influenced by the fact that some participants were aware of their received intervention. But it is not likely that the outcome was influenced as there were no differences between participants reached at FU-3
Bias in selection of the reported result	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	Y	A trial registration was made for the study, and here information on outcome data is reported, but no clear information on analyses are available
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	PN	No evidence of selection among multiple outcomes
	5.3 ... multiple eligible analyses of the data?	NI	Not able to retrieve any information
	Risk of bias judgement	Some concerns	A trial registration was made for the study, and here information on outcome data is reported, but no clear information on analyses are availableNo evidence of selection among multiple outcomesNot able to retrieve any information
Overall bias	Risk of bias judgement	High	The high attrition rates among the two groups at FU-3 and the fact that it is not possible to completely rule out the impact on the results combined with missing information on an analysis plan do give rise to some concerns on the overall risk of bias.

Unique ID	13a_rinck_2018	Study ID	13a	Assessor	NTM
Ref or Label	Rinck et al. (2018)	Aim	assignment to intervention (the 'intention-to-treat' effect)		
Experimental	ApBM	Comparator	Sham + TAU only	Source	Journal article(s); Non-commercial trial registry record (e.g. ClinicalTrials.gov record)
Outcome Domain	Abstinence rate at FU-12	Results	$\chi^2(2) = 4.18, p = .041, \phi = .07$	Weight	12.4
	Signalling question			Response	Comments
Bias arising from the randomization process	1.1 Was the allocation sequence random?	PY			Although the information is scarce, it is likely that proper measures of randomization were used. In
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	PY			
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?	N			No evidence of differences in baseline characteristics
	Risk of bias judgement	Low			Although the information is scarce, it is likely that proper measures of randomization were used. In addition, little information was present on concealment of allocation sequence, but the participants were blindedNo evidence of differences in baseline characteristics
Bias due to deviations from intended interventions	2.1.Were participants aware of their assigned intervention during the trial?	PN			No evidence of participants being aware of their assigned intervention. However, no information
	2.2.Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	PY			
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	PN			No deviations across the groups in terms of the trial context, all required to participate in either active or sham training. However, a TAU only group was present, and here the trial context may have resulted in deviations
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?	NA			
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?	NA			
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	PY			Intention to treat analyses were implemented, but these did not include all randomized participants, as some were discharged prematurely
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to	NA			
	Risk of bias judgement	Low			No evidence of participants being aware of their assigned intervention. However, no information on how the researchers administering the treatment were blinded, so it is plausible that this was not implementedNo deviations across the groups in terms of the trial context, all required to participate in either active or sham training. However, a TAU only group was present, and here the trial context may have resulted in deviationsIntention to treat analyses were implemented, but these did not include all randomized participants, as some were discharged prematurely
Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomized?	PN			Small to moderate attrition rates were present across the two groups
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	PN			There is no evidence that these results were not biased by the missing outcome data
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	PN			The missing outcome data could have been due to participants worsening and experiencing
	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	NA			

	Risk of bias judgement	Low	Small to moderate attrition rates were present across the two groups There is no evidence that these results were not biased by the missing outcome data The missing outcome data could have been due to participants worsening and experiencing relapse, but as the attrition were almost similar across the two groups it is not deemed likely
Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	PN	The follow-up assessments were conducted by phone and letter with standard questionnaires used at the clinic
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	PN	No differences in how the follow-up assessments were conducted across the groups
	4.3 Were outcome assessors aware of the intervention received by study participants?	PN	It is possible that the participants in the TAU only group were aware, but for the active and sham groups it is unlikely. Furthermore, it is unlikely that the clinicians performing the assessments were aware of the interventions
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	NA	
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	NA	
	Risk of bias judgement	Low	The follow-up assessments were conducted by phone and letter with standard questionnaires used at the clinic No differences in how the follow-up assessments were conducted across the groups It is possible that the participants in the TAU only group were aware, but for the active and sham groups it is unlikely. Furthermore, it is unlikely that the clinicians performing the assessments were aware of the interventions
Bias in selection of the reported result	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	Y	Yes, a trial registration is available with data on outcomes
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	N	There is no evidence of selection among multiple outcomes
	5.3 ... multiple eligible analyses of the data?	PN	There is no evidence of selection among multiple analyses
	Risk of bias judgement	Low	Yes, a trial registration is available with data on outcomes There is no evidence of selection among multiple outcomes There was no specification of analyses in the trial registration
Overall bias	Risk of bias judgement	Low	No concerns in any of the domains were detected

Unique ID	14b_schenkel_2023	Study ID	14b	Assessor	NTM
Ref or Label	Schenkel et al. (2023)	Aim	assignment to intervention (the "intention-to-treat" effect)		
Experimental	ItBM	Comparator	Sham	Source	Journal article(s); Non-commercial trial registry record (e.g. ClinicalTrials.gov record)
Outcome	Abstinence rate at FU-12	Results	$\chi^2(1) = 0.24, p = .62, \phi = .02$	Weight	9.72
Domain	Signalling question			Response	Comments
Bias arising from the randomization process	1.1 Was the allocation sequence random?		PY		Although the information is scarce, it is likely that proper measures of randomization were used. In
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?		PY		No evidence of differences in baseline characteristics
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?		N		Although the information is scarce, it is likely that proper measures of randomization were used. In addition, little information was present on concealment of allocation sequence, but the participants were blinded No evidence of differences in baseline characteristics
	Risk of bias judgement		Low		
Bias due to deviations from intended interventions	2.1 Were participants aware of their assigned intervention during the trial?		PN		No evidence of participants being aware of their assigned intervention. However, no information
	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?		PY		No deviations across the groups in terms of the trial context, all required to participate in either active or sham training. However, a TAU only group was present, and here the trial context may have resulted in deviations
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?		PN		
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?		NA		
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?		NA		
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?		PY		Intention to treat analyses were implemented, but these did not include all randomized participants, as some were discharged prematurely
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to		NA		
	Risk of bias judgement		Low		No evidence of participants being aware of their assigned intervention. However, no information on how the researchers administering the treatment were blinded, so it is plausible that this was not implemented No deviations across the groups in terms of the trial context, all required to participate in either active or sham training. However, a TAU only group was present, and here the trial context may have resulted in deviations Intention to treat analyses were implemented, but these did not include all randomized participants, as some were discharged prematurely
Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomized?		PN		Small to moderate attrition rates were present in both groups
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?		PN		The drop-outs have not been specified and simply noted as lost to follow-up or not reachable
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?		PN		The missing outcome data could have been due to participants worsening and experiencing
	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?		NA		
	Risk of bias judgement		Low		Small to moderate attrition rates were present in both groups The drop-outs have not been specified and simply noted as lost to follow-up or not reachable

Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	PN	The follow-up assessments were conducted by phone and letter with standard questionnaires used at the clinic
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	PN	No differences in how the follow-up assessments were conducted across the groups
	4.3 Were outcome assessors aware of the intervention received by study participants?	PN	It is possible that the participants in the TAU only group were aware, but for the active and sham groups it is unlikely. Furthermore, it is unlikely that the clinicians performing the assessments were aware of the interventions
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	NA	
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	NA	
	Risk of bias judgement	Low	The follow-up assessments were conducted by phone and letter with standard questionnaires used at the clinicNo differences in how the follow-up assessments were conducted across the groupsIt is possible that the participants in the TAU only group were aware, but for the active and sham groups it is unlikely. Furthermore, it is unlikely that the clinicians performing the assessments were aware of the interventions
Bias in selection of the reported result	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	Y	Yes, a trial registration is available with data on outcomes
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	N	There is no evidence of selection among multiple outcomes
	5.3 ... multiple eligible analyses of the data?	NI	There was no specification of analyses in the trial registration
	Risk of bias judgement	Some concerns	Yes, a trial registration is available with data on outcomesThere is no evidence of selection among multiple outcomesThere was no specification of analyses in the trial registration
Overall bias	Risk of bias judgement	Some concerns	The missing information on pre-specified analyses, does give rise to some concerns on the overall risk of bias

Unique ID	15c_schenkel_2024	Study ID	15c	Assessor	NTM
Ref or Label	Schenkel et al. (2024)	Aim	assignment to intervention (the "intention-to-treat" effect)		
Experimental	ApBM	Comparator	TAU	Source	Journal article(s); Non-commercial trial registry record (e.g. ClinicalTrials.gov record)
Outcome	Abstinence rate at FU-12	Results	$\chi^2(1) = 0.82, p = .378$	Weight	33.98
Domain	Signalling question			Response	Comments
Bias arising from the randomization process	1.1 Was the allocation sequence random?		Y		Yes, permuted block randomization was, although not stated, it is unlikely that the
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?		PY		No evidence of differences between baseline characteristics
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?		PN		Yes, permuted block randomization was, although not stated, it is unlikely that the randomization list was not concealedNo evidence of differences between baseline characteristics
	Risk of bias judgement		Low		
Bias due to deviations from intended interventions	2.1 Were participants aware of their assigned intervention during the trial?		PY		The naturalistic nature of the study prevented complete blinding of participants and researchers
	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?		PY		Probably yes, but participants receiving TAU only were still admitted to treatment
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?		PY		It is possible that these deviations could have affected the outcome
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?		PY		Probably yes, as participants in both groups were admitted to treatment
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?		PY		Intention to treat analysis was conducted that used all randomized participants irrespective of whether they responded at each follow-up
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?		PY		
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to		NA		
	Risk of bias judgement		Some concerns		The naturalistic nature of the study prevented complete blinding of participants and researchersProbably not, participants receiving TAU only were still admitted to treatmentIntention to treat analysis was conducted that used all randomized participants irrespective of whether they responded at each follow-up
Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomized?		PN		There were moderate to high attrition rates in both groups
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?		PN		The missing outcome data was not handled adequately and the use of ITT analyses could still overestimate the number of relapsers
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?		PY		Yes, it is possible that missingness could have been due to participants experiencing relapse,
	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?		PN		
	Risk of bias judgement		Some concerns		There were moderate to high attrition rates in both groupsThe missing outcome data was not handled adequately and the use of ITT analyses could still overestimate the number of relapsersYes, it is possible that missingness could have been due to participants experiencing relapse, but as the ITT analyses did not differ from PP-analyses and due to the attrition rates being similar across the groups, it is unlikely that the missingness depended on relapse status
Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?		PN		Standard questionnaires were used by the clinic to assess alcohol consumption, and in case of no answer, the participants were contacted by phone
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?		PN		The standard questionnaires were used for all participants and all enrolled to treatment
	4.3 Were outcome assessors aware of the intervention received by study participants?		PN		Probably not, both therapists as well as the participants themselves (self-report) were probably aware as there was no active comparator

	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	NA	
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	NA	
	Risk of bias judgement	Low	Standard questionnaires were used by the clinic to assess alcohol consumption, and in case of no answer, the participants were contacted by phoneThe standard questionnaires were used for all participants and all enrolled to treatmentYes, both therapists as well as the participants themselves (self-report) were probably aware as there was no active comparatorThis could also have affected the assessment of the outcome, but it is unlikely that the knowledge of the intervention received influenced the outcome as there was no difference in attrition
Bias in selection of the reported result	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	Y	A pre-registered trial was retrieved with information on outcomes
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	PN	No evidence of selection among multiple outcomes
	5.3 ... multiple eligible analyses of the data?	PN	No evidence of selection among multiple analyses
	Risk of bias judgement	Low	A pre-registered trial was retrieved with information on outcomesNo evidence of selection among multiple outcomesThere was no information on specific analyses in the pre-registered trial record
Overall bias	Risk of bias judgement	Some concerns	The high attrition rates, the unblinded nature of the study and the potential impact from the awareness of intervention assignment do give rise to some concerns on the overall risk of bias

Unique ID	16b_schoenmakers_2010	Study ID	16b	Assessor	NTM
Ref or Label	Schoenmakers et al. (2010)	Aim	assignment to intervention (the "intention-to-treat" effect)		
Experimental	AiBM	Comparator	Sham	Source	Journal article(s)
Outcome	Relapse rate at FU-3	Results	AiBM: 25% and Sham: 21%	Weight	0.88
Domain	Signalling question			Response	Comments
Bias arising from the randomization process	1.1 Was the allocation sequence random?		Y		Participants were randomly assigned and stratified by gender and treatment center. A
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?		Y		
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?		PN		No evidence of baseline differences
	Risk of bias judgement		Low		Participants were randomly assigned and stratified by gender and treatment center. A random sequence was generated online and only the experimenter had the access to this listNo evidence of baseline differences
Bias due to deviations from intended interventions	2.1 Were participants aware of their assigned intervention during the trial?		PN		The participants were probably not aware of the treatment administered nor did the therapists
	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?		PN		
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?		NA		
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?		NA		
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?		NA		
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?		PY		For the primary outcome of time to first relapse, a last observation carried forward was used, but for relapse status ITT-analysis was not conducted as the authors state that this was not possible due to the sample size
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to		NA		
	Risk of bias judgement		Low		The participants were probably not aware of the treatment administered nor did the therapists know about group assignmentFor the primary outcome of time to first relapse, a last observation carried forward was used, but for relapse status ITT-analysis was not conducted as the authors state that this was not possible due to the sample size
Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomized?		PN		Attrition rates were small to moderate and similar across the groups
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?		PY		They conducted ITT analyses and complete case analyses and found the same pattern, but no analyses on relapse is reported
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?		NA		
	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?		NA		
	Risk of bias judgement		Low		Attrition rates were small to moderate and similar across the groupsThey conducted ITT analyses and complete case analyses and found the same pattern, but no analyses on relapse is reported
Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?		PN		Standard questionnaires were sent out to the participants three months after completing the training sessions and medical journals were consulted to confirm these variables
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?		PN		There is no evidence of participants in the two groups differed in how they were followed up
	4.3 Were outcome assessors aware of the intervention received by study participants?		PY		Standard questionnaires were sent out, but the researchers were not blinded to the group assignment. Participants (self-report) were however blind to the intervention assigned
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?		PN		Although, researchers might have known the intervention assigned to each participant, the
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?		NA		

	Risk of bias judgement	Low	Standard questionnaires were sent out to the participants three months after completing the training sessions and medical journals were consulted to confirm these variablesThere is no evidence of participants in the two groups differed in how they were followed upStandard questionnaires were sent out, but the researchers were not blinded to the group assignment. Participants (self-report) were however blind to the intervention assignedAlthough, researchers might have known the intervention assigned to each participant, the participant, also being used for self-report, was most likely not aware of the group assignment
Bias in selection of the reported result	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	NI	No pre-registered protocol or trial registration could be retrieved for the present study
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	NI	Not possible to retrieve information
	5.3 ... multiple eligible analyses of the data?	NI	Not possible to retrieve information
	Risk of bias judgement	Some concerns	No pre-registered protocol or trial registration could be retrieved for the present studyNot possible to retrieve informationNot possible to retrieve information
Overall bias	Risk of bias judgement	Some concerns	The lack of a pre-registered protocol or trial registration, does give rise to some concerns on the overall risk of bias

Unique ID	17b_stein_2023	Study ID	17b	Assessor	NTM
Ref or Label	Stein et al. (2023)	Aim	assignment to intervention (the 'intention-to-treat' effect)		
Experimental	IBM	Comparator	Sham	Source	Journal article(s); Trial protocol; Non-commercial trial registry record (e.g. ClinicalTrials.gov record)
Outcome	PDA at FU-3	Results	Estimate = 11.48, SE = 4.52, 95% CI: 2.57, 20.40, p = .012	Weight	3.09
Domain	Signalling question			Response	Comments
Bias arising from the randomization process	1.1 Was the allocation sequence random?	Y			The randomization procedure is described in detail and information on concealment has also
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Y			
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?	N			No evidence of differences at baseline
	Risk of bias judgement	Low			The randomization procedure is described in detail and information on concealment has also been providedNo evidence of differences at baseline
Bias due to deviations from intended interventions	2.1.Were participants aware of their assigned intervention during the trial?	PN			There is no evidence of the participants being aware of their assigned intervention nor that the
	2.2.Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	PN			people delivering the intervention were aware of the group allocationITT-analyses were conducted where all randomized participants were used
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	NA			
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?	NA			
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?	NA			
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Y			ITT-analyses were conducted where all randomized participants were used
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to	NA			
Bias due to missing outcome data	Risk of bias judgement	Low			There is no evidence of the participants being aware of their assigned intervention nor that the people delivering the intervention were aware of the group allocationITT-analyses were conducted where all randomized participants were used
	3.1 Were data for this outcome available for all, or nearly all, participants randomized?	PN			Three months after discharge attrition was similar across the groups (approximately 20%)
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	PY			The authors conducted several sensitivity analyses that did not indicate any influence on the result under different assumptions
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	NA			
	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	NA			
Bias in measurement of the outcome	Risk of bias judgement	Low			Three months after discharge attrition was similar across the groups (approximately 20%)The authors conducted several sensitivity analyses that did not indicate any influence on the result under different assumptions
	4.1 Was the method of measuring the outcome inappropriate?	PN			The authors used TLFB conducted as a telephone interview and sending out the questionnaires via email three months after discharge to all participants
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	PN			No difference between the groups suggests that the measurement of the outcome could have been influenced
	4.3 Were outcome assessors aware of the intervention received by study participants?	PN			Although the information is scarce, it is not deemed likely that the investigators would have known the participant's group allocation - also the interventions are highly similar only varying by go/no-go trial ratio
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	NA			
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	NA			
	Risk of bias judgement	Low			The authors used TLFB conducted as a telephone interview and sending out the questionnaires via email three months after discharge to all participantsNo difference between the groups suggests that the measurement of the outcome could have been influencedAlthough the information is scarce, it is not deemed likely that the investigators would have known the participant's group allocation - also the interventions are highly similar only varying by go/no-go trial ratio
Bias in selection of the reported result	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	Y			A trial registration and a published protocol was retrieved, which includes information on this study as well as an EEG-substudy.

	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	PN	The number of primary outcomes pre-specified in the trial registration does not match the ones used for the present study. Although PDA at FU-3 was registered as the first outcome, other outcomes were also specified such as heavy drinking days. The authors do address this issue
	5.3 ... multiple eligible analyses of the data?	PN	The outcomes including PDA at FU-3 is analysed in accordance with the pre-specified analyses in the protocol
	Risk of bias judgement	Low	A trial registration and a published protocol was retrieved, which includes information on this study as well as an EEG-substudy. The number of primary outcomes pre-specified in the trial registration does not match the ones used for the present study. Although PDA at FU-3 was registered as the first outcome, other outcomes were also specified such as heavy drinking days. The authors do address this issue, but they do not provide adequate details for this changeThe outcomes including PDA at FU-3 is analysed in accordance with the pre-specified analyses in the protocol
Overall bias	Risk of bias judgement	Low	Although a change of primary outcome was implemented during the study, this was addressed by the authors, which does not give rise to concerns in terms of overall risk of bias

Unique ID	18b_wiers_2011	Study ID	18b	Assessor	NTM
Ref or Label	Wiers et al. (2011)	Aim	assignment to intervention (the 'intention-to-treat' effect)		
Experimental Outcome	ApBM Abstinence rate at FU-12	Comparator	Sham + TAU only	Source	Journal article(s)
		Results	ApBM: 59%, Sham: 46% ($\chi^2(1) = 3.71, p = .057$)	Weight	4.69
Domain	Signalling question			Response	Comments
Bias arising from the randomization process	1.1 Was the allocation sequence random?		PY		Little information on randomization procedure is provided, and there is no information on whether
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?		NI		No evidence of differences in baseline characteristics
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?		PN		Little information on randomization procedure is provided, and there is no information on whether the allocation sequence was kept concealed and how this was doneNo evidence of differences in baseline characteristics
	Risk of bias judgement		Some concerns		
Bias due to deviations from intended interventions	2.1 Were participants aware of their assigned intervention during the trial?		PY		There was a sham and a TAU only group, where the TAU only group was combined with the sham
	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?		PY		There were no deviations from the intended intervention that was due to the trial context
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?		PN		
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?		NA		
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?		NA		
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?		Y		ITT-analyses using all randomized participants were conducted
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to		NA		
	Risk of bias judgement		Low		There was a sham and a TAU only group, where the TAU only group was combined with the sham group for the analyses. This also means that the researchers would have known the participant's group allocationThere were no deviations from the intended intervention that was due to the trial contextITT-analyses using all randomized participants were conducted
Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomized?		PY		There were low attrition rates among the two groups (approximately 14%)
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?		NA		
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?		NA		
	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?		NA		
	Risk of bias judgement		Low		There were low attrition rates among the two groups (approximately 14%)
Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?		PN		Follow-up questionnaires on alcohol consumption were sent out and administered by phone
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?		PN		The follow-up assessments were conducted 12 months after discharge, and there is no indication that the measurement of abstinence could have differed between the groups
	4.3 Were outcome assessors aware of the intervention received by study participants?		PY		As the abstinence rate was based on self-reported measures, and the use of TAU only grou, this could have resulted in awareness in some of the participants
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?		PN		The awareness among participants who only received TAU, could have influenced the results,
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?		NA		
	Risk of bias judgement		Low		Follow-up questionnaires on alcohol consumption were sent out and administered by phoneThe follow-up assessments were conducted 12 months after discharge, and there is no indication that the measurement of abstinence could have differed between the groupsAs the abstinence rate was based on self-reported measures, and the use of TAU only grou, this could have resulted in awareness in some of the participantsThe awareness among participants who only received TAU, could have influenced the results either by leading to dropping out or not responding. But the attrition rate was low, thus it is not deemed likely that the outcome was influenced by the knowledge of the intervention received

Bias in selection of the reported result	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	NI	There is no report of a trial registration nor a published protocol, and it was not possible to retrieve any information on pre-specified outcomes and analyses
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	NI	Not possible to retrieve any information
	5.3 ... multiple eligible analyses of the data?	NI	Not possible to retrieve any information
	Risk of bias judgement	Some concerns	There is no report of a trial registration nor a published protocol, and it was not possible to retrieve any information on pre-specified outcomes and analysesNot possible to retrieve any informationNot possible to retrieve any information
Overall bias	Risk of bias judgement	Some concerns	The lack of information on how the randomization sequence was performed and how it was concealed, combined with the missing information on pre-specified outcomes/analyses, give rise to some concerns in multiple domains

Unique ID	19c_spruyt_2025	Study ID	19c	Assessor	NTM
Ref or Label	Spruyt et al. (2025)	Aim	assignment to intervention (the "intention-to-treat" effect)		
Experimental	ApBM	Comparator	Sham	Source	Journal article(s); Non-commercial trial registry record (e.g. ClinicalTrials.gov record)
Outcome	Relapse rate at FU-12	Results	ApBM: 51.8%, Sham: 49.3% ($\chi^2(1) = 1.07, p = .30$)	Weight	2.78
Domain	Signalling question		Response	Comments	
Bias arising from the randomization process	1.1 Was the allocation sequence random?		Y	Participants were assigned using an automated random integer generator. Allocation was	
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?		Y		
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?		N	Baseline characteristics were comparable across groups, with no systematic imbalances.	
	Risk of bias judgement		Low	Randomization was implemented using an automated, computer-based allocation procedure embedded in the study's web application, ensuring both random sequence generation and allocation concealment. Participants and staff were blinded to condition assignment, and baseline characteristics were broadly comparable across groups, with no evidence of imbalances suggesting problems with the randomization process. Overall, the risk of bias arising from randomization was judged to be low.	
Bias due to deviations from intended interventions	2.1. Were participants aware of their assigned intervention during the trial?		N	Staff interacting with participants were blind to allocation.	
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?		N		
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?		NA		
	2.4. If Y/PY to 2.3: Were these deviations likely to have affected the outcome?		NA		
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?		NA		
	2.6. Was an appropriate analysis used to estimate the effect of assignment to intervention?		PN	Primary analyses were conducted per protocol rather than intention-to-treat. Modified ITT were conducted, which did not include all randomized participants	
	2.7. If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?		PN	No evidence of a substantial impact on the results due to the exclusion of the participants lost to follow up	
	Risk of bias judgement		Some concerns	The study was double-blind with standardized intervention delivery, minimizing performance-related deviations. However, reliance on per-protocol analyses rather than intention-to-treat introduces some concern for bias due to deviations from intended interventions.	
Bias due to missing outcome data	3.1. Were data for this outcome available for all, or nearly all, participants randomized?		N	High attrition rates at FU-12 of 50-60% across both groups	
	3.2. If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?		PY	Authors report that analyses with multiple imputation produced an almost identical pattern of results also using the method by Wiers 2011 with missings coded as relapsers, suggesting robustness to missing data.	
	3.3. If N/PN to 3.2: Could missingness in the outcome depend on its true value?		NA		
	3.4. If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?		NA		
	Risk of bias judgement		Low	High attrition rates at FU-12 of 50-60% across both groupsAuthors report that analyses with multiple imputation produced an almost identical pattern of results also using the method by Wiers 2011 with missings coded as relapsers, suggesting robustness to missing data.	
Bias in measurement of the outcome	4.1. Was the method of measuring the outcome inappropriate?		N	Outcomes were assessed using validated and widely used instruments (AUDIT/AUDIT-C for drinking behavior; standardized AAT and VPT procedures for cognitive biases).	
	4.2. Could measurement or ascertainment of the outcome have differed between intervention groups?		PN	Identical outcome measures, procedures, and timing were used across all intervention conditions and sites.	
	4.3. Were outcome assessors aware of the intervention received by study participants?		PN	The study was double-blind; outcome assessors were blind to allocation.	
	4.4. If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?				
	4.5. If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?				
	Risk of bias judgement		Low	Outcomes were measured using validated, standardized instruments and identical procedures across intervention groups, and outcome assessors were blinded to allocation. These features make differential or biased outcome measurement unlikely, resulting in a low risk of bias for this domain.	
Bias in selection of the reported result	5.1. Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?		Y	A trial registration and a published protocol was retrieved, which includes information on this study	
	5.2. ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?		N	There is no evidence of selection among multiple outcomes	
	5.3. ... multiple eligible analyses of the data?		PN	There is no evidence of selection among multiple eligible analyses	

	Risk of bias judgement	Low	A trial registration and a published protocol was retrieved, which includes information on this study. There is no evidence of selection among multiple outcomes. There is no evidence of selection among multiple eligible analyses
Overall bias	Risk of bias judgement	Some concerns	Across domains, the trial was judged to be at low risk of bias overall. Randomization and allocation concealment were appropriate, outcome measurement was standardized and blinded, missing outcome data were addressed using conservative assumptions and sensitivity analyses, and outcomes and analyses were judged consistent with the trial registration. Although some concerns were noted for Domain 2 due to reliance on per-protocol analyses rather than a full intention-to-treat approach, this was the only domain with residual concern and is unlikely to substantially compromise the validity of the overall findings.

Unique ID	20b_mistarz_2025	Study ID	20b	Assessor	NTM
Ref or Label	Mistarz et al. (2025)	Aim	assignment to intervention (the "intention-to-treat" effect)		
Experimental Outcome	WmRT	Comparator	Sham	Source	Journal article(s); Trial protocol
	Relapse rate at FU-6	Results	ApBM: 50%, Sham: 33% (OR = 2.0, 95% CI [0.77, 5.18])	Weight	1.34
Domain	Signalling question			Response	Comments
Bias arising from the randomization process	1.1 Was the allocation sequence random?			Y	Urn randomization was used and conducted by an independent statistician. Group allocation was
	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?			Y	
	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?			PN	Groups were balanced on demographic and clinical variables; cognitive differences were due to known scoring discrepancies, not allocation failure.
	Risk of bias judgement			Low	Randomization was conducted by an independent statistician with adequate allocation concealment. Groups were balanced on demographic and clinical variables; baseline cognitive differences reflected known scoring discrepancies rather than failures in randomization. Overall risk of bias was low.
Bias due to deviations from intended interventions	2.1 Were participants aware of their assigned intervention during the trial?			N	Participants were blinded to whether they received the experimental or sham app.
	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?			N	
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?			NA	
	2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?			NA	
	2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?			NA	
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?			PY	Analyses followed the intention-to-treat principle using mixed-effects models.
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to			NA	
Bias due to missing outcome data	Risk of bias judgement			Low	Participants and study personnel were blinded, and no differential deviations from the intended interventions were identified. Outcomes were analyzed using intention-to-treat analyses, indicating a low risk of bias due to deviations from intended interventions.
	3.1 Were data for this outcome available for all, or nearly all, participants randomized?			N	Substantial attrition occurred at 6-month follow-up.
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?			PN	Attrition was high, and reasons for missingness could not be obtained.
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?			PY	Participants lost to follow-up could plausibly differ in drinking or craving outcomes.
	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?			PY	
Bias in measurement of the outcome	Risk of bias judgement			High	Follow-up attrition was substantial and reasons for missing data were not reported. Although intention-to-treat mixed-effects models were used, the extent of missing outcome data raises some concerns about potential bias.
	4.1 Was the method of measuring the outcome inappropriate?			N	Alcohol consumption and craving were measured using established self-report instruments (ASI items, VAS).
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?			PN	Outcomes were assessed using the same procedures and time points in both groups.
	4.3 Were outcome assessors aware of the intervention received by study participants?			N	Outcome assessments were conducted under blinded conditions.
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?				
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?			PN	
Bias in selection of the reported result	Risk of bias judgement			Low	Outcomes were measured using validated self-report instruments applied uniformly across groups, with blinded assessment procedures. There was no evidence of differential or biased outcome measurement.
	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?			PY	Outcomes, time points (baseline, post-treatment, 6-month follow-up), and intention-to-treat analyses were prespecified in the published protocol.
	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?			PN	Clinical outcomes (DD, HDD, craving) were clearly prespecified using ASI items and VAS at fixed time points.
	5.3 ... multiple eligible analyses of the data?			PN	The protocol prespecified repeated-measures models with both ITT and completer analyses; reported analyses align with this plan.
Overall bias	Risk of bias judgement			Low	Outcomes, time points, and analytical approaches were prespecified in the published protocol, and the reported analyses were consistent with this plan, indicating a low risk of selective reporting bias.
	Risk of bias judgement			High	The trial was judged to have an overall high risk of bias, driven by substantial and unexplained missing outcome data. Although randomization, deviations from intended interventions, outcome measurement, and selective reporting were assessed as low risk, the extent of attrition at follow-up raises a high risk of bias overall.