Supplementary file 4. ROBINS-I assessments for studies providing sufficient data to calculate the difference in change between quitters and continuing smokers from baseline to longest follow-up: Depression

Study	Bias due to confounding	Bias in selection of participants into the study (pre-filled)	Bias in classification of interventions (Bias in classification of quitting smoking)	Bias due to deviations from the intended intervention (Bias due to deviations from quitting/continuing smoking (i.e., relapsing) or access to psychoactive treatments)	Bias due to missing data	Bias in measurement of outcomes (pre-filled)	Bias in selection of the reported result	Overall risk of bias
Becoña 2017	Serious	Low	Low	Critical	Serious	Low	Serious	Critical
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was clearly defined as 7-day point prevalence abstinence bio-verified by expired CO reading of ≤ 9 ppm.	Justification: One arm was allocated behavioural activation, and this intervention increased quit rates. We have information about the treatments provided in the study, we do not know what treatments were accessed outside of the study.	Justification: Outcome data were missing for more than 50% of the participants. Missing data were not assumed in any way. Included participants were those who attended at least the first treatment session.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: In the protocol authors state that they measured HDRS but this is not reported in the main report.	Justification: One domain judged as being at critical risk of bias.
Berlin 2010	Serious	Low	Low	Low	Low	Low	Critical	Critical
	Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was clearly defined as participants who reported point-prevalence abstinence during the previous 7 days, or continuous abstinence, i.e. complete abstinence from quit day until the end of the study validated by serum cotinine	Justification: Analyses were adjusted for treatment condition (antidepressant use), and people were deemed ineligible for the study if they used drugs and alcohol.	Justification: 133 of the 134 randomised participants were included in analyses, and a multi-level model was used to account for th minimal missing data	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would	Justification: More than one scale was used to measure depression, and it appeared that results were more likely to be reported if they showed a significant effect.	One domain judged to be at critical risk of bias

						have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.		
Blalock 2008	Serious	Low	Low	No information	No information	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was clearly defined. Continuous abstinence - defined as self-reported sustained abstinence beginning 2 weeks after quit date, through the 3-month follow-up assessment.	Justification: Not enough information was provided to answer the signalling questions in this domain.	Justification: The final sample included 72% (21/29) participants who entered the trial. Not enough information was provided to answer the remaining signalling questions in this domain.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: One domain judged as being at serious risk of bias.
Bloom 2015	Serious	Low	Low	No information	Low	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was clearly defined as participants who reported 7-day abstinence at all four follow-ups were classified as abstinent; those who reported smoking at one or more follow-ups were classified as smoking.	Justification: Not enough information was provided to answer the signalling questions in this domain.	Justification: Variable-level missing data, less than 9% of all data, and variables at all time points were imputed using multiple imputation.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: One domain judged as being at serious risk of bias.

						have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.		
Bock 2012	Serious	Low	Low	Moderate	Low	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was clearly defined as: 7-day point prevalence abstinence (7PPA), verified by saliva cotinine level less than 57 nmol/L (15 ng/mL) at the end of treatment (week 8) and all follow-up assessments.	Justification: There were deviations from intended intervention, but their impact on the outcome is expected to be slight. Participants were randomly allocated to cognitive behavioural therapy for smoking cessation and were randomized to a twice-weekly program of Vinyasa yoga or a general health and wellness program (contact control). In this study the authors report that yoga improved negative affect, and also that yoga led to smoking cessation at 8-weeks follow-up, but the effect on smoking cessation did not last to later follow-up points. Therefore it's unlikely that yoga had an impact on the association between mental health and smoking, in this study. Therefore the psychoactive treatments in this study were balanced between quitters/continuing smokers. The outcome data that we have extracted, have not been estimated relative to relapsing.	Justification: 55 participants at baseline, and 52 at follow-up.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimates was likely to be elected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: One domain judged as being at serious risk of bias.
Busch 2011	Serious	Low	Low	No information	Low	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method	Justification: Selection of participants into the study (or into the analysis) was	Justification: Smoking cessation was clearly defined as self-reported point-prevalence abstinence of 7 or more	Justification: Not enough information was provided to answer the signalling questions in this domain.	Justification: Outcome data were available for 88% (212/241) of participants.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the	Justification: No evidence that the effect estimate was likely to be selected on the basis of results	Justification: One domain judged as being at

	that controlled for all the important time-varying confounding.	not based on participant characteristics observed after the start of quitting smoking.	days, bio-verified by expired CO test (abstinent if ≤10 ppm).			hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	serious risk of bias.
Covey 2015	Serious	Low	Low	Moderate	Low	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was clearly defined as: point-prevalence weekly abstinence, at week 1 and week 6 after target quit date, bio validated by exhaled carbon monoxide < 8 ppm.	Justification: Participants were excluded if they had a "psychiatric diagnosis other than ADHD or nicotine dependence, and the use of combination treatments". There was no appropriate analysis to address the issue of relapsing. No psychoactive interventions were delivered as part of the study.	Justification: 100% (255/255) were recruited and all were included in the analysis.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: One domain judged as being at serious risk of bias.
Dawkins 2009	Serious	Low	Low	Low	Low	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method	Justification: Selection of participants into the study (or into the analysis) was	Justification: Smoking cessation was clearly defined as: Continuous abstinence (maintained cotinine- or CO-verified	Justification: Exclusion criteria included current diagnosis of psychiatric or neurological condition, regular use of prescription or class A	Justification: Participants were not excluded due to missing outcome data on smoking status or mental health. Some data were missing for some	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the	Justification: No evidence that the effect estimate was likely to be selected on the basis of results	Justification: One domain judged as being at

	Confounding	Selection	Classification of interventions	Deviations	Missing data	Measurement of outcomes	Selection of reported result	Overall
	that controlled for all the important time-varying confounding.	not based on participant characteristics observed after the start of quitting smoking.	abstinence at all follow-ups).	recreational drugs – therefore participants were unlikely to require psychoactive interventions during the study period. No psychoactive interventions were delivered as part of the study.	variables, usually due to calibration or technical problems (this was one or two data points).	hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	serious risk of bias.
Dedert 2019	Serious	Low	Low	No information	Low	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding. They measured post baseline mood, but we are using unadjusted data in the meta-analysis.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was clearly defined as 7-day point-prevalence smoking abstinence at end of treatment and 6-month follow-u, bio-verified by expired carbon monoxide < 4ppm.	Justification: Not enough information was provided to answer the signalling questions in this domain.	Justification: Outcome data were available for 77.5% (31/40) of participants.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: One domain judged as being at serious risk of bias.
Dulger 2019	Serious	Low	Low	Moderate	Low	Low	Serious	Serious
	Justification: Authors did not use an appropriate analysis method that controlled	Justification: Selection of participants into the study (or into the analysis) was not based on	Justification: Smoking cessation was clearly defined. At the end of the 6th month smokers separated into subgroups of 'quit	Justification: As smoking cessation treatment, bupropion hydrochloride was given to 23 patients (42.6%). Participants with psychiatric disease were excluded.	Justification: Outcome data were available for over 70% of participants.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our	Justification: Evidence of multiple testing of quitting/mental health association.	Justification: Two domains judged as being at serious risk of bias.

	for all the important time-varying confounding.	participant characteristics observed after the start of quitting smoking.	smoking' versus 'not quit smoking'.			review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.		
Garvey 2012	Serious	Low	Low	Low	Moderate	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was clearly defined as 'Continuous abstinence' - not even a puff smoked at any point during 1 year follow-up and 'point prevalence' abstinence - defined as no smoking in 7 days prior to 1 year assessment bio-verified by expired CO < 8 ppm.	Justification: No psychoactive treatments were delivered as part of the study. Psychiatric exclusion criteria included history of schizophrenia, current severe depression (past three months), unstable bipolar disorder, substance use disorder (past twelve months), and/or hospitalization for psychiatric reasons in the past twelve months. We also excluded smokers taking antipsychotic medications for psychosis-related conditions.	Justification: 278 participants were randomised, but unpublished data were only sent for 106 participants.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: One domain judged as being at serious risk of bias.
Guimond 2017	Serious	Low	Low	No information	Low	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled	Justification: Selection of participants into the study (or into the analysis) was not based on	Justification: Smoking cessation was clearly defined as: a participant who reported an occasional or a daily usage at one time point	Justification: Not enough information was provided to answer the signalling questions in this domain.	Justification: Outcome data were available for 74% of participants (110/149).	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple	Justification: One domain judged as being at serious risk of bias.

	for all the important time-varying confounding.	participant characteristics observed after the start of quitting smoking.	and a non-usage at the following time point.			review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	outcome measurements, multiple analyses of the association in question, or different subgroups.	
Hammett 2019	Serious	Low	Low	No information	Moderate	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was clearly defined. A self-report measure was used to assess 6-month prolonged smoking abstinence at 12-month follow-up.	Justification: Not enough information was provided to answer all signalling questions in this domain. No psychoactive treatments were offered as part of the study.	Justification: Not enough information was provided to answer all signalling questions in this domain. 939 and 1382 available at baseline. 585 and 882 available at follow-up. Data only available for 63% of the baseline sample. There are a lot of missing data, so people were probably excluded for missing smoking status data, and other variables that were included in the adjusted models.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: One domain judged as being at serious risk of bias.
Kahler 2002	Serious	Low	Low	No information	Low	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled	Justification: Selection of participants into the study (or into the analysis) was not based on	Justification: Smoking cessation was clearly defined. Abstinent (report no smoking, and abstinence is biochemically	Justification: No psychoactive treatments were used as part of this study. However, unclear if psychoactive treatments were accessed external to the study.	Justification: Outcome data were available for 89% (161/179) of participants. Participants excluded for missing data, not purely for smoking status.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple	Justification: One domain judged as being at serious risk of bias.

	for all the important time-varying confounding.	participant characteristics observed after the start of quitting smoking.	confirmed), minimal smoking (report smoking an average of less than one cigarette per day during the week), moderate smoking (report smoking an average of 1–9 cigarettes per day), and relapsed.			review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	outcome measurements, multiple analyses of the association in question, or different subgroups.	
Kahler 2011	Serious	Low	Low	No information	Low	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was clearly defined. Seven-day point-prevalence abstinence was assessed at 2, 8, 16, and 26 weeks after quit date. Abstinence was verified by a combination of alveolar carbon monoxide ≤10 ppm and saliva cotinine ≤15 ng/ml (SRNT Subcommittee on Biochemical Verification, 2002) or by confirmation from a significant other. Missing self-report or confirmation data were coded as smoking.	Justification: Psychoactive treatments not part of methodology in this study. Also unclear if these are measured in the methods: excluded for current mental health diagnoses, but not clear.	Justification: Outcome data available for 99.6% (235/236) of participants.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: One domain judged as being at serious risk of bias.
Krebs 2018	Serious	Low	Low	No information	No information	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled	Justification: Selection of participants into the study (or into the analysis) was not based on	Justification: Smoking cessation was clearly defined as self-reported abstinence (not even a puff) in the past 30 days	Justification: Intervention arm received psychological treatments that can improve mental health; unclear if control arm also received this - but analysis controlled for treatment.	Justification: These data were a subsample from a larger study. Missing data were evaluated by examining the relationship between moderators and baseline	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple	Justification: One domain judged as being at serious risk of bias.

	for all the important time-varying confounding.	participant characteristics observed after the start of quitting smoking.	assessed at 2 and 6 months from enrolment.	No information provided about psychoactive treatments accessed external to the study.	BASIS-24 scores; no significant associations were found. Unclear whether they assessed missing data from the mental health subsample (N=577) or total recruitment to larger study, (N=2438).	review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	outcome measurements, multiple analyses of the association in question, or different subgroups.	
Lechner 2019	Serious	Low	Low	No information	Low	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was clearly defined as seven-day point-prevalence smoking abstinence was assessed at 2, 8, 16, and 26 weeks after quit date. Self-reported smoking abstinence was bio-verified by co ≤4 ppm.	Justification: Not enough information was provided to answer all signalling questions in this domain. No psychoactive treatments were offered as part of the study.	Justification: 88% of participants were (132/150) analysed in the model	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: One domain judged as being at serious risk of bias.
Lee 2019	Serious	Low	Low	No information	Critical	Low	Low	Critical
	Justification: Authors did not use an appropriate analysis method that controlled	Justification: Selection of participants into the study (or into the analysis) was not based on	Justification: Smoking cessation was confirmed through urine cotinine test and blood cotinine.	Justification: Not enough information was provided to answer all signalling questions in this domain. No psychoactive treatments were offered as part of the study.	Justification: more than 70% of participants data were analysed at 6 months, less than 70% at 2 years. Total N at baseline: N=164. At 2 years follow-up: N=54. Proportions	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple	Justification: One domain judged as being at critical risk of bias.

	for all the important time-varying confounding.	participant characteristics observed after the start of quitting smoking.			of missing data were dissimilar across smoking status: Abstainers N = 11 (73%); Smokers N = 43 (28%).	review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	outcome measurements, multiple analyses of the association in question, or different subgroups.	
Lopez 2014	Serious	Low	Low	No information	Moderate	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was clearly defined. Smoking status was biochemically verified at each assessment using urine cotinine testing.	Justification: Not enough information was provided to answer all signalling questions in this domain. No psychoactive treatments were offered as part of the study.	Justification: Outcome data were available for 81% (234/289) of participants. However, participants were probably excluded due to missing data on smoking status.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: One domain judged as being at serious risk of bias.
Lubitz 2019	Serious	Low	Low	No information	No information	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled	Justification: Selection of participants into the study (or into the analysis) was not based on	Justification: Smoking cessation was clearly defined. The primary smoking cessation outcome was 7-day	Justification: Adherence to psychoactive treatments was not assessed external to the study to see if it was balanced between quitters and smokers/ adjusted for in the analysis?	Justification: Not enough information was provided to answer all signalling questions in this domain. There were probably missing outcome data, although this was not	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple	Justification: One domain judged as being at serious risk of bias.

	for all the important time-varying confounding.	participant characteristics observed after the start of quitting smoking.	point-prevalence abstinence		adequately described "Participants who completed the pre-quit session (Week 0) and were randomized to a treatment arm but were lost to follow-up or failed to provide the CO measure were considered not abstinent."	review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	outcome measurements, multiple analyses of the association in question, or different subgroups.	
Martinez-Gonzalez 2018	Serious	Low	Low	No information	Moderate	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was clearly defined. Smoking status was evaluated from the clinical history and it was confirmed by co-oximetry.	Justification: Adherence to psychoactive treatments as part of the study balanced between quitters and smokers. No information about external psychoactive treatments.	Justification: Outcome data were available for 85% of participants (278/328). However, participants were likely to have been excluded due to missing smoking status data.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: One domain judged as being at serious risk of bias.
Martinez-Vispo 2016	Serious	Low	Low	Low	Low	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled	Justification: Selection of participants into the study (or into the analysis) was not based on	Justification: Smoking cessation was clearly defined. A participant was considered abstinent at the end of the intervention if there	Justification: Participants did not receive psychoactive medicines, and the participants did not receive CBT for mood management. Participants were excluded from the study if they	Justification: Outcome data available for 100% (92/92) of participants. Participants were not excluded due to missing data on smoking status or other variables.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple	Justification: One domain judged as being at serious risk of bias.

	for all the important time-varying confounding.	participant characteristics observed after the start of quitting smoking.	was no smoking in the 24 hours prior to the last session and CO level was less than 10 ppm.	were: (1) diagnosed with severe mental disorder (bipolar disorder and/ or psychotic disorder), or (2) with concurrent dependence on other substances (e.g., cannabis, cocaine, heroin, etc.).		review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	outcome measurements, multiple analyses of the association in question, or different subgroups.	
Mathew 2013	Serious	Low	Low	No information	Low	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was clearly defined. Self-reported smoking status was bio-verified by expired CO at session and follow-up visit.	Justification: Not enough information was provided to answer all signalling questions in this domain. No psychoactive treatments were offered as part of the study.	Justification: Outcome data were available for more than 70% of participants. Participants were not excluded due to missing smoking status data or other variables.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: One domain judged as being at serious risk of bias.
Moadel 2012	Serious	Low	Low	No information	Low	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for	Justification: Selection of participants into the study (or into the analysis) was not based on	Justification: Smoking cessation was clearly defined. Smoking cessation was ECO-verified 7-day point	Justification: Not enough information was provided to answer all signalling questions in this domain.	Justification: Outcome data were available for 124/145 (85.5%) for the depression outcome. Missing=smoking for smoking status imputation. The analysis was unadjusted,	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple	Justification: One domain judged as being at serious risk of bias.

	for all the important time-varying confounding.	participant characteristics observed after the start of quitting smoking.	prevalence abstinence at day 132.		so participants were not excluded due to missing data on other variables required for the analysis.	review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	outcome measurements, multiple analyses of the association in question, or different subgroups.	
Munafò 2008	Serious	Low	Low	No information	Moderate	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was defined as point-prevalence, although the definition was lacking in some detail	Justification: Not enough information was provided to answer all signalling questions in this domain. Psychoactive treatments were not provided as part of the study.	Justification: No information about missing outcome data. Complete case analysis was presented in which participants were excluded for missing smoking status data. The complete dataset consisted of the n=4,286 (60.5%) women who provided information on all seven smoking measures used here. Table 3 shows that some psychosocial adversity data were missing for smokers/quitters. But there's no information about whether or not people were excluded from analyses. Proportions of missing psychosocial adversity data was different between smoking status. Similar results were obtained with the complete smoking data	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: One domain judged as being at serious risk of bias.
Rocha 2017	Serious	Low	Low	No information	Serious	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method	Justification: Selection of participants into the study (or into the analysis) was	Justification: Smoking cessation was clearly defined. Participants self-reported whether	Justification: Not enough information was provided to answer all signalling questions in this domain. Psychoactive	Justification: 45/110 were lost to follow-up (41%). Table 2 suggests that those lost to follow-up were not assumed to be smoking. Participants who	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the	Justification: No evidence that the effect estimate was likely to bes elected on the basis of results	Justification: Two domains judged as being at

	that controlled for all the important time-varying confounding.	not based on participant characteristics observed after the start of quitting smoking.	they smoked even a puff in the past 7 days.	treatments were not provided as part of the study.	did not attend follow-up for any reason were not included in the analysis. There was evidence that those reasons for missing data differed across smoking status "The 45 participants who were not included at Time 3 presented significantly higher nicotine dependence at Time 1 (M = 4.98, SD = 2.22) than the 65 participants included (M = 3.80, SD = 1.88) (t(108) = 3.00, p = .003, 95% IC [0.40, 1.96], η2 = .08)", and no analysis adjusting for this was conducted.	hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	serious risk of bias.
Rodriguez-Cano 2016	Serious	Low	Low	No information	Serious	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was clearly defined as 7-day point prevalence abstinence 6 and 12 months after clinical discharge; participants responded either ''yes'' or ''no'' to the question: ''Have you smoked a cigarette, even a puff, in the past seven days?''.	Justification: Not enough information was provided to answer all signalling questions in this domain. Psychoactive treatments were not provided as part of the study. Participants received CBT but this was focused on smoking cessation rather than mood.	Justification: 43% (242/562) of participants completed the study and were included in the analysis. Only people who completed BDI-II at all time points were included. Not clear if participants were excluded due to missing smoking status data..	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: Two domains judged as being at serious risk of bias.
Sankaranarayanan 2016	Serious	Low	Low	No information	Moderate	Low	Low	Serious
	Justification: Authors did not use an appropriate	Justification: Selection of participants into the study (or into	Justification: Smoking cessation was clearly defined. 7-day point prevalence abstinence	Justification: Not enough information was provided to answer all signalling questions in this domain.	Justification: 121/235 (51.5%) were included in the data provided by the authors. Participants were included in	Justification: Participants would need to remember what they scored at baseline, and participants	Justification: No evidence that the effect estimate was likely to be selected	Justification: One domain judged as being at

	analysis method that controlled for all the important time-varying confounding.	the analysis) was not based on participant characteristics observed after the start of quitting smoking.	bio-verified by expired CO.		the analysis if they had BDI-II scores at baseline and 12 months. In the main study (Baker 2015[1]) missing = smoking; however this has not been explicitly stated for the data provided. For our meta-analysis we used unadjusted data, so exclusion based on other variables is not relevant here.	will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	serious risk of bias.
Schnoll 2016	Serious	Low	Low	No information	Moderate	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was clearly defined. Point prevalence abstinence at 6 months- self-reported abstinence from smoking for 7 days prior to the assessment and biochemically confirmed with breath carbon monoxide.	Justification: Not enough information was provided to answer all signalling questions in this domain.	Justification: 69/180 (38%) participants were lost to follow-up due to missing outcome data. Missing=smoking for smoking status imputation. All baseline participants were included in the analysis.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups. Protocol suggests IDS and BAI were the only planned depression and anxiety measures.	Justification: One domain judged as being at serious risk of bias.
Solomon 2006	Serious	Low	Low	Not information	Moderate	Low	Low	Serious

[1] Baker, AL, Richmond, R, Kay-Lambkin, FJ, Filia, SL, Castle, D, Williams, JM, Lewin, TJ, Clark, V, Callister, R and Weaver, N, (2015). Randomized controlled trial of a healthy lifestyle intervention among smokers with psychotic disorders. Nicotine & Tobacco Research, 17(8), pp.946-954.

Study								
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was clearly defined. Self-reported 7-day point-prevalence abstinence.	Justification: Not enough information was provided to answer all signalling questions in this domain. Participants received counselling as part of the intervention, but no information on adherence by smoking status.	Justification: Outcome data were available for 63% of participants (149/234). To be included in the current study, participants had to have completed assessments of smoking status and psychological symptoms near the time of their first, second, and end-of-pregnancy prenatal visits as part of the routine assessments in the studies from which they were drawn. The analysis for the association between smoking cessation and mental health was not adjusted, and therefore participants were not excluded for missing data for other variables.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: One domain judged as being at serious risk of bias.
Tranel 2012	Serious	Low	Moderate	No information	No information	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was not clearly defined.	Justification: Not enough information was provided to answer all signalling questions in this domain.	Justification: Not enough information was provided to answer all signalling questions in this domain.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: One domain judged as being at serious risk of bias.
Vazquez 1999	Serious	Low	Low	Low	Low	Low	Low	Serious

	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was clearly defined as not smoking in the 24 hr prior to the last treatment session and bio-verified by expired CO < 9 ppm.	Justification: Psychoactive treatments were not provided as part of the study. Participants were excluded if they were in receipt of antidepressants or psychotherapy external to the study.	Justification: 86% (160/186) were included in the analysis. Primary exclusion likely to be due to missing smoking data. The analysis for the association between smoking cessation and mental health was not adjusted, and therefore participants were not excluded for missing data for other variables.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: One domain judged as being at serious risk of bias.
Vermeulen 2019	Serious	Low	Low	No information	Serious	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was not clearly defined. Participants were defined as smokers if they smoked daily for 1 month or longer in the past 12 months.	Justification: Psychoactive treatments were not provided as part of the study. Assumed that many participants would have been receiving psychoactive treatments external to the study because n = 1119 were classed as having psychosis. Related cohort paper outlines baseline characteristics of this group, but does not outline if medication is balanced.[2]	Justification: Complete data for all three timepoints were available for 544 (62%) patients, 633 (69%) siblings, and 352 (64%) controls. "Participants were included in the multi-cross-sectional analyses if data were available for at least one time point (baseline, 3 years, or 6 years) on the outcome variable of interest and for smoking behaviour because mixed modelling allowed us to calculate valid estimates under the assumption of missing at random even if data for one or two timepoints were missing".	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: Three domains judged as being at serious risk of bias.

[2] Korver N, Quee PJ, Boos HB, Simons CJ, de Haan L. Genetic Risk and Outcome of Psychosis (GROUP), a multi-site longitudinal cohort study focused on gene-environment interaction: objectives, sample characteristics, recruitment and assessment methods (2012). International Journal of Methods in Psychiatric Research; 21: 205–21.

Zhou 2016	Serious	Low	Moderate	No information	Low	Low	Low	Serious
	Justification: Authors did not use an appropriate analysis method that controlled for all the important time-varying confounding.	Justification: Selection of participants into the study (or into the analysis) was not based on participant characteristics observed after the start of quitting smoking.	Justification: Smoking cessation was not clearly defined.	Justification: Not enough information was provided to answer all signalling questions in this domain.	Justification: Outcome data were available for > 70% of participants. Participants were not excluded due to missing smoking status data, or other variables.	Justification: Participants would need to remember what they scored at baseline, and participants will be blinded to the hypothesis of our review/meta-analysis. There is no reason to believe that participants would assess their mental health differently due to quitting status. The same questionnaires would have been administered at the same time and in the same manner for all participants. It is unlikely that measurement error in mental health outcomes would be split by exposure group.	Justification: No evidence that the effect estimate was likely to be selected on the basis of results from multiple outcome measurements, multiple analyses of the association in question, or different subgroups.	Justification: One domain judged as being at serious risk of bias.