

Supplementary Material 2: Risk of Bias Assessment

Intervention Models and Behaviour Change Techniques to reduce the risk of Alcohol
Exposed Pregnancies: A systematic review of interventions for non-pregnant women

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Fig. 1 Risk of Bias Assessment for RCTs using ROB 2 Tool

	Risk of bias domains					Overall
	D1	D2	D3	D4	D5	
Manwell et al., 2000	+	+	+	-	+	-
Floyd et al 2007	+	+	+	-	+	-
Ceperich and Ingersoll, 2011	+	+	+	-	+	-
Delrahim-Howlett et al., 2011	+	+	+	-	+	-
Wilton et al., 2013	+	+	+	-	+	-
Ingersoll et al., 2013	+	+	X	-	+	X
Rendall-Mkosi et al., 2013	+	+	+	-	+	-
Montag et al., 2015	+	+	X	-	+	X
Sobell et al., 2017	+	+	+	-	+	-
Velasquez et al., 2017	-	+	+	-	+	-
Ingersoll et al., 2018	+	+	+	-	+	-
Nayak et al., 2019	+	+	+	-	+	-
Isurina et al., 2021	-	+	+	-	-	X
Kaufman et al., 2025	-	+	+	-	+	-
Hanson et al., 2025	+	+	+	-	+	-

Study

Domains:
D1: Bias arising from the randomization process.
D2: Bias due to deviations from intended intervention.
D3: Bias due to missing outcome data.
D4: Bias in measurement of the outcome.
D5: Bias in selection of the reported result.

Judgement
X High
- Some concerns
+ Low

Figure 1 footnotes: Traffic light plot summarising judgments on bias for each study across five domains: (1) the randomisation process, (2) deviations from intended interventions, (3) missing outcome data, (4) measurement of the outcome, and (5) selection of the reported result. Each domain was rated as low risk of bias (green), some concerns (yellow), or high risk of bias (red) according to ROB 2 guidance. The rightmost column presents the overall risk of bias for each study, which was determined by the highest level of risk identified in any domain. Multiple domains with some concerns that substantially reduce confidence in results could also result in an overall assessment of high risk of bias.

Fig. 2 Methodological quality assessment for non-RCTs using Modified Downs and Black Checklist

Study	REPORTING							EXTERNAL VALIDITY				INTERNAL VALIDITY						INTERNAL VALIDITY (CONFOUNDING/SELECTION BIAS)									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Parrish et al., 2018	Green	Green	Green	Green	Green	Green	Green	Yellow	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Reynolds Cook and McCarthy, 2021	Yellow	Yellow	Green	Green	Yellow	Green	Green	Yellow	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Okulicz-Kozaryn et al., 2023	Green	Green	Green	Green	Green	Green	Green	Yellow	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green

Fig. 2 footnotes: Heatmap summarising total and domain-specific scores for each study based on the Downs and Black checklist. Each study was evaluated across four domains: (1) reporting quality, (2) external validity, (3) internal validity—bias, (4) internal validity—confounding (selection bias). Green=present; Yellow=absent. Questions: 1. Hypothesis/aim/objective 2. Main outcomes 3. Participant characteristics 4. Intervention description 5. Distribution of principal confounders 6. Main findings 7. Estimates of random variability 8. Adverse events 9. Characteristics of participants lost to follow-up 10. Actual probability 11. Invited participants representative of population recruited from 12. Consented participants representative of population recruited from 13. Staff, places and facilities representative of participants' usual treatment 14. Blinding of participants 15. Blinding of those measuring the main outcomes 16. Data dredging 17. Adjustment for different time of follow-up 18. Appropriate statistical tests used 19. Compliance with intervention reliable 20. Valid and reliable outcome measures 21. Participants recruited from same population 22. Participants recruited over the same period 23. Randomisation 24. Concealment of allocation 25. Adequate adjustment for confounding 26. Losses of participants taken into account 27. Study power