

SHORT META-ANALYSIS · Peer-reviewed · Published · Live dashboard figures

JAK Inhibitors in Rheumatoid Arthritis — Living Meta-Analysis (RapidMeta)

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Short Meta-Analysis · Volume 2

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Abstract

Do trials in rheumatoid arthritis involving JAK inhibitors provide a significant clinical effect on the odds of an ACR20 response? Four placebo-controlled phase-3 randomised trials (ORAL Solo [tofacitinib], RA-BEAM [baricitinib], SELECT-NEXT [upadacitinib], and FINCH 1 [filgotinib]; 2,728 analysed participants) were combined in the RapidMeta rheumatology living review in a web-based, fully tracked pipeline. ACR20 responder counts from each trial's ClinicalTrials.gov results record were pooled as odds ratios by random-effects (REML) on the log scale, with a Hartung-Knapp-Sidik-Jonkman-adjusted interval and back-transformation to the original measurement.

The pooled odds ratio was 3.40 (95% CI 2.89 to 3.99): ACR20 response was roughly 3.4 times more likely with a JAK inhibitor than placebo. Between-trial heterogeneity was absent ($I^2 = 0\%$, Cochran's $Q(3) = 0.74$, $p = 0.86$, $\tau^2 = 0$), and the 95% prediction interval (2.61 to 4.42) excluded no benefit. Results are registered into a reproducibility capsule containing a machine-readable config, an interactive reader, and a Vancouver reference pack.

As a class-level living synthesis of one pivotal trial per agent, the dashboard does not capture dose-ranging, head-to-head or longer-term safety outcomes, and cannot substitute for adjudicated trial-level review of risk of bias, switched endpoints, or missing subgroup data.

References

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Interactive dashboard figures

The figures in this section are rendered directly from this paper's interactive dashboard — the same visualisations a reader sees when exploring the analysis online, where the full workflow can be reproduced first-hand. **Interactive dashboard:** <https://mahmood726-cyber.github.io/rapidmeta-jak-ra/>

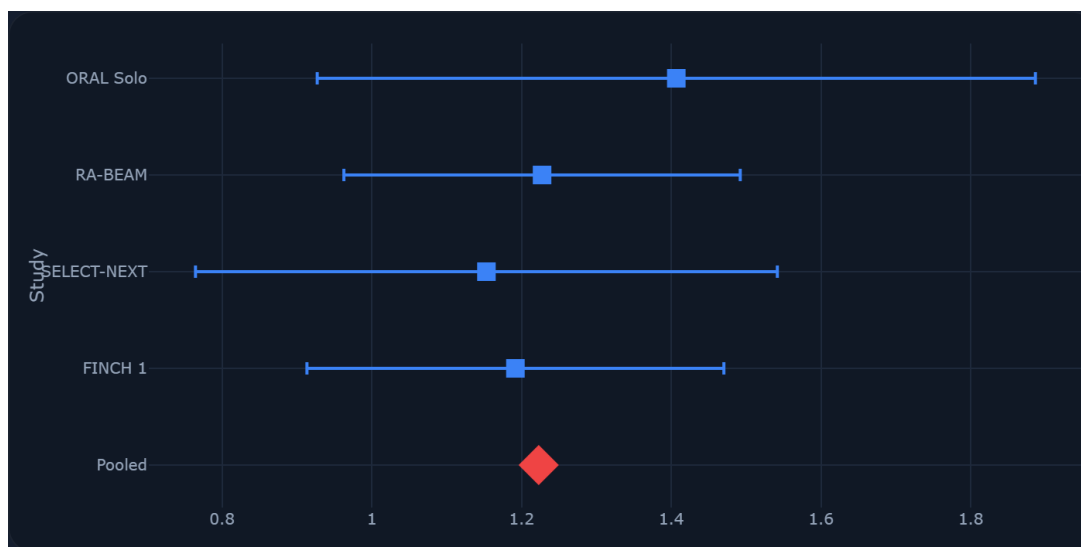


Figure 1. 1. FOREST PLOT (FIXED/RANDOM EFFECTS) Rendered directly from the article's live interactive dashboard.

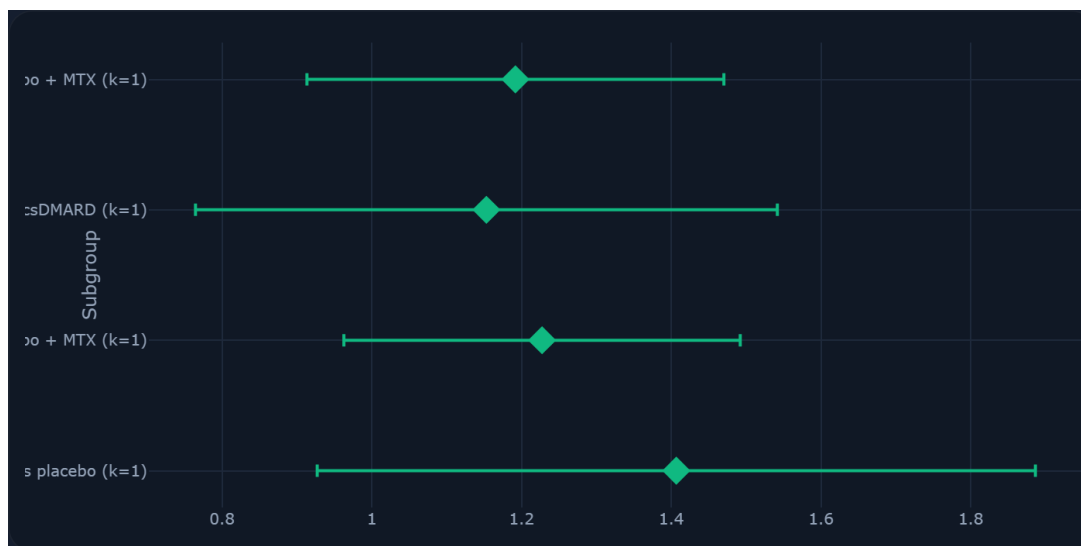


Figure 2. 2. SUBGROUP SYNTHESIS (HF VS CKD) Rendered directly from the article's live interactive dashboard.



Figure 3. 3. CUMULATIVE META-ANALYSIS Rendered directly from the article's live interactive dashboard.

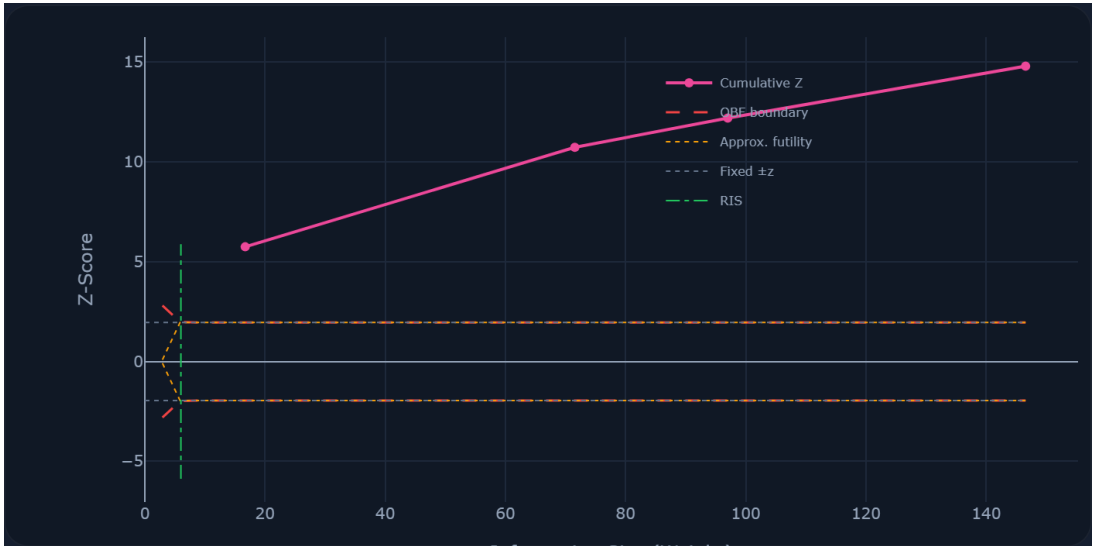


Figure 4. 4. CUMULATIVE Z-CURVE ANALYSIS Rendered directly from the article's live interactive dashboard.



Figure 5. 5. LEAVE-ONE-OUT SENSITIVITY Rendered directly from the article's live interactive dashboard.

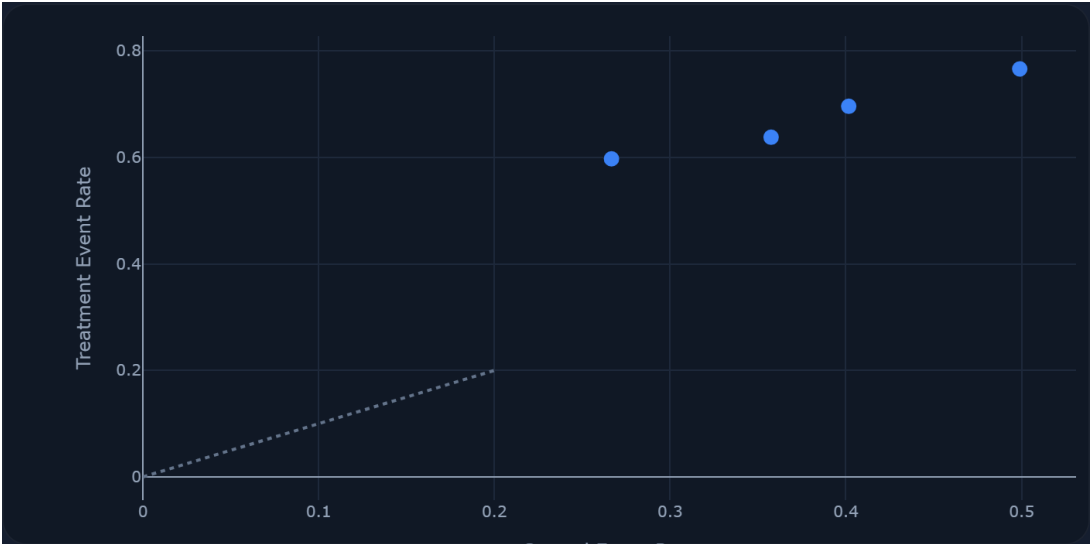


Figure 6. 6. L'ABBE PLOT (EVENT INCIDENCE) Rendered directly from the article's live interactive dashboard.

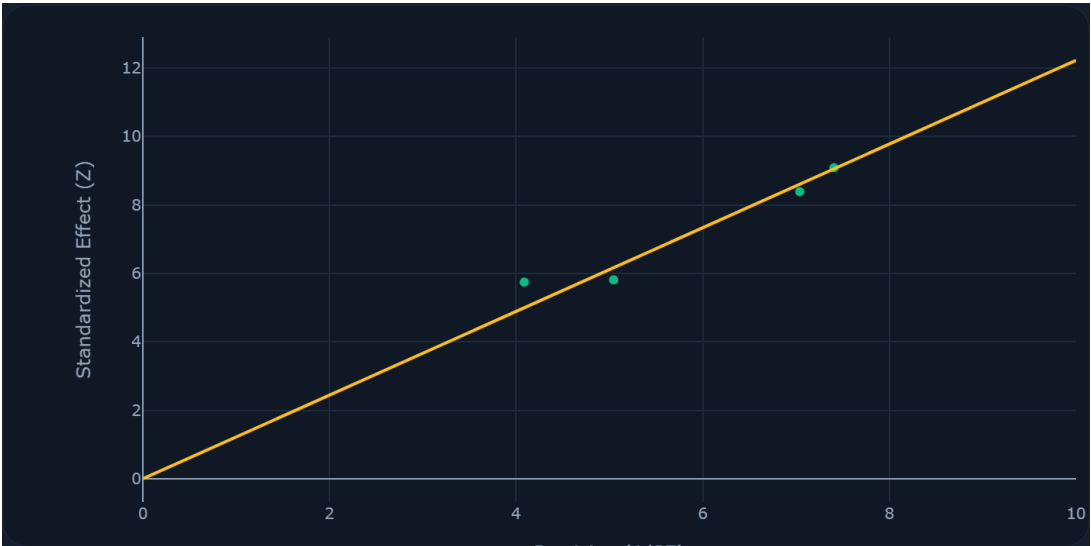


Figure 7. 7. GALBRAITH PLOT (HETEROGENEITY CHECK) Rendered directly from the article's live interactive dashboard.

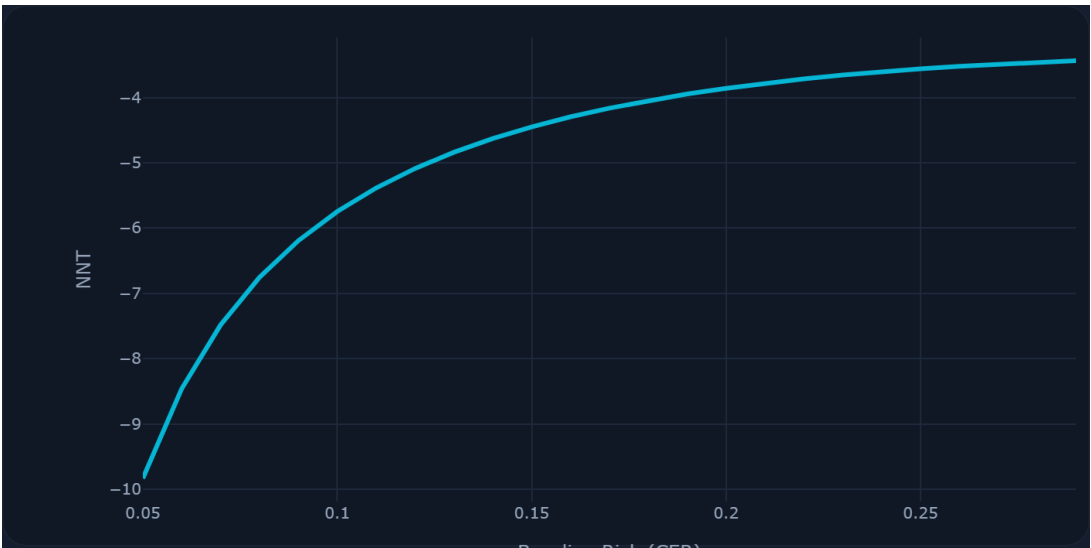


Figure 8. 8. CLINICAL UTILITY (NNT CURVE) Rendered directly from the article's live interactive dashboard.

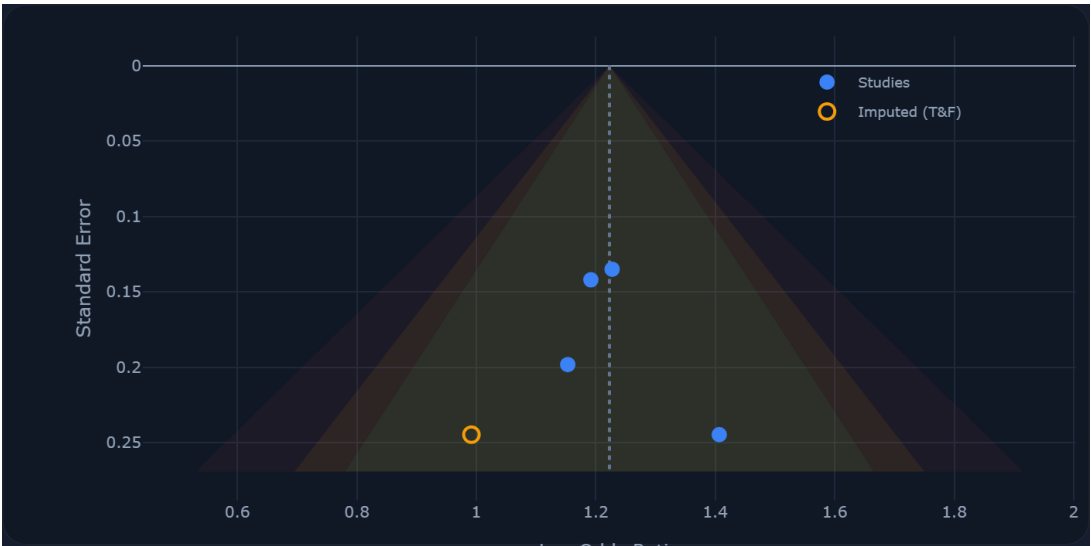


Figure 9. 9. FUNNEL PLOT (PUBLICATION BIAS) Rendered directly from the article's live interactive dashboard.

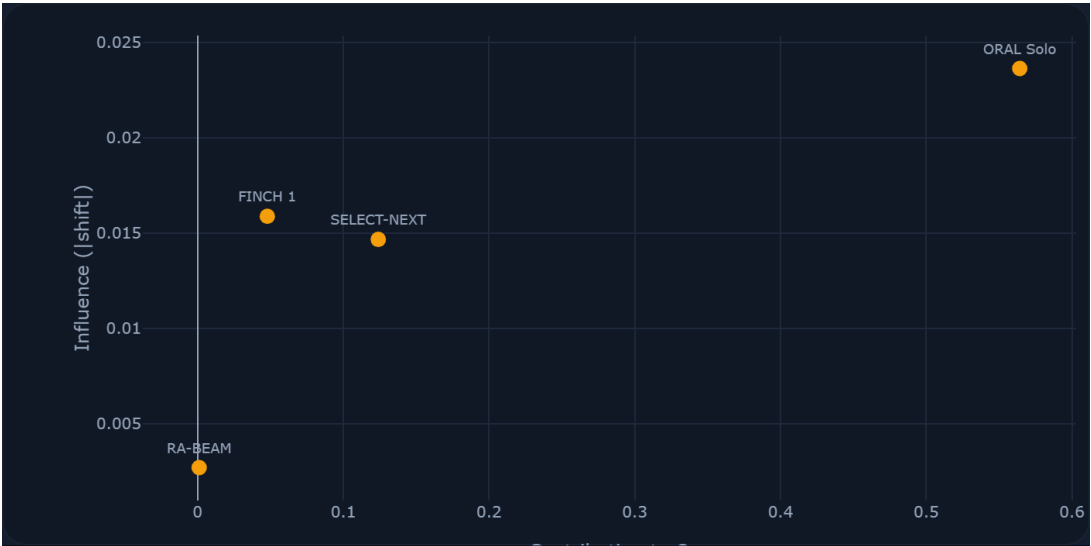


Figure 10. 10. BAUJAT PLOT (INFLUENCE X HETEROGENEITY) Rendered directly from the article's live interactive dashboard.

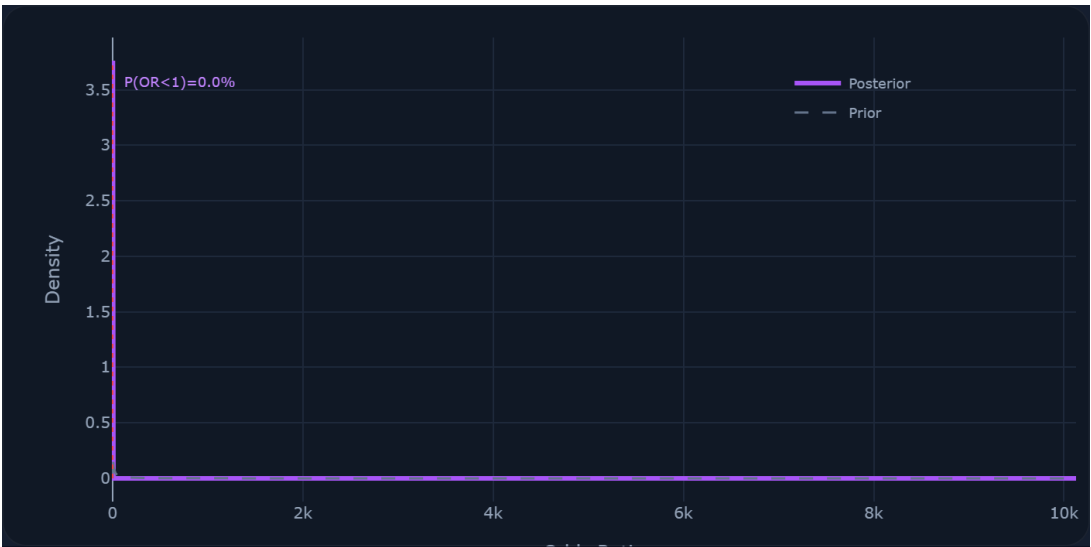


Figure 11. 11. BAYESIAN POSTERIOR DENSITY Rendered directly from the article's live interactive dashboard.

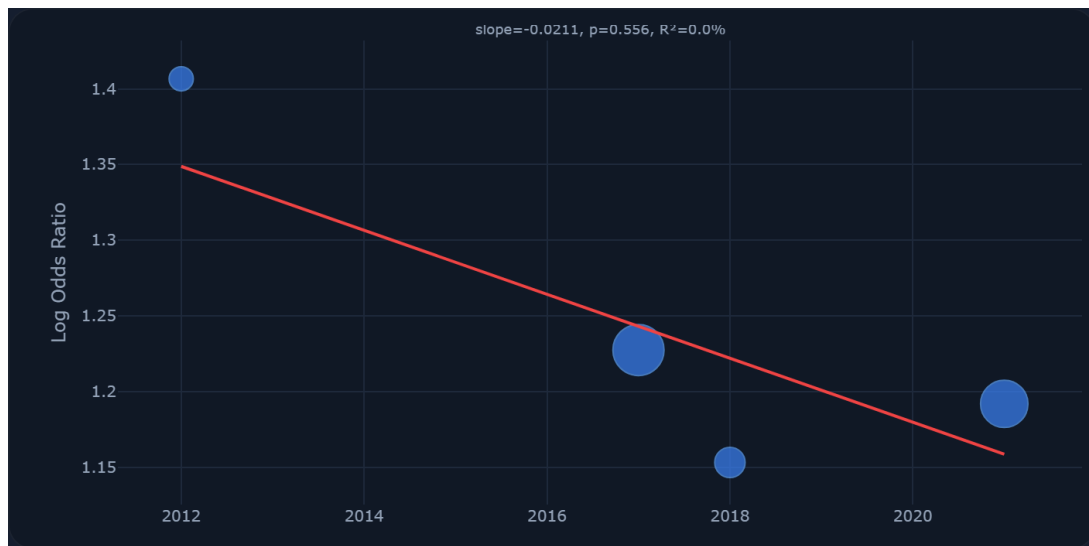


Figure 12. META-REGRESSION Rendered directly from the article's live interactive dashboard.

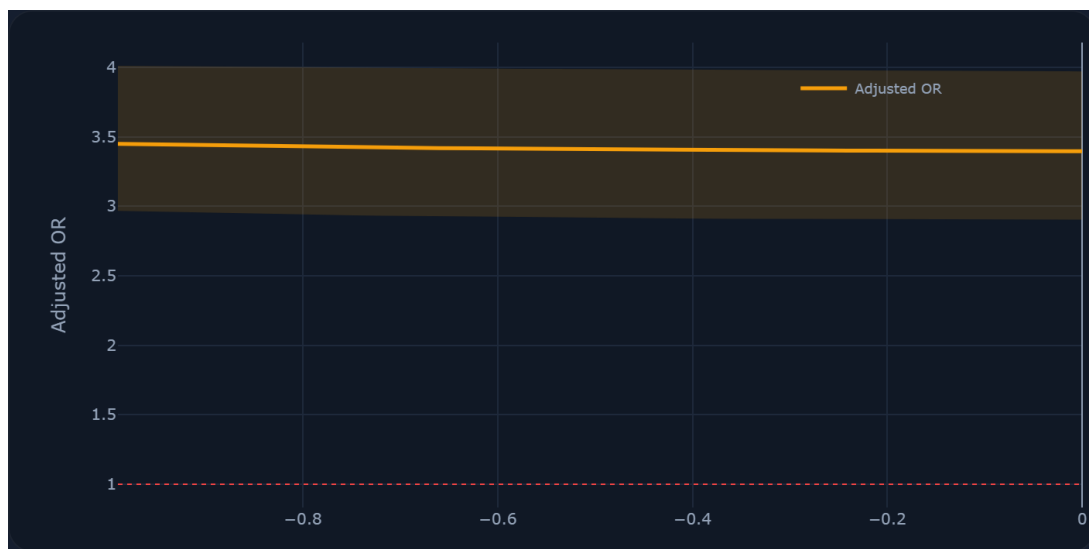


Figure 13. COPAS SENSITIVITY CURVE Rendered directly from the article's live interactive dashboard.

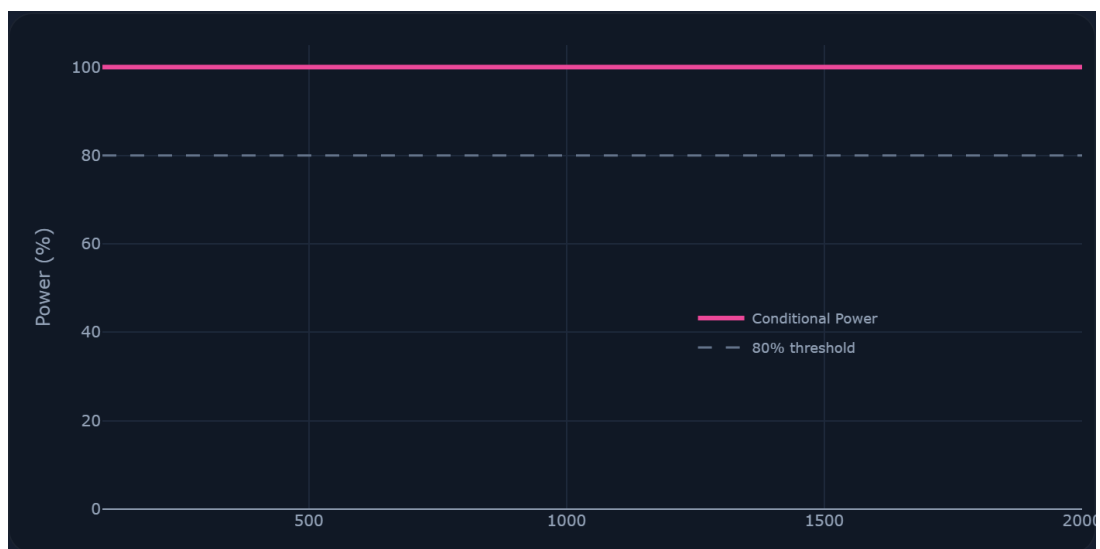


Figure 14. CONDITIONAL POWER CURVE Rendered directly from the article's live interactive dashboard.



Figure 15. 15. EGGER'S REGRESSION PLOT Rendered directly from the article's live interactive dashboard.

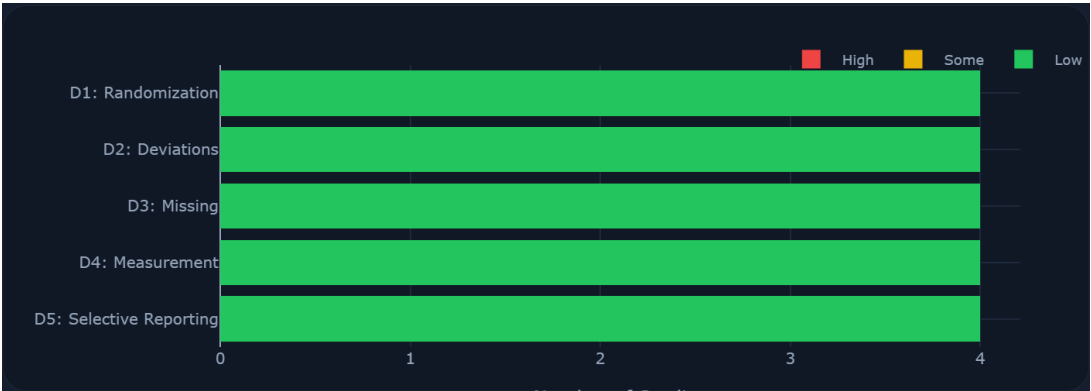


Figure 16. 16. RISK OF BIAS SUMMARY Rendered directly from the article's live interactive dashboard.

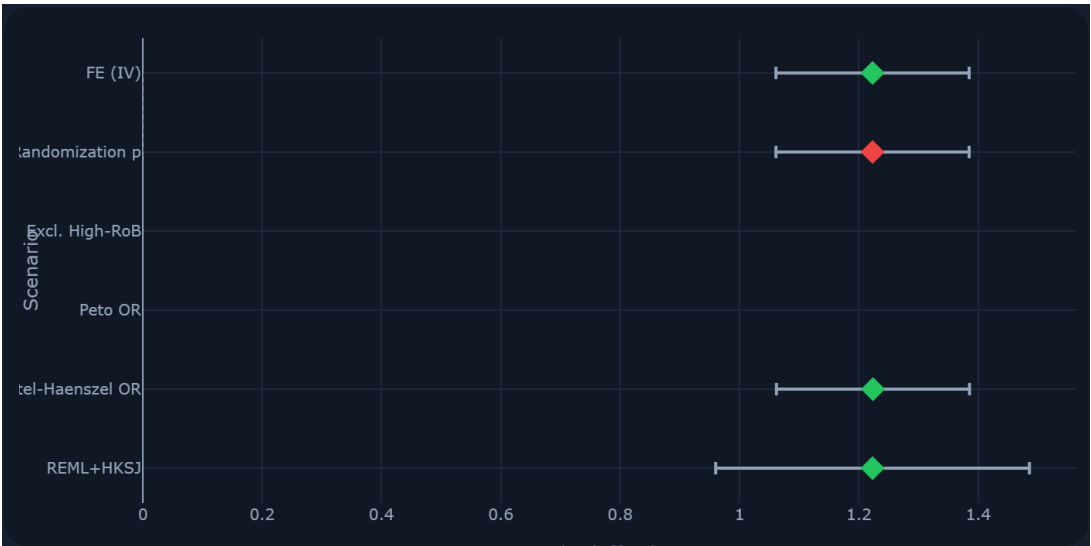


Figure 17. 17. SENSITIVITY ANALYSIS PANEL Rendered directly from the article's live interactive dashboard.



Figure 18. INFLUENCE & OUTLIER DIAGNOSTICS Rendered directly from the article's live interactive dashboard.

HOW TO CITE

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