Author(s): Xiao-Xiao Li
Question: Well-controlled vs Poorly-controlled Blood Glucose on Treatment Effect/Sputum Conversion/Pulmonary Lesion Absorption/Cavity Closure/Recurrence
Setting: Anti-tuberculosis treatment in patients with comorbid diabetes and pulmonary tuberculosis
Bibliography: Optimal glycemic control versus Suboptimal glycemic control for therapeutic outcomes of tuberculosis in patients with comorbid diabetes mellitus. Cochrane Database of Systematic Reviews 2026, in press.

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Well-controlled Blood Glucose	Poorly-controlled Blood Glucose	Relative (95% CI)	Absolute (95% CI)		
treatment effect												
46	non-randomised studies	serious[a]	not serious	not serious	not serious	publication bias strongly suspected very strong association all plausible residual confounding would reduce the demonstrated effect dose response gradient	1663/2342 (71.0%)	2192/2389 (91.8%)	**OR 0.15** (0.13 to 0.19)	**292 fewer per 1,000** (from 326 fewer to 239 fewer)	⨁⨁⨁⨁ High[a]	CRITICAL
sputum conversion												
68	non-randomised studies	serious[a]	not serious	not serious	not serious	publication bias strongly suspected strong association all plausible residual confounding would reduce the demonstrated effect dose response gradient	1924/3266 (58.9%)	2729/3184 (85.7%)	**OR 0.20** (0.17 to 0.22)	**312 fewer per 1,000** (from 352 fewer to 288 fewer)	⨁⨁⨁◯ Moderate[a]	CRITICAL
pulmonary lesion absorption												
53	non-randomised studies	serious[a]	not serious	not serious	not serious	publication bias strongly suspected strong association all plausible residual confounding would reduce the demonstrated effect dose response gradient	1389/2256 (61.6%)	2386/2752 (86.7%)	**OR 0.20** (0.17 to 0.23)	**301 fewer per 1,000** (from 341 fewer to 267 fewer)	⨁⨁⨁◯ Moderate[a]	CRITICAL
cavity closure												
37	non-randomised studies	serious[a]	not serious	not serious	not serious	publication bias strongly suspected strong association all plausible residual confounding would reduce the demonstrated effect dose response gradient	604/1235 (48.9%)	948/1264 (75.0%)	**OR 0.26** (0.22 to 0.32)	**312 fewer per 1,000** (from 352 fewer to 260 fewer)	⨁⨁⨁◯ Moderate[a]	CRITICAL
recurrence rate												
7	non-randomised studies	serious[b]	not serious	not serious	not serious	strong association all plausible residual confounding would reduce the demonstrated effect	122/434 (28.1%)	35/420 (8.3%)	**OR 4.57** (3.01 to 6.92)	**210 more per 1,000** (from 132 more to 303 more)	⨁⨁⨁◯ Moderate[b]	CRITICAL

CI: confidence interval; **OR:** odds ratio

Explanations

a. The overall risk of bias is serious. First, most included retrospective studies failed to adequately adjust for confounding by anti-tuberculosis treatment regimens, baseline glycemic control duration and imbalanced baseline characteristics. Second, inconsistent follow-up durations across studies further complicate the interpretation of treatment effects. The average NOS score of included studies was 5, indicating moderate methodological quality.Egger's test indicated significant publication bias (P<0.05), and the funnel plot showed obvious asymmetry
b. Serious risk of bias for the relapse outcome is attributed to three main factors: first, the limited number of included studies and small sample size that amplifies random errors; second, methodological heterogeneity across studies including inconsistent baseline characteristics and follow-up durations; and third, residual confounding from non-uniform anti-tuberculosis treatment regimens in retrospective designs.Additionally, publication bias was not assessed for this outcome due to the small number of included studies, and heterogeneity testing was limited by the same constraint.