Supplementary Material

**Table 1s.** Search strategy

**Figure 1s.** Forest plot of 30-day mortality by subdividing the studies by the type of ECMO. The fixed-effect model exhibited an OR of 0.87 (95%CI 0.79 – 0.95); the random-effects model showed an OR of 0.76 (95%CI 0.37 – 1.59). Since the confidence interval crosses the unit, the difference was not statistically significant. We considered only the random-effect model since the high between-study inconsistency found (64.6%).

**Figure 2s.** Forest plot of 30-day mortality by subdividing the studies by the type of cannulation. The fixed-effect model exhibited an OR of 0.87 (95%CI 0.79 – 0.95); the random-effects model showed an OR of 0.76 (95%CI 0.37 – 1.59). Since the confidence interval crosses the unit, the difference was not statistically significant. We considered only the random-effect model since the high between-study inconsistency found (64.6%).

**Figure 3s.** Analysis of 30-day mortality according to the use of anti-fungal agents for prophylaxis. The fixed-effect model exhibited an OR of 0.87 (95%CI 0.79 – 0.95); the random-effects model showed an OR of 0.76 (95%CI 0.37 – 1.59). Since the confidence interval crosses the unit, the difference was not statistically significant. We considered only the random-effect model since the high between-study inconsistency found (64.6%).

**Forest 4s.** Forest plot of nosocomial infections rate by subdividing the studies by the type of ECMO. The fixed-effect model exhibited an OR of 0.81 (95%CI 0.71 – 0.92); the random-effects model showed an OR of 0.70 (95%CI 0.31 – 1.58). We considered only the fixed-effect model since the quite low between-study inconsistency found (35.9%).

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**Figure 6s.** Analysis of nosocomial infections rate according to the use of anti-fungal agents for prophylaxis. The fixed-effect model exhibited an OR of 0.81 (95%CI 0.71 – 0.92); the random-effects model showed an OR of 0.70 (95%CI 0.31 – 1.58). We considered only the fixed-effect model since the quite low between-study inconsistency found (35.9%).

Table 1s. Search strategy

| Library | Query | Records |
|---|---|---|
| PubMed | ((“antibiotic prophylaxis” OR “antibiotic prevention” OR “preventive antibiotic” OR “chemoprophylaxis”) AND (“extracorporeal membrane oxygenation” OR “ECMO” OR “venous-arterial extracorporeal membrane oxygenation” OR “VA-ECMO” OR “VA ECMO” OR “VA_ECMO” OR “ECLS”)) AND (randomized controlled trial[pt] OR controlled clinical trial[pt] OR randomized controlled trials[mh] OR random allocation[mh] OR double-blind method[mh] OR single-blind method[mh] OR clinical trial[pt] OR clinical trials[mh] OR (clinical trial[tw] OR ((singl*[tw] OR doubl*[tw] OR trebl*[tw] OR tripl*[tw]) AND (mask*[tw] OR blind[tw])) OR (latin square[tw]) OR placebos[mh] OR placebo*[tw] OR random*[tw] OR research design[mh:noexp] OR follow-up studies[mh] OR prospective studies[mh] OR cross-over studies[mh] OR control*[tw] OR prospectiv*[tw] OR volunteer*[tw]) NOT (animal[mh] NOT human[mh]) NOT (comment[pt] OR editorial[pt] OR meta-analysis[pt] OR practice-guideline[pt] OR review[pt])) | 15 |
| Scopus | ( TITLE-ABS-KEY ( antibiotic AND prophylaxis ) AND TITLE-ABS-KEY ( va AND ecmo ) OR TITLE-ABS-KEY ( ecmo AND extracorporeal AND membrane AND oxygenation ) OR TITLE-ABS-KEY ( ecmo ) OR TITLE-ABS-KEY ( ecmo AND complications ) AND NOT TITLE-ABS-KEY ( case AND report ) AND NOT TITLE-ABS-KEY ( review AND article ) AND NOT TITLE-ABS-KEY ( animal AND model ) AND NOT TITLE-ABS-KEY ( review AND literature ) AND NOT TITLE-ABS-KEY ( systematic AND review ) ) | 45 |
| CINHAL | https://web.p.ebscohost.com/ehost/breadbox/search?term=%28MH%20%22Life%20Support%20Care%22%29%20OR%20%28MH%20%22Extracorporeal%20Membrane%20Oxygenation%22%29%20OR%20%28MH%20%22Oxygenators%2C%20Membrane%22%29%20OR%20%28MH%20%22Extracorporeal%20Carbon%20Dioxide%20Removal%22%29%20OR%20%28MH%20%22Advanced%20Cardiac%20Life%20Support%22%29%20OR%20%28MH%20%22Pediatric%20Advanced%20Life%20Support%22%29%20OR%20%28MH%20%22Antibiotic%20Prophylaxis%22%29&sid=797c0b7e-2927-47e9-96d9-6536cb05f430%40redis&vid=9 | 18 |
| References | / | 3 |

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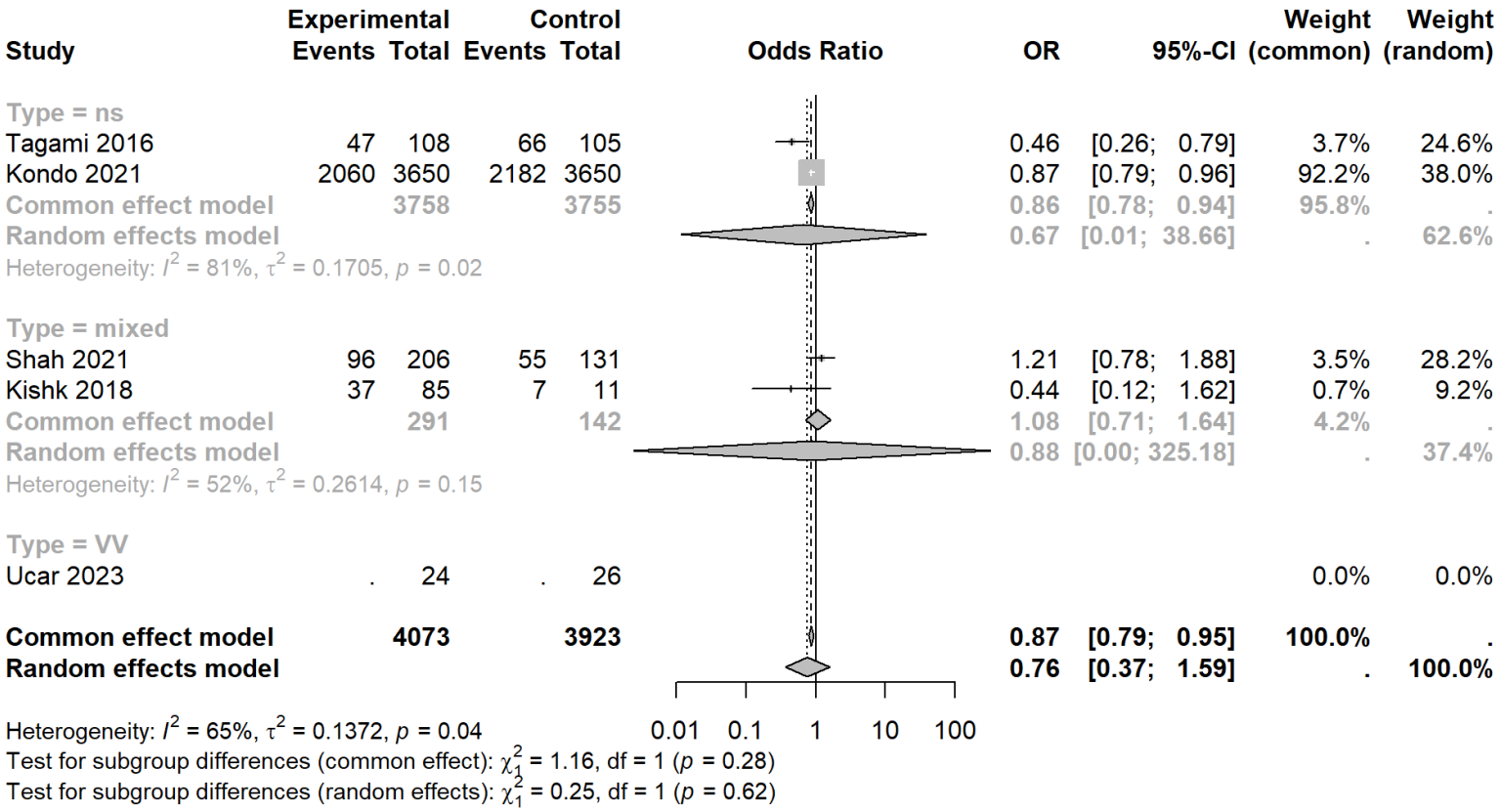
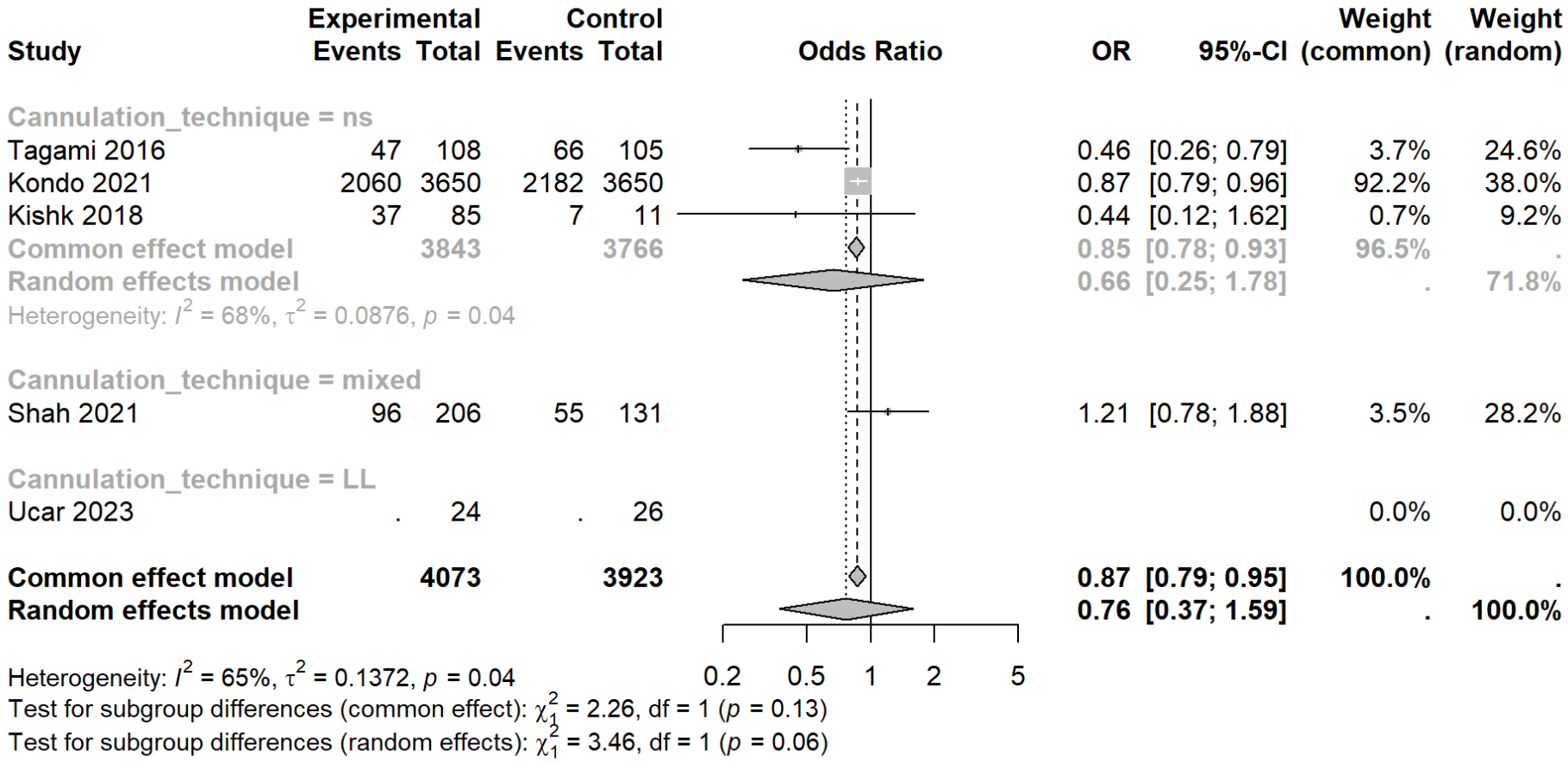


Figure 2s. Forest plot of 30-day mortality by subdividing the studies by the type of cannulation. The fixed-effect model exhibited an OR of 0.87 (95%CI 0.79 – 0.95); the random-effects model showed an OR of 0.76 (95%CI 0.37 – 1.59). Since the confidence interval crosses the unit, the difference was not statistically significant. We considered only the random-effect model since the high between-study inconsistency found (64.6%).



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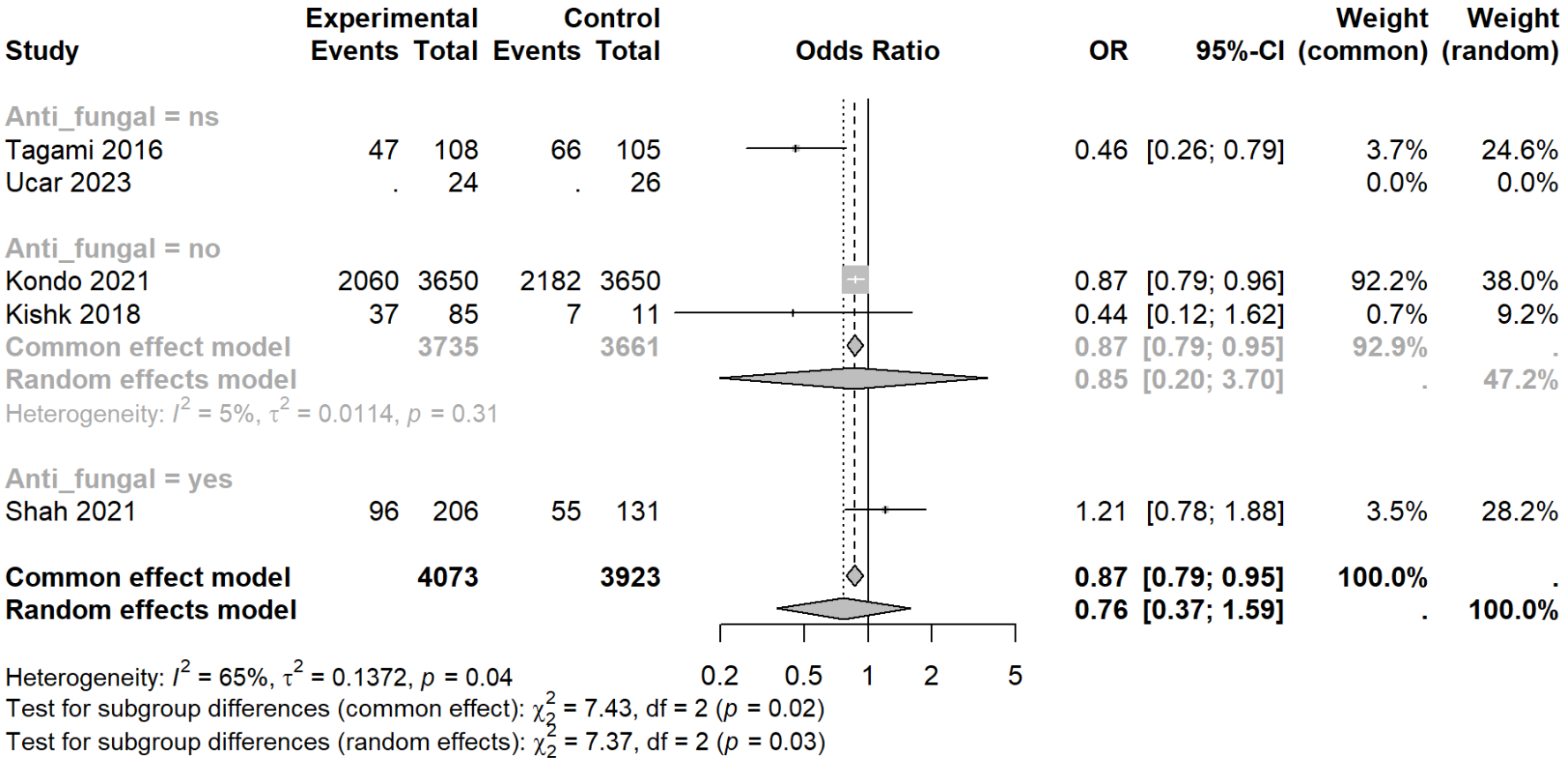
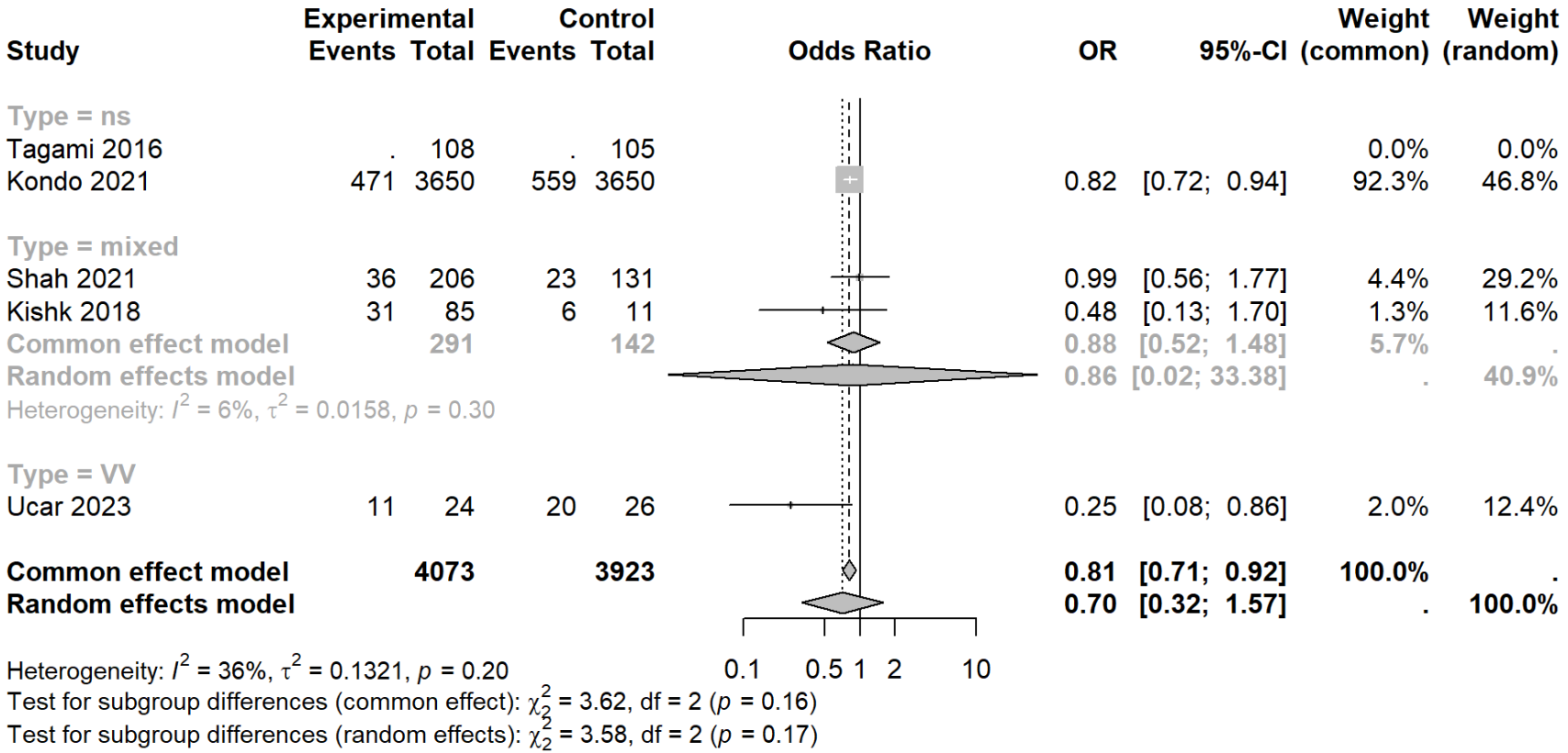


Forest 4s. Forest plot of nosocomial infections rate by subdividing the studies by the type of ECMO. The fixed-effect model exhibited an OR of 0.81 (95%CI 0.71 – 0.92); the random-effects model showed an OR of 0.70 (95%CI 0.31 – 1.58). We considered only the fixed-effect model since the quite low between-study inconsistency found (35.9%).



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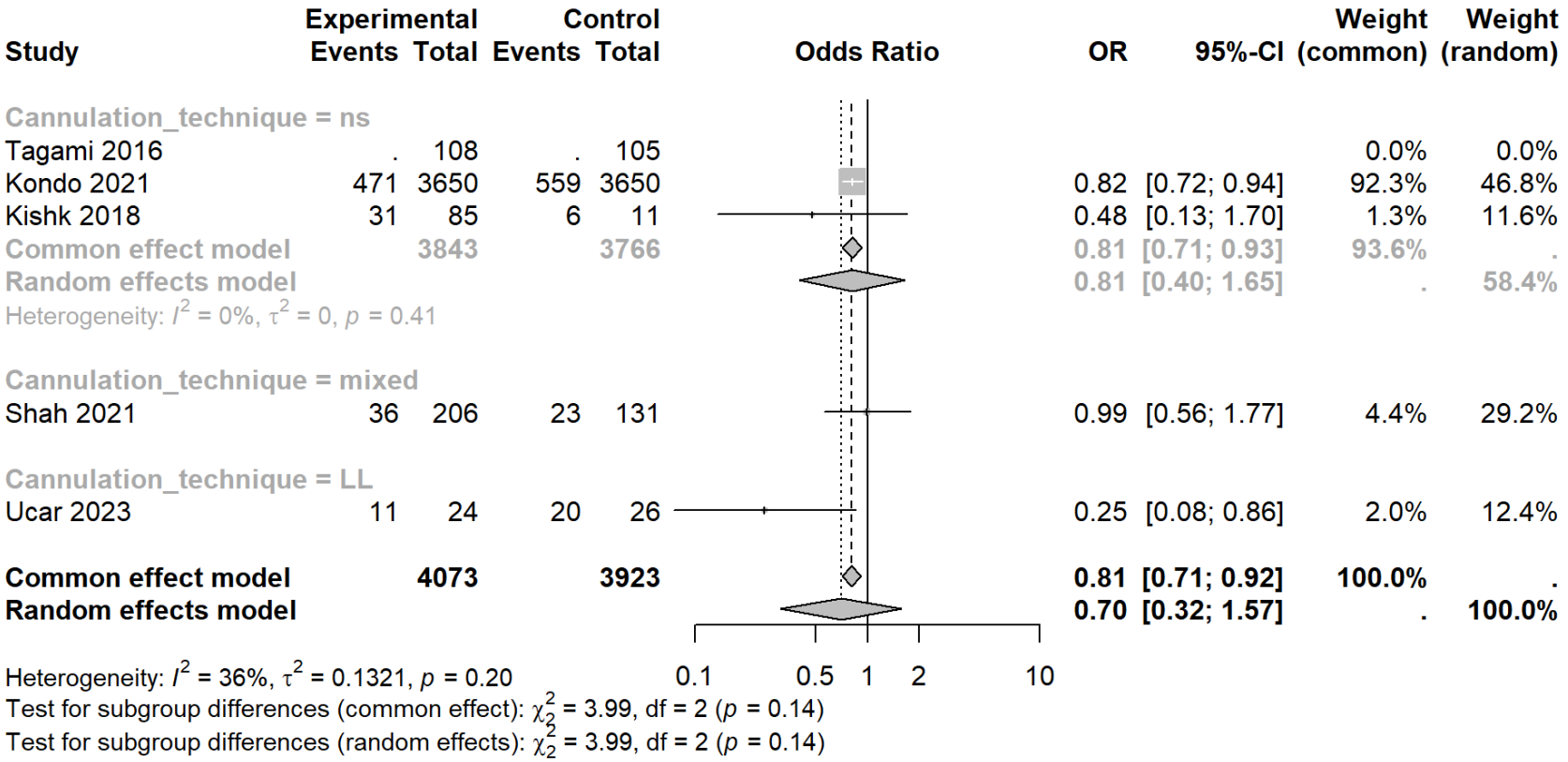

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