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Study	Risk of bias						Overall
	D1	D2	D3	D4	D5	D6	
Bruce, 2001	!	+	X	+	+	-	!
Cookson, 1998	!	+	X	+	+	-	!
Fischer, 1997	X	+	X	+	+	-	X
Harrison, 2008	!	+	X	+	+	-	!
Mandal, 2013	!	+	!	+	+	-	!
McCall, 2004	!	+	X	+	+	-	!
Robinson, 2001: participating in "smoky indoor activities"	!	+	X	X	+	-	!
Robinson, 2001: having a "smoker amongst intimate contacts"	X	+	X	X	+	-	X
Tully, 2006	!	+	X	+	+	-	!

D1: Bias due to confounding  
 D2: Bias due to selection of participants  
 D3: Bias in classification of exposures  
 D4: Bias due to missing data  
 D5: Bias in measurement of outcomes  
 D6: Bias in selection of the reported result

Judgement  
 ! Critical  
 X Serious  
 - Moderate  
 + Low

**Supplementary Figure 3:** Domain-level risk of bias assessments for passive tobacco smoking effect estimates.<sup>a</sup>

<sup>a</sup>The domain "Bias due to deviations from intended interventions" (Domain 4 in original tool) was not assessed in the adapted version of the ROBINS-I tool.

Study	Risk of bias						Overall
	D1	D2	D3	D4	D5	D6	
Bruce, 2001	!	+	X	+	+	-	!
Cookson, 1998	!	+	X	+	+	-	!
Fischer, 1997	X	+	X	+	+	-	X
Harrison, 2008	!	+	X	+	+	-	!
Hodgson, 2001	!	+	!	+	+	-	!
Imrey, 1996	!	+	!	+	+	-	!
Křížová, 1999	!	+	X	?	+	-	!
Mandal, 2013	!	+	!	+	+	-	!
McCall, 2004	!	+	X	+	+	-	!
Ridpath, 2015	X	+	!	+	+	-	!
Robinson, 2001	!	+	X	+	+	-	!
Stuart, 1988	!	+	!	+	+	-	!
Tully, 2006	!	+	X	+	+	-	!

D1: Bias due to confounding  
 D2: Bias due to selection of participants  
 D3: Bias in classification of exposures  
 D4: Bias due to missing data  
 D5: Bias in measurement of outcomes  
 D6: Bias in selection of the reported result

**Judgement**  
 ! Critical  
 X Serious  
 - Moderate  
 + Low  
 ? No information

**Supplementary Figure 2:** Domain-level risk of bias assessments for active tobacco smoking effect estimates.<sup>a,b</sup>

<sup>a</sup>The domain “Bias due to deviations from intended interventions” (Domain 4 in original tool) was not assessed in the adapted version of the ROBINS-I tool.

<sup>b</sup>The domain-level assessments for *Stuart, 1988* apply to both calculated effect estimates. The domain-level assessments for *Křížová, 1999* also apply to both extracted effect estimates.

**Ovid MEDLINE:**

- 1 exp Meningococcal Infections/
- 2 neisseria meningiti\*.mp.
- 3 (meningococcal adj (disease or infect\* or invas\* or invad\*)).mp.
- 4 meningococc\*.mp.
- 5 or/1-4
- 6 risk factor\*.ti.
- 7 (smok\* adj5 (active or passive or tobacco or cigarette or (second hand) or secondhand or involuntary or cigar)).mp.
- 8 tobacco.mp.
- 9 Tobacco Smoke Pollution/
- 10 exp Smoking/
- 11 or/6-10
- 12 5 and 11

**EMBASE:**

- 1 exp Meningococcal Infections/
- 2 neisseria meningiti\*.mp.
- 3 (meningococcal adj (disease or infect\* or invas\* or invad\*)).mp.
- 4 meningococc\*.mp.
- 5 or/1-4
- 6 risk factor\*.ti.
- 7 (smok\* adj5 (active or passive or tobacco or cigarette or (second hand) or secondhand or involuntary or cigar)).mp.
- 8 tobacco.mp.
- 9 Tobacco Smoke Pollution/
- 10 exp Smoking/
- 11 or/6-10
- 12 5 and 11

**Web of Science:**

- 1 TS=(meningococcal infections)
- 2 TS=("neisseria meningiti\*")
- 3 TS=(meningococcal NEAR (disease or infect\* or invas\* or invad\*))
- 4 TS=meningococc\*
- 5 or/1-4
- 6 TI=("risk factor\*")
- 7 TS=(smok\* NEAR/5 (active or passive or tobacco or cigarette or ("second hand") or secondhand or involuntary or cigar))
- 8 TS=(tobacco)
- 9 TS=(tobacco smoke pollution)
- 10 TS=(smoking)
- 11 or/6-10
- 12 5 and 11

**Supplementary Figure 1:** Full electronic search strategies.