**Table 3-A.** **ICU admission in COVID-19 according to Albumin.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | ICU | Non-ICU | | Total | SMD | SE | 95% CI | | t | P | Weight (%) | |
| Fixed | Random |
| Abbas et al 2022 | 26 | 24 | | 50 | 0.197 | 0.279 | -0.365 to 0.758 | |  |  | 1.45 | 8.22 |
| Bahadirli et al 2021 | 53 | 220 | | 273 | -0.774 | 0.156 | -1.081 to -0.466 | |  |  | 4.63 | 9.20 |
| Bayram et al 2021 | 68 | 680 | | 748 | -0.435 | 0.128 | -0.685 to -0.184 | |  |  | 6.94 | 9.37 |
| Bendaraf et al 2022 | 66 | 40 | | 106 | 0.310 | 0.200 | -0.0868 to 0.707 | |  |  | 2.82 | 8.89 |
| Çakirca et al 2023 | 151 | 426 | | 577 | -1.744 | 0.108 | -1.956 to -1.533 | |  |  | 9.75 | 9.47 |
| Deniz et al 2022 | 57 | 1020 | | 1077 | -1.553 | 0.140 | -1.828 to -1.278 | |  |  | 5.76 | 9.30 |
| Kaya et al 2022 | 38 | 42 | | 80 | -1.238 | 0.242 | -1.720 to -0.755 | |  |  | 1.92 | 8.55 |
| Kumari et al 2023 | 449 | 6946 | | 7395 | -0.270 | 0.0487 | -0.366 to -0.175 | |  |  | 47.54 | 9.68 |
| Senol 2022 | 480 | 108 | | 588 | -0.574 | 0.108 | -0.786 to -0.363 | |  |  | 9.74 | 9.47 |
| Solimando et al 2021 | 25 | 70 | | 95 | -1.435 | 0.253 | -1.938 to -0.931 | |  |  | 1.76 | 8.45 |
| Făgărăsan et al 2023 | 90 | 276 | | 366 | 0.118 | 0.121 | -0.121 to 0.356 | |  |  | 7.69 | 9.40 |
| Total (fixed effects) | 1503 | 9852 | | 11355 | -0.538 | 0.0336 | -0.604 to -0.472 | | -16.017 | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 1503 | 9852 | | 11355 | -0.674 | 0.203 | -1.072 to -0.276 | | -3.322 | 0.001 | 100.00 | 100.00 |
|  | | | | | | | | | | | | |
| Test for heterogeneity | | | | | Publication bias | | | | | |
| Q | | | 286.3313 | | Egger's test | | | | | |
| DF | | | 10 | | Intercept | | | -2.9341 | | |
| Significance level | | | P < 0.0001 | | 95% CI | | | -10.2785 to 4.4103 | | |
| I2 (inconsistency) | | | 96.51% | | Significance level | | | P = 0.3897 | | |
| 95% CI for I2 | | | 95.11 to 97.50 | | Begg's test | | | | | |
|  | | | | | Kendall's Tau | | | -0.1273 | | |
| Significance level | | | P = 0.5858 | | |

**Table 3-B. Mortality in COVID-19 according to Albumin.**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | Dead | Alive | Total | SMD | SE | 95% CI | t | P | Weight (%) | |
| Fixed | Random |
| Acehan et al 2021 | 53 | 560 | 613 | -1.017 | 0.146 | -1.305 to -0.729 |  |  | 2.25 | 2.47 |
| Ahmed et al 2022 | 40 | 60 | 100 | -0.133 | 0.203 | -0.535 to 0.270 |  |  | 1.17 | 2.37 |
| Atlas et al 2021 | 78 | 24 | 102 | -1.955 | 0.269 | -2.488 to -1.421 |  |  | 0.67 | 2.22 |
| Bayram et al 2021 | 47 | 701 | 748 | -0.662 | 0.151 | -0.960 to -0.365 |  |  | 2.10 | 2.46 |
| Bombaci et al 2023 | 81 | 26 | 107 | -0.548 | 0.227 | -0.998 to -0.0982 |  |  | 0.94 | 2.32 |
| Çelikkol et al 2022 | 224 | 900 | 1124 | -3.120 | 0.0995 | -3.315 to -2.924 |  |  | 4.87 | 2.53 |
| Cheng et al 2020 | 85 | 220 | 305 | -1.150 | 0.136 | -1.416 to -0.883 |  |  | 2.62 | 2.48 |
| Deng et al 2021 | 50 | 50 | 100 | -0.808 | 0.207 | -1.218 to -0.398 |  |  | 1.13 | 2.36 |
| Ergenç et al 2022 | 36 | 242 | 278 | -1.480 | 0.189 | -1.852 to -1.108 |  |  | 1.35 | 2.39 |
| Ertekin et al 2023 | 269 | 350 | 619 | -0.880 | 0.0848 | -1.047 to -0.714 |  |  | 6.72 | 2.55 |
| Hassan et al 2023 | 102 | 148 | 250 | -1.108 | 0.138 | -1.379 to -0.837 |  |  | 2.55 | 2.48 |
| Haydar et al 2022 | 70 | 61 | 131 | -0.635 | 0.178 | -0.988 to -0.281 |  |  | 1.51 | 2.41 |
| Isbaniah et al 2021 | 60 | 154 | 214 | -0.553 | 0.154 | -0.857 to -0.250 |  |  | 2.03 | 2.46 |
| Jang et al 2021 | 10 | 39 | 49 | -0.201 | 0.349 | -0.904 to 0.502 |  |  | 0.40 | 2.03 |
| Katkat et al 2022 | 49 | 393 | 442 | -0.736 | 0.153 | -1.037 to -0.435 |  |  | 2.05 | 2.46 |
| Kaylon et al 2021 | 58 | 117 | 175 | -0.0701 | 0.160 | -0.386 to 0.246 |  |  | 1.89 | 2.45 |
| Kılıç et al 2023 | 183 | 275 | 458 | -0.450 | 0.0964 | -0.639 to -0.260 |  |  | 5.19 | 2.53 |
| Kilic et al 2022 | 197 | 320 | 517 | -0.482 | 0.0917 | -0.662 to -0.302 |  |  | 5.74 | 2.54 |
| Kim et al 2022 | 19 | 123 | 142 | -0.868 | 0.251 | -1.364 to -0.373 |  |  | 0.77 | 2.27 |
| Küçük et al 2022 | 181 | 135 | 316 | -0.0989 | 0.114 | -0.322 to 0.124 |  |  | 3.74 | 2.51 |
| Küçükceran et al 2021 | 126 | 591 | 717 | -1.029 | 0.102 | -1.229 to -0.829 |  |  | 4.66 | 2.53 |
| Lee et al 2022 | 18 | 265 | 283 | -1.795 | 0.254 | -2.296 to -1.294 |  |  | 0.75 | 2.26 |
| Lino et al 2021 | 44 | 53 | 97 | -0.664 | 0.208 | -1.076 to -0.251 |  |  | 1.12 | 2.36 |
| Milenkovic et al 2022 | 195 | 123 | 318 | -1.054 | 0.122 | -1.295 to -0.814 |  |  | 3.23 | 2.50 |
| Mohamad et al 2023 | 27 | 40 | 67 | -0.853 | 0.257 | -1.366 to -0.340 |  |  | 0.73 | 2.25 |
| Mureşan et al 2022 | 143 | 746 | 889 | -1.238 | 0.0958 | -1.426 to -1.050 |  |  | 5.25 | 2.53 |
| Oguz et al 2022 | 28 | 95 | 123 | -1.212 | 0.227 | -1.662 to -0.762 |  |  | 0.93 | 2.32 |
| Onur et al 2020 | 56 | 245 | 301 | -2.905 | 0.189 | -3.278 to -2.533 |  |  | 1.35 | 2.39 |
| Özdemir et al 2021 | 5 | 98 | 103 | 0.0349 | 0.455 | -0.868 to 0.938 |  |  | 0.23 | 1.77 |
| Özdemir et al 2023 | 112 | 358 | 470 | -1.309 | 0.116 | -1.537 to -1.080 |  |  | 3.57 | 2.51 |
| Peng et al 2022 | 74 | 537 | 611 | -1.278 | 0.129 | -1.531 to -1.024 |  |  | 2.89 | 2.49 |
| Rizo-Tellez 2020 | 20 | 34 | 54 | -1.409 | 0.309 | -2.029 to -0.789 |  |  | 0.51 | 2.13 |
| Saylik et al 2021 | 51 | 125 | 176 | -0.592 | 0.168 | -0.924 to -0.260 |  |  | 1.70 | 2.43 |
| Senol 2022 | 279 | 309 | 588 | -0.591 | 0.0843 | -0.757 to -0.426 |  |  | 6.79 | 2.55 |
| Serin et al 2020 | 68 | 2149 | 2217 | -0.450 | 0.123 | -0.692 to -0.208 |  |  | 3.17 | 2.50 |
| Szabo et al 2022 | 11 | 13 | 24 | -0.682 | 0.408 | -1.527 to 0.163 |  |  | 0.29 | 1.88 |
| Taşkin et al 2023 | 447 | 164 | 611 | -0.780 | 0.0939 | -0.964 to -0.595 |  |  | 5.48 | 2.54 |
| Turda et al 2023 | 58 | 25 | 83 | -0.854 | 0.246 | -1.344 to -0.364 |  |  | 0.80 | 2.28 |
| Uzum et al 2023 | 51 | 221 | 272 | -0.798 | 0.159 | -1.110 to -0.485 |  |  | 1.92 | 2.45 |
| Vadi et al 2023 | 118 | 38 | 156 | -0.226 | 0.186 | -0.593 to 0.142 |  |  | 1.39 | 2.40 |
| Vidal-Cevallos et al 2021 | 79 | 298 | 377 | -0.186 | 0.126 | -0.435 to 0.0626 |  |  | 3.02 | 2.50 |
| Wang et al 2020 | 12 | 119 | 131 | -0.815 | 0.305 | -1.419 to -0.211 |  |  | 0.52 | 2.14 |
| Total (fixed effects) | 3914 | 11544 | 15458 | -0.914 | 0.0220 | -0.957 to -0.871 | -41.623 | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 3914 | 11544 | 15458 | -0.902 | 0.107 | -1.112 to -0.692 | -8.407 | <0.001 | 100.00 | 100.00 |
|  | | | | | | | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| Test for heterogeneity | | Publication bias | |
| Q | 928.4435 | Egger's test | |
| DF | 41 | Intercept | 0.2572 |
| Significance level | P < 0.0001 | 95% CI | -3.7396 to 4.2540 |
| I2 (inconsistency) | 95.58% | Significance level | P = 0.8972 |
| 95% CI for I2 | 94.72 to 96.31 | Begg's test | |
|  | | Kendall's Tau | -0.08246 |
| Significance level | P = 0.4416 |

**Table 3-C. ICU admission in COVID-19 according to CRP.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | ICU | | Non-ICU | Total | | SMD | SE | 95% CI | t | | P | Weight (%) | |
| Fixed | Random |
| Abbas et al 2022 | 26 | | 24 | 50 | | 0.101 | 0.279 | -0.460 to 0.661 |  | |  | 0.82 | 3.79 |
| Astagimath et al 2022 | 106 | | 3613 | 3719 | | 0.237 | 0.0986 | 0.0435 to 0.430 |  | |  | 6.57 | 5.64 |
| Bahadirli et al 2021 | 53 | | 220 | 273 | | 0.810 | 0.156 | 0.502 to 1.118 |  | |  | 2.61 | 5.10 |
| Balci et al 2021 | 46 | | 48 | 94 | | 0.820 | 0.213 | 0.397 to 1.244 |  | |  | 1.40 | 4.49 |
| Bayram et al 2021 | 68 | | 680 | 748 | | 0.486 | 0.128 | 0.235 to 0.736 |  | |  | 3.92 | 5.38 |
| Bendaraf et al 2022 | 66 | | 40 | 106 | | 0.482 | 0.202 | 0.0823 to 0.882 |  | |  | 1.57 | 4.61 |
| Çakirca et al 2023 | 151 | | 426 | 577 | | 1.527 | 0.105 | 1.322 to 1.733 |  | |  | 5.82 | 5.59 |
| Chen et al 2023 | 18 | | 105 | 123 | | 0.772 | 0.258 | 0.261 to 1.283 |  | |  | 0.96 | 4.00 |
| Feng et al 2021 | 156 | | 115 | 271 | | -0.126 | 0.123 | -0.368 to 0.115 |  | |  | 4.24 | 5.43 |
| Gohda et al 2022 | 40 | | 40 | 80 | | 1.070 | 0.237 | 0.599 to 1.542 |  | |  | 1.14 | 4.23 |
| Gormez et al 2020 | 48 | | 199 | 247 | | 1.515 | 0.174 | 1.172 to 1.858 |  | |  | 2.10 | 4.91 |
| Hachim et al 2021 | 153 | | 388 | 541 | | 0.892 | 0.0991 | 0.698 to 1.087 |  | |  | 6.50 | 5.63 |
| Kaya et al 2022 | 38 | | 42 | 80 | | 1.118 | 0.239 | 0.643 to 1.593 |  | |  | 1.12 | 4.21 |
| Kumari et al 2023 | 449 | | 6946 | 7395 | | 0.531 | 0.0489 | 0.435 to 0.627 |  | |  | 26.72 | 5.95 |
| Le Borgne et al 2021 | 246 | | 789 | 1035 | | 0.760 | 0.0749 | 0.613 to 0.907 |  | |  | 11.40 | 5.81 |
| Phan et al 2021 | 40 | | 41 | 81 | | 0.238 | 0.221 | -0.201 to 0.678 |  | |  | 1.31 | 4.40 |
| Salehi et al 2023 | 109 | | 140 | 249 | | 0.626 | 0.130 | 0.369 to 0.883 |  | |  | 3.75 | 5.36 |
| Senol 2022 | 480 | | 108 | 588 | | 0.420 | 0.107 | 0.210 to 0.631 |  | |  | 5.57 | 5.57 |
| Solimando et al 2021 | 25 | | 70 | 95 | | 1.281 | 0.249 | 0.787 to 1.776 |  | |  | 1.03 | 4.10 |
| Vuillaume et al 2021 | 246 | | 789 | 1035 | | 0.726 | 0.0747 | 0.580 to 0.873 |  | |  | 11.44 | 5.81 |
| Total (fixed effects) | 2564 | | 14823 | 17387 | | 0.656 | 0.0253 | 0.606 to 0.706 | 25.959 | | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 2564 | | 14823 | 17387 | | 0.708 | 0.0885 | 0.534 to 0.881 | 7.997 | | <0.001 | 100.00 | 100.00 |
|  | | | | | | | | | | | | | |
| Test for heterogeneity | | | | | Publication bias | | | | |
| Q | | 197.2050 | | | Egger's test | | | | |
| DF | | 19 | | | Intercept | | | 1.0556 | |
| Significance level | | P < 0.0001 | | | 95% CI | | | -2.2077 to 4.3189 | |
| I2 (inconsistency) | | 90.37% | | | Significance level | | | P = 0.5054 | |
| 95% CI for I2 | | 86.56 to 93.09 | | | Begg's test | | | | |
|  | | | | | Kendall's Tau | | | 0.1263 | |
| Significance level | | | P = 0.4362 | |

**Table 3-D. Mortality in COVID-19 according to CRP.**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | Dead | Alive | Total | SMD | SE | | 95% CI | t | P | Weight (%) | |
| Fixed | Random |
| Abbas et al 2022 | 12 | 38 | 50 | -0.101 | 0.326 | | -0.757 to 0.554 |  |  | 0.25 | 0.99 |
| Abeid et al 2022 | 30 | 66 | 96 | 1.411 | 0.241 | | 0.933 to 1.890 |  |  | 0.46 | 1.08 |
| Abrishami et al 2021 | 13 | 67 | 80 | 0.557 | 0.303 | | -0.0465 to 1.161 |  |  | 0.29 | 1.01 |
| Acar et al 2021 | 19 | 129 | 148 | 1.591 | 0.261 | | 1.074 to 2.107 |  |  | 0.39 | 1.06 |
| Acehan et al 2021 | 53 | 560 | 613 | 1.106 | 0.147 | | 0.817 to 1.394 |  |  | 1.23 | 1.16 |
| Aditianingsih et al 2023 | 106 | 153 | 259 | 0.563 | 0.128 | | 0.310 to 0.816 |  |  | 1.61 | 1.18 |
| Ahmed et al 2022 | 40 | 60 | 100 | 2.282 | 0.259 | | 1.768 to 2.796 |  |  | 0.40 | 1.06 |
| Alaaluah et al 2022 | 28 | 47 | 75 | 0.254 | 0.237 | | -0.218 to 0.727 |  |  | 0.47 | 1.08 |
| Al-Aghbari et al 2023 | 136 | 308 | 444 | 0.847 | 0.107 | | 0.638 to 1.057 |  |  | 2.34 | 1.19 |
| Alici et al 2021 | 53 | 168 | 221 | 1.263 | 0.168 | | 0.932 to 1.595 |  |  | 0.94 | 1.15 |
| Allahverdiyev et al 2020 | 92 | 363 | 455 | 2.145 | 0.137 | | 1.877 to 2.413 |  |  | 1.43 | 1.17 |
| Almasud et al 2023 | 26 | 55 | 81 | 0.821 | 0.244 | | 0.335 to 1.308 |  |  | 0.44 | 1.08 |
| Aminy et al 2023 | 59 | 165 | 224 | 0.428 | 0.153 | | 0.127 to 0.729 |  |  | 1.14 | 1.16 |
| Andriani et al 2021 | 35 | 15 | 50 | 0.978 | 0.319 | | 0.336 to 1.619 |  |  | 0.26 | 0.99 |
| Antariska et al 2021 | 64 | 46 | 110 | 1.175 | 0.208 | | 0.764 to 1.587 |  |  | 0.62 | 1.11 |
| Avila-Nava et al 2021 | 14 | 24 | 38 | 1.030 | 0.350 | | 0.321 to 1.740 |  |  | 0.22 | 0.96 |
| Balci et al 2021 | 26 | 68 | 94 | 0.651 | 0.234 | | 0.187 to 1.115 |  |  | 0.49 | 1.09 |
| Bayram et al 2021 | 47 | 701 | 748 | 0.457 | 0.151 | | 0.161 to 0.754 |  |  | 1.17 | 1.16 |
| Birben et al 2020 | 124 | 264 | 388 | 0.577 | 0.111 | | 0.359 to 0.794 |  |  | 2.17 | 1.19 |
| Bombaci et al 2023 | 81 | 26 | 107 | 0.513 | 0.227 | | 0.0639 to 0.962 |  |  | 0.52 | 1.09 |
| Cardiero et al 2022 | 10 | 185 | 195 | 0.723 | 0.325 | | 0.0811 to 1.365 |  |  | 0.25 | 0.99 |
| Cheng et al 2020 | 85 | 220 | 305 | 1.907 | 0.149 | | 1.614 to 2.200 |  |  | 1.20 | 1.16 |
| Chopra et al 2023 | 124 | 276 | 400 | 0.221 | 0.108 | | 0.00788 to 0.433 |  |  | 2.27 | 1.19 |
| Çölkesen et al 2022 | 17 | 191 | 208 | 2.148 | 0.273 | | 1.609 to 2.687 |  |  | 0.36 | 1.05 |
| Deng et al 2021 | 50 | 50 | 100 | 0.640 | 0.204 | | 0.236 to 1.044 |  |  | 0.64 | 1.12 |
| Devang et al 2022 | 48 | 142 | 190 | 0.613 | 0.169 | | 0.279 to 0.947 |  |  | 0.93 | 1.15 |
| D'Souza's et al 2022 | 91 | 506 | 597 | 1.771 | 0.125 | | 1.526 to 2.016 |  |  | 1.71 | 1.18 |
| El-Desoky et al 2022 | 57 | 75 | 132 | 0.363 | 0.176 | | 0.0149 to 0.712 |  |  | 0.86 | 1.14 |
| Ergenç et al 2021 | 51 | 584 | 635 | 1.120 | 0.149 | | 0.827 to 1.413 |  |  | 1.19 | 1.16 |
| Ergenç et al 2022 | 36 | 242 | 278 | 2.088 | 0.199 | | 1.696 to 2.479 |  |  | 0.67 | 1.12 |
| Ertekin et al 2023 | 269 | 350 | 619 | 0.905 | 0.0850 | | 0.738 to 1.072 |  |  | 3.68 | 1.20 |
| Evlice et al 2022 | 29 | 318 | 347 | 0.552 | 0.195 | | 0.169 to 0.934 |  |  | 0.70 | 1.13 |
| Gadotti et al 2020 | 18 | 38 | 56 | 0.336 | 0.284 | | -0.234 to 0.905 |  |  | 0.33 | 1.03 |
| Geraili et al 2022 | 75 | 649 | 724 | 2.793 | 0.142 | | 2.514 to 3.073 |  |  | 1.31 | 1.17 |
| Gjuzelova et al 2023 | 32 | 72 | 104 | -0.309 | 0.212 | | -0.730 to 0.111 |  |  | 0.59 | 1.11 |
| Hafeez et al 2022 | 44 | 92 | 136 | 0.178 | 0.183 | | -0.184 to 0.539 |  |  | 0.80 | 1.14 |
| Hassan et al 2023 | 102 | 148 | 250 | 1.804 | 0.152 | | 1.505 to 2.102 |  |  | 1.16 | 1.16 |
| Haydar et al 2022 | 70 | 61 | 131 | 1.353 | 0.193 | | 0.971 to 1.735 |  |  | 0.71 | 1.13 |
| Huang et al 2020 | 140 | 536 | 676 | 1.142 | 0.0998 | | 0.946 to 1.337 |  |  | 2.67 | 1.19 |
| Jang et al 2021 | 10 | 39 | 49 | 0.329 | 0.350 | | -0.376 to 1.033 |  |  | 0.22 | 0.96 |
| Katkat et al 2022 | 49 | 393 | 442 | 1.160 | 0.156 | | 0.853 to 1.467 |  |  | 1.09 | 1.16 |
| Kaylon et al 2021 | 58 | 117 | 175 | 0.311 | 0.161 | | -0.00642 to 0.628 |  |  | 1.03 | 1.15 |
| Khan et al 2021 | 25 | 42 | 67 | 0.0171 | 0.250 | | -0.482 to 0.516 |  |  | 0.43 | 1.07 |
| Kılıç et al 2023 | 183 | 275 | 458 | 0.417 | 0.0962 | | 0.228 to 0.606 |  |  | 2.87 | 1.20 |
| Küçük et al 2022 | 181 | 135 | 316 | 0.386 | 0.114 | | 0.161 to 0.611 |  |  | 2.03 | 1.19 |
| Kurri et al 2021 | 30 | 54 | 84 | 0.201 | 0.226 | | -0.249 to 0.650 |  |  | 0.52 | 1.10 |
| Le Borgne et al 2021 | 139 | 884 | 1023 | 0.252 | 0.0913 | | 0.0731 to 0.432 |  |  | 3.19 | 1.20 |
| Lee et al 2022 | 18 | 265 | 283 | 0.250 | 0.243 | | -0.229 to 0.728 |  |  | 0.45 | 1.08 |
| Lino et al 2021 | 44 | 53 | 97 | 1.268 | 0.222 | | 0.828 to 1.709 |  |  | 0.54 | 1.10 |
| Mahmood et al 2022 | 19 | 31 | 50 | 0.210 | 0.288 | | -0.368 to 0.788 |  |  | 0.32 | 1.03 |
| Mesa et al 2021 | 7 | 43 | 50 | 0.995 | 0.413 | | 0.164 to 1.826 |  |  | 0.16 | 0.88 |
| Milenkovic et al 2022 | 195 | 123 | 318 | 0.266 | 0.115 | | 0.0395 to 0.493 |  |  | 2.00 | 1.19 |
| Mohamad et al 2023 | 27 | 40 | 67 | 0.510 | 0.250 | | 0.0109 to 1.010 |  |  | 0.42 | 1.07 |
| Moisa et al 2021 | 142 | 130 | 272 | 0.328 | 0.122 | | 0.0877 to 0.568 |  |  | 1.79 | 1.18 |
| Oguz et al 2022 | 28 | 95 | 123 | 1.065 | 0.224 | | 0.621 to 1.508 |  |  | 0.53 | 1.10 |
| Olivieri et al 2022 | 220 | 421 | 641 | 0.826 | 0.0862 | | 0.657 to 0.996 |  |  | 3.57 | 1.20 |
| Onuk et al 2023 | 27 | 36 | 63 | -0.183 | 0.252 | | -0.687 to 0.321 |  |  | 0.42 | 1.07 |
| Onur et al 2020 | 56 | 245 | 301 | 2.606 | 0.182 | | 2.248 to 2.964 |  |  | 0.80 | 1.14 |
| Özdemir et al 2021 | 5 | 98 | 103 | 0.122 | 0.455 | | -0.781 to 1.024 |  |  | 0.13 | 0.83 |
| Özdemir et al 2023 | 112 | 358 | 470 | 0.997 | 0.113 | | 0.775 to 1.219 |  |  | 2.09 | 1.19 |
| Ozger et al 2021 | 8 | 29 | 37 | 0.817 | 0.402 | | 0.00113 to 1.634 |  |  | 0.16 | 0.90 |
| Pál et al 2022 | 89 | 28 | 117 | 0.659 | 0.220 | | 0.225 to 1.094 |  |  | 0.55 | 1.10 |
| Pandilov et al 2021 | 21 | 74 | 95 | 1.733 | 0.276 | | 1.185 to 2.280 |  |  | 0.35 | 1.04 |
| Parimoo et al 2021 | 55 | 87 | 142 | 0.176 | 0.172 | | -0.163 to 0.516 |  |  | 0.90 | 1.15 |
| Peng et al 2022 | 74 | 537 | 611 | 2.097 | 0.138 | | 1.826 to 2.367 |  |  | 1.40 | 1.17 |
| Phan et al 2021 | 20 | 61 | 81 | 0.00980 | 0.255 | | -0.498 to 0.518 |  |  | 0.41 | 1.07 |
| Quan Liu et al 2020 | 138 | 170 | 308 | 1.721 | 0.134 | | 1.458 to 1.984 |  |  | 1.49 | 1.17 |
| Rahayu et al 2022 | 23 | 57 | 80 | 0.463 | 0.247 | | -0.0299 to 0.955 |  |  | 0.43 | 1.07 |
| Rai et al 2022 | 254 | 730 | 984 | 0.937 | 0.0758 | | 0.788 to 1.086 |  |  | 4.63 | 1.21 |
| Raman et al 2021 | 20 | 190 | 210 | 2.041 | 0.255 | | 1.539 to 2.542 |  |  | 0.41 | 1.07 |
| Rizo-Tellez et al 2020 | 20 | 34 | 54 | 0.930 | 0.292 | | 0.344 to 1.515 |  |  | 0.31 | 1.02 |
| Sakthivadivel et al 2021 | 28 | 244 | 272 | 0.857 | 0.202 | | 0.459 to 1.256 |  |  | 0.65 | 1.12 |
| Sanchez-de Prada et al 2022 | 20 | 88 | 108 | 0.953 | 0.254 | | 0.449 to 1.458 |  |  | 0.41 | 1.07 |
| Saputra et al 2023 | 95 | 100 | 195 | -0.318 | 0.144 | | -0.601 to -0.0345 |  |  | 1.29 | 1.17 |
| Satilmis et al 2023 | 23 | 772 | 795 | 1.696 | 0.216 | | 1.273 to 2.120 |  |  | 0.57 | 1.11 |
| Saylik et al 2021 | 51 | 125 | 176 | 0.834 | 0.171 | | 0.496 to 1.172 |  |  | 0.91 | 1.15 |
| Senol 2022 | 279 | 309 | 588 | 0.407 | 0.0833 | | 0.243 to 0.570 |  |  | 3.83 | 1.20 |
| Serin et al 2020 | 68 | 2149 | 2217 | 1.233 | 0.125 | | 0.988 to 1.477 |  |  | 1.71 | 1.18 |
| Seyfi et al 2023 | 158 | 154 | 312 | 0.531 | 0.115 | | 0.305 to 0.757 |  |  | 2.01 | 1.19 |
| Szabo et al 2022 | 11 | 13 | 24 | 0.401 | 0.400 | | -0.428 to 1.230 |  |  | 0.17 | 0.90 |
| Taşkin et al 2023 | 447 | 164 | 611 | 0.715 | 0.0934 | | 0.531 to 0.898 |  |  | 3.04 | 1.20 |
| Tawfik et al 2022 | 57 | 57 | 114 | 0.313 | 0.187 | | -0.0576 to 0.684 |  |  | 0.76 | 1.13 |
| Terra et al 2022 | 39 | 80 | 119 | -0.0372 | 0.194 | | -0.422 to 0.347 |  |  | 0.71 | 1.13 |
| Tjahyadi et al 2020 | 19 | 43 | 62 | 0.0618 | 0.272 | | -0.482 to 0.606 |  |  | 0.36 | 1.05 |
| Turda et al 2023 | 58 | 25 | 83 | 0.294 | 0.238 | | -0.179 to 0.768 |  |  | 0.47 | 1.08 |
| Uzum et al 2023 | 51 | 221 | 272 | 0.599 | 0.157 | | 0.290 to 0.908 |  |  | 1.08 | 1.16 |
| Vidal-Cevallos et al 2021 | 79 | 298 | 377 | 0.871 | 0.130 | | 0.615 to 1.127 |  |  | 1.57 | 1.18 |
| Visuddho et al 2021 | 148 | 193 | 341 | -0.854 | 0.114 | | -1.078 to -0.630 |  |  | 2.05 | 1.19 |
| Vuillaume et al 2021 | 139 | 896 | 1035 | -0.260 | 0.0913 | | -0.439 to -0.0809 |  |  | 3.19 | 1.20 |
| Yurt et al 2023 | 38 | 271 | 309 | 1.917 | 0.189 | | 1.545 to 2.290 |  |  | 0.74 | 1.13 |
| Total (fixed effects) | 6511 | 20134 | 26645 | 0.771 | 0.0163 | | 0.739 to 0.803 | 47.305 | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 6511 | 20134 | 26645 | 0.815 | 0.0737 | | 0.670 to 0.959 | 11.055 | <0.001 | 100.00 | 100.00 |
|  | | | | | | | | | | | |
| Test for heterogeneity | | | | Publication bias | | | | |
| Q | | 1731.3204 | | Egger's test | | | | |
| DF | | 89 | | Intercept | | 1.1744 | | |
| Significance level | | P < 0.0001 | | 95% CI | | -1.1808 to 3.5296 | | |
| I2 (inconsistency) | | 94.86% | | Significance level | | P = 0.3244 | | |
| 95% CI for I2 | | 94.16 to 95.48 | | Begg's test | | | | |
|  | | | | Kendall's Tau | | 0.03271 | | |
| Significance level | | P = 0.6480 | | |

**Table 3-E. ICU admission in COVID-19 according to D-Dimer.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | ICU | Non-ICU | Total | SMD | | SE | 95% CI | | t | P | Weight (%) | |
| Fixed | Random |
| Abbas et al 2022 | 26 | 24 | 50 | 0.708 | | 0.287 | 0.130 to 1.286 | |  |  | 2.40 | 6.35 |
| AbdelFattah et al 2023 | 75 | 75 | 150 | 1.028 | | 0.173 | 0.686 to 1.370 | |  |  | 6.64 | 8.55 |
| Balci et al 2021 | 46 | 48 | 94 | 0.646 | | 0.210 | 0.229 to 1.064 | |  |  | 4.50 | 7.82 |
| Bendaraf et al 2022 | 66 | 40 | 106 | 0.465 | | 0.201 | 0.0655 to 0.865 | |  |  | 4.89 | 7.99 |
| Făgărăsan et al 2023 | 90 | 276 | 366 | 0.641 | | 0.123 | 0.399 to 0.884 | |  |  | 13.04 | 9.47 |
| Gohda et al 2022 | 40 | 40 | 80 | 0.877 | | 0.232 | 0.415 to 1.339 | |  |  | 3.69 | 7.39 |
| Gormez et al 2020 | 48 | 199 | 247 | 1.348 | | 0.171 | 1.010 to 1.686 | |  |  | 6.76 | 8.59 |
| Hachim et al 2021 | 153 | 388 | 541 | 0.670 | | 0.0975 | 0.478 to 0.861 | |  |  | 20.90 | 9.89 |
| Kaya et al 2022 | 38 | 42 | 80 | 1.104 | | 0.238 | 0.630 to 1.579 | |  |  | 3.50 | 7.27 |
| Phan et al 2021 | 40 | 41 | 81 | 0.578 | | 0.225 | 0.130 to 1.025 | |  |  | 3.93 | 7.53 |
| Salehi et al 2023 | 109 | 140 | 249 | 0.0533 | | 0.127 | -0.198 to 0.304 | |  |  | 12.24 | 9.41 |
| Senol 2022 | 480 | 108 | 588 | 0.203 | | 0.107 | -0.00597 to 0.412 | |  |  | 17.50 | 9.75 |
| Total (fixed effects) | 1211 | 1421 | 2632 | 0.588 | | 0.0446 | 0.500 to 0.675 | | 13.185 | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 1211 | 1421 | 2632 | 0.677 | | 0.114 | 0.453 to 0.900 | | 5.945 | <0.001 | 100.00 | 100.00 |
|  | | | | | | | | | | | | |
| Test for heterogeneity | | | | | Publication bias | | | | | |
| Q | | 64.5569 | | | Egger's test | | | | | |
| DF | | 11 | | | Intercept | | | 2.9964 | | |
| Significance level | | P < 0.0001 | | | 95% CI | | | -1.4823 to 7.4752 | | |
| I2 (inconsistency) | | 82.96% | | | Significance level | | | P = 0.1669 | | |
| 95% CI for I2 | | 71.58 to 89.78 | | | Begg's test | | | | | |
|  | | | | | Kendall's Tau | | | 0.1212 | | |
| Significance level | | | P = 0.5833 | | |

**Table 3-F. Mortality in COVID-19 according to D-Dimer.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | Dead | | Alive | Total | | SMD | SE | | 95% CI | t | P | | Weight (%) | |
| Fixed | Random |
| Abbas et al 2022 | 12 | | 38 | 50 | | 0.948 | 0.339 | | 0.266 to 1.631 |  |  | | 0.27 | 1.22 |
| AbdelFattah et al 2023 | 54 | | 96 | 150 | | 0.993 | 0.179 | | 0.640 to 1.346 |  |  | | 0.96 | 1.48 |
| Abeid et al 2022 | 30 | | 66 | 96 | | 1.806 | 0.254 | | 1.301 to 2.312 |  |  | | 0.48 | 1.36 |
| Acehan et al 2021 | 53 | | 560 | 613 | | 0.806 | 0.145 | | 0.521 to 1.092 |  |  | | 1.46 | 1.53 |
| Aditianingsih et al 2023 | 106 | | 153 | 259 | | 0.719 | 0.130 | | 0.463 to 0.975 |  |  | | 1.83 | 1.54 |
| Ahmed et al 2022 | 40 | | 60 | 100 | | 1.722 | 0.236 | | 1.253 to 2.191 |  |  | | 0.55 | 1.39 |
| Al-Aghbari et al 2023 | 136 | | 308 | 444 | | 0.296 | 0.103 | | 0.0934 to 0.499 |  |  | | 2.89 | 1.57 |
| Alici et al 2021 | 53 | | 168 | 221 | | 2.145 | 0.187 | | 1.776 to 2.514 |  |  | | 0.88 | 1.47 |
| Atlas et al 2021 | 78 | | 24 | 102 | | 2.262 | 0.281 | | 1.706 to 2.819 |  |  | | 0.39 | 1.32 |
| Avila-Nava et al 2021 | 14 | | 24 | 38 | | 0.275 | 0.331 | | -0.396 to 0.946 |  |  | | 0.28 | 1.23 |
| Balci et al 2021 | 26 | | 68 | 94 | | 1.044 | 0.241 | | 0.566 to 1.523 |  |  | | 0.53 | 1.39 |
| Bombaci et al 2023 | 81 | | 26 | 107 | | -0.0391 | 0.224 | | -0.483 to 0.405 |  |  | | 0.61 | 1.41 |
| Çelikkol et al 2022 | 224 | | 900 | 1124 | | 1.591 | 0.0818 | | 1.430 to 1.751 |  |  | | 4.60 | 1.59 |
| Cheng et al 2020 | 85 | | 220 | 305 | | 1.108 | 0.135 | | 0.842 to 1.373 |  |  | | 1.69 | 1.54 |
| Çölkesen et al 2022 | 17 | | 191 | 208 | | 1.734 | 0.266 | | 1.210 to 2.259 |  |  | | 0.43 | 1.34 |
| Deng et al 2021 | 50 | | 50 | 100 | | 0.779 | 0.206 | | 0.371 to 1.188 |  |  | | 0.73 | 1.44 |
| D'Souza's et al 2022 | 91 | | 506 | 597 | | 2.290 | 0.132 | | 2.032 to 2.549 |  |  | | 1.78 | 1.54 |
| El-Desoky et al 2022 | 57 | | 75 | 132 | | 1.213 | 0.190 | | 0.838 to 1.589 |  |  | | 0.85 | 1.47 |
| El-Khattab et al 2023 | 11 | | 89 | 100 | | 2.631 | 0.368 | | 1.901 to 3.361 |  |  | | 0.23 | 1.17 |
| Ergenç et al 2022 | 36 | | 242 | 278 | | 0.282 | 0.179 | | -0.0699 to 0.633 |  |  | | 0.97 | 1.48 |
| Evlice et al 2022 | 29 | | 318 | 347 | | 0.0510 | 0.194 | | -0.330 to 0.432 |  |  | | 0.82 | 1.46 |
| Hafeez et al 2022 | 44 | | 92 | 136 | | 1.126 | 0.195 | | 0.742 to 1.511 |  |  | | 0.81 | 1.46 |
| Hassan et al 2023 | 102 | | 148 | 250 | | 1.728 | 0.150 | | 1.433 to 2.023 |  |  | | 1.37 | 1.52 |
| Haydar et al 2022 | 70 | | 61 | 131 | | 0.706 | 0.180 | | 0.351 to 1.061 |  |  | | 0.96 | 1.48 |
| Hilda et al 2022 | 52 | | 235 | 287 | | 0.813 | 0.157 | | 0.505 to 1.121 |  |  | | 1.26 | 1.51 |
| Huang et al 2020 | 140 | | 536 | 676 | | 1.148 | 0.0998 | | 0.952 to 1.344 |  |  | | 3.09 | 1.57 |
| Huyut et al 2023 | 232 | | 2336 | 2568 | | 1.753 | 0.0730 | | 1.610 to 1.896 |  |  | | 5.77 | 1.59 |
| Isbaniah et al 2021 | 60 | | 154 | 214 | | 0.564 | 0.154 | | 0.261 to 0.868 |  |  | | 1.30 | 1.51 |
| Jang et al 2021 | 10 | | 39 | 49 | | 0.620 | 0.354 | | -0.0926 to 1.333 |  |  | | 0.25 | 1.19 |
| Katkat et al 2022 | 49 | | 393 | 442 | | 2.006 | 0.166 | | 1.681 to 2.332 |  |  | | 1.12 | 1.50 |
| Kilic et al 2022 | 197 | | 320 | 517 | | 0.477 | 0.0916 | | 0.297 to 0.657 |  |  | | 3.67 | 1.58 |
| Küçük et al 2022 | 181 | | 135 | 316 | | 0.000 | 0.113 | | -0.223 to 0.223 |  |  | | 2.39 | 1.56 |
| Küçükceran et al 2021 | 126 | | 591 | 717 | | 1.282 | 0.104 | | 1.079 to 1.486 |  |  | | 2.86 | 1.57 |
| Kurri et al 2021 | 30 | | 54 | 84 | | 0.688 | 0.232 | | 0.227 to 1.150 |  |  | | 0.57 | 1.40 |
| Lino et al 2021 | 44 | | 53 | 97 | | 0.229 | 0.203 | | -0.174 to 0.632 |  |  | | 0.75 | 1.45 |
| Mesa et al 2021 | 7 | | 43 | 50 | | 0.604 | 0.406 | | -0.212 to 1.420 |  |  | | 0.19 | 1.10 |
| Milenkovic et al 2022 | 195 | | 123 | 318 | | 0.552 | 0.117 | | 0.322 to 0.782 |  |  | | 2.25 | 1.56 |
| Mizrak et al 2021 | 83 | | 90 | 173 | | 0.171 | 0.152 | | -0.129 to 0.471 |  |  | | 1.34 | 1.52 |
| Mohamad et al 2023 | 27 | | 40 | 67 | | 0.459 | 0.249 | | -0.0393 to 0.957 |  |  | | 0.50 | 1.37 |
| Mohammadshahi et al 2023 | 26 | | 274 | 300 | | 0.392 | 0.205 | | -0.0125 to 0.796 |  |  | | 0.73 | 1.44 |
| Moisa et al 2021 | 142 | | 130 | 272 | | 0.0198 | 0.121 | | -0.219 to 0.258 |  |  | | 2.10 | 1.55 |
| Monserrat et al 2022 | 37 | | 249 | 286 | | 0.469 | 0.177 | | 0.121 to 0.817 |  |  | | 0.99 | 1.48 |
| Mahmood et al 2022 | 19 | | 31 | 50 | | 0.963 | 0.303 | | 0.355 to 1.571 |  |  | | 0.34 | 1.28 |
| Oguz et al 2022 | 28 | | 95 | 123 | | 0.763 | 0.219 | | 0.329 to 1.197 |  |  | | 0.64 | 1.42 |
| Olivieri et al 2022 | 220 | | 421 | 641 | | 0.475 | 0.0841 | | 0.310 to 0.641 |  |  | | 4.35 | 1.59 |
| Onuk et al 2023 | 27 | | 36 | 63 | | 0.278 | 0.253 | | -0.227 to 0.784 |  |  | | 0.48 | 1.37 |
| Onur et al 2020 | 56 | | 245 | 301 | | 1.167 | 0.155 | | 0.861 to 1.472 |  |  | | 1.28 | 1.51 |
| Özdemir et al 2021 | 5 | | 98 | 103 | | 0.000 | 0.455 | | -0.903 to 0.903 |  |  | | 0.15 | 1.02 |
| Ozger et al 2021 | 8 | | 29 | 37 | | 1.128 | 0.412 | | 0.292 to 1.965 |  |  | | 0.18 | 1.09 |
| Pál et al 2022 | 89 | | 28 | 117 | | 0.527 | 0.218 | | 0.0954 to 0.959 |  |  | | 0.65 | 1.42 |
| Peng et al 2022 | 74 | | 537 | 611 | | 1.735 | 0.133 | | 1.473 to 1.997 |  |  | | 1.73 | 1.54 |
| Phan et al 2021 | 20 | | 61 | 81 | | 0.373 | 0.257 | | -0.138 to 0.884 |  |  | | 0.47 | 1.36 |
| Putra et al 2022 | 146 | | 411 | 557 | | 0.546 | 0.0976 | | 0.354 to 0.738 |  |  | | 3.23 | 1.57 |
| Quan Liu et al 2020 | 138 | | 170 | 308 | | 0.967 | 0.121 | | 0.729 to 1.205 |  |  | | 2.11 | 1.55 |
| Rai et al 2022 | 254 | | 730 | 984 | | 1.264 | 0.0782 | | 1.110 to 1.417 |  |  | | 5.04 | 1.59 |
| Rizo-Tellez et al 2020 | 20 | | 34 | 54 | | 0.889 | 0.291 | | 0.306 to 1.472 |  |  | | 0.36 | 1.30 |
| Sakthivadivel et al 2021 | 28 | | 244 | 272 | | 0.718 | 0.201 | | 0.322 to 1.115 |  |  | | 0.76 | 1.45 |
| Sanchez-de Prada et al 2022 | 20 | | 88 | 108 | | 0.472 | 0.248 | | -0.0198 to 0.964 |  |  | | 0.50 | 1.38 |
| Saputra et al | 95 | | 100 | 195 | | 0.672 | 0.147 | | 0.382 to 0.961 |  |  | | 1.43 | 1.52 |
| Saputra et al 2023 | 95 | | 100 | 195 | | 0.671 | 0.147 | | 0.381 to 0.960 |  |  | | 1.43 | 1.52 |
| Satilmis et al 2023 | 23 | | 772 | 795 | | 0.862 | 0.212 | | 0.445 to 1.279 |  |  | | 0.68 | 1.43 |
| Saylik et al 2021 | 51 | | 125 | 176 | | 0.508 | 0.168 | | 0.177 to 0.839 |  |  | | 1.10 | 1.50 |
| Senol 2022 | 279 | | 309 | 588 | | 0.221 | 0.0827 | | 0.0583 to 0.383 |  |  | | 4.50 | 1.59 |
| Serin et al 2020 | 68 | | 2149 | 2217 | | 0.594 | 0.123 | | 0.352 to 0.836 |  |  | | 2.02 | 1.55 |
| Taşkin et al 2023 | 447 | | 164 | 611 | | 0.0857 | 0.0912 | | -0.0934 to 0.265 |  |  | | 3.70 | 1.58 |
| Terra et al 2022 | 39 | | 80 | 119 | | 0.0132 | 0.194 | | -0.371 to 0.398 |  |  | | 0.82 | 1.46 |
| Uzum et al 2023 | 51 | | 221 | 272 | | 0.000955 | 0.155 | | -0.304 to 0.306 |  |  | | 1.28 | 1.51 |
| Vadi et al 2023 | 118 | | 38 | 156 | | 0.599 | 0.189 | | 0.226 to 0.972 |  |  | | 0.87 | 1.47 |
| Visuddho et al 2021 | 148 | | 193 | 341 | | 0.761 | 0.113 | | 0.539 to 0.983 |  |  | | 2.42 | 1.56 |
| Total (fixed effects) | 5703 | | 17787 | 23490 | | 0.841 | 0.0175 | | 0.807 to 0.875 | 47.923 | <0.001 | | 100.00 | 100.00 |
| Total (random effects) | 5703 | | 17787 | 23490 | | 0.833 | 0.0752 | | 0.686 to 0.981 | 11.085 | <0.001 | | 100.00 | 100.00 |
|  | | | | | | | | | | | | | | |
| Test for heterogeneity | | | | | Publication bias | | | | | | |
| Q | | 1173.8255 | | | Egger's test | | | | | | |
| DF | | 68 | | | Intercept | | | -0.3857 | | | |
| Significance level | | P < 0.0001 | | | 95% CI | | | -2.8940 to 2.1225 | | | |
| I2 (inconsistency) | | 94.21% | | | Significance level | | | P = 0.7598 | | | |
| 95% CI for I2 | | 93.26 to 95.02 | | | Begg's test | | | | | | |
|  | | | | | Kendall's Tau | | | 0.08781 | | | |
| Significance level | | | P = 0.2860 | | | |

**Table 3-G. Mortality in COVID-19 according to ESR.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | Dead | | Alive | Total | SMD | | SE | | 95% CI | t | | P | Weight (%) | |
| Fixed | Random |
| Abbas et al 2022 | 12 | | 38 | 50 | 0.367 | | 0.328 | | -0.293 to 1.026 |  | |  | 2.39 | 15.29 |
| Çölkesen et al 2022 | 17 | | 191 | 208 | 0.585 | | 0.254 | | 0.0849 to 1.086 |  | |  | 3.99 | 16.13 |
| Huyut et al 2023 | 232 | | 2336 | 2568 | 1.316 | | 0.0712 | | 1.176 to 1.455 |  | |  | 50.72 | 17.47 |
| Mohammadshahi et al 2023 | 26 | | 274 | 300 | 0.0587 | | 0.205 | | -0.344 to 0.462 |  | |  | 6.14 | 16.61 |
| Peng et al 2022 | 74 | | 537 | 611 | -0.00461 | | 0.124 | | -0.248 to 0.239 |  | |  | 16.78 | 17.22 |
| Seyfi et al 2023 | 158 | | 154 | 312 | -0.272 | | 0.113 | | -0.495 to -0.0489 |  | |  | 19.98 | 17.28 |
| Total (fixed effects) | 519 | | 3530 | 4049 | 0.648 | | 0.0507 | | 0.549 to 0.747 | 12.774 | | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 519 | | 3530 | 4049 | 0.342 | | 0.354 | | -0.352 to 1.037 | 0.966 | | 0.334 | 100.00 | 100.00 |
|  | | | | | | | | | | | | | | |
| Test for heterogeneity | | | | | | Publication bias | | | | |
| Q | | 190.4891 | | | | Egger's test | | | | |
| DF | | 5 | | | | Intercept | | -6.2058 | | |
| Significance level | | P < 0.0001 | | | | 95% CI | | -20.7351 to 8.3234 | | |
| I2 (inconsistency) | | 97.38% | | | | Significance level | | P = 0.3013 | | |
| 95% CI for I2 | | 95.96 to 98.30 | | | | Begg's test | | | | |
|  | | | | | | Kendall's Tau | | 0.2000 | | |
| Significance level | | P = 0.5730 | | |

**Table 3-H. ICU admission in COVID-19 according to Ferritin.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | ICU | Non-ICU | | Total | | SMD | SE | | 95% CI | t | | P | Weight (%) | |
| Fixed | Random |
| Abbas et al 2022 | 26 | 24 | | 50 | | -0.715 | 0.288 | | -1.293 to -0.137 |  | |  | 1.26 | 8.49 |
| AbdelFattah et al 2023 | 75 | 75 | | 150 | | 1.035 | 0.173 | | 0.693 to 1.377 |  | |  | 3.48 | 9.14 |
| Balci et al 2021 | 46 | 48 | | 94 | | 0.745 | 0.212 | | 0.325 to 1.166 |  | |  | 2.33 | 8.95 |
| Bendaraf et al 2022 | 66 | 40 | | 106 | | 0.651 | 0.204 | | 0.247 to 1.055 |  | |  | 2.51 | 8.99 |
| Gohda et al 2022 | 40 | 40 | | 80 | | 0.904 | 0.233 | | 0.441 to 1.367 |  | |  | 1.93 | 8.83 |
| Gormez et al 2020 | 48 | 199 | | 247 | | 0.981 | 0.166 | | 0.654 to 1.309 |  | |  | 3.78 | 9.17 |
| Hachim et al 2021 | 153 | 388 | | 541 | | 0.536 | 0.0967 | | 0.346 to 0.726 |  | |  | 11.17 | 9.42 |
| Kaya et al 2022 | 38 | 42 | | 80 | | 0.800 | 0.231 | | 0.341 to 1.259 |  | |  | 1.96 | 8.84 |
| Kumari et al 2023 | 449 | 6946 | | 7395 | | 0.460 | 0.0488 | | 0.364 to 0.556 |  | |  | 43.79 | 9.52 |
| Naznin et al 2021 | 337 | 2081 | | 2418 | | 2.123 | 0.0662 | | 1.993 to 2.253 |  | |  | 23.86 | 9.49 |
| Rasyid et al 2021 | 45 | 250 | | 295 | | 0.540 | 0.163 | | 0.219 to 0.861 |  | |  | 3.93 | 9.18 |
| Total (fixed effects) | 1323 | 10133 | | 11456 | | 0.920 | 0.0323 | | 0.857 to 0.983 | 28.465 | | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 1323 | 10133 | | 11456 | | 0.745 | 0.252 | | 0.251 to 1.238 | 2.957 | | 0.003 | 100.00 | 100.00 |
|  | | | | | | | | | | | | | | |
| Test for heterogeneity | | | | | Publication bias | | | | | |
| Q | | | 476.0174 | | Egger's test | | | | | |
| DF | | | 10 | | Intercept | | | -1.4686 | | |
| Significance level | | | P < 0.0001 | | 95% CI | | | -10.3903 to 7.4531 | | |
| I2 (inconsistency) | | | 97.90% | | Significance level | | | P = 0.7182 | | |
| 95% CI for I2 | | | 97.20 to 98.42 | | Begg's test | | | | | |
|  | | | | | Kendall's Tau | | | 0.09091 | | |
| Significance level | | | P = 0.6971 | | |

**Table 3-I. Mortality in COVID-19 according to Ferritin.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | Dead | | Alive | Total | | SMD | SE | | 95% CI | t | | P | Weight (%) | |
| Fixed | Random |
| Abbas et al 2022 | 12 | | 38 | 50 | | -0.429 | 0.329 | | -1.090 to 0.232 |  | |  | 0.44 | 1.57 |
| AbdelFattah et al 2023 | 54 | | 96 | 150 | | 0.803 | 0.175 | | 0.456 to 1.150 |  | |  | 1.54 | 1.79 |
| Abeid et al 2022 | 30 | | 66 | 96 | | 1.245 | 0.236 | | 0.776 to 1.714 |  | |  | 0.85 | 1.71 |
| Acehan et al 2021 | 53 | | 560 | 613 | | 1.982 | 0.154 | | 1.679 to 2.285 |  | |  | 1.99 | 1.81 |
| Ahmed et al 2021 | 28 | | 129 | 157 | | 0.661 | 0.211 | | 0.244 to 1.077 |  | |  | 1.06 | 1.74 |
| Ahmed et al 2022 | 40 | | 60 | 100 | | 1.740 | 0.237 | | 1.269 to 2.210 |  | |  | 0.84 | 1.71 |
| Alaaluah et al 2022 | 28 | | 47 | 75 | | 0.623 | 0.242 | | 0.141 to 1.105 |  | |  | 0.81 | 1.70 |
| Al-Aghbari et al 2023 | 136 | | 308 | 444 | | 0.910 | 0.107 | | 0.699 to 1.121 |  | |  | 4.11 | 1.85 |
| Allahverdiyev et al 2020 | 92 | | 363 | 455 | | 0.905 | 0.120 | | 0.669 to 1.142 |  | |  | 3.26 | 1.84 |
| Almasud et al 2023 | 26 | | 55 | 81 | | 0.213 | 0.236 | | -0.257 to 0.684 |  | |  | 0.85 | 1.71 |
| Arshad et al 2020 | 22 | | 216 | 238 | | 4.471 | 0.303 | | 3.875 to 5.068 |  | |  | 0.52 | 1.61 |
| Avila-Nava et al 2021 | 14 | | 24 | 38 | | -0.422 | 0.333 | | -1.097 to 0.253 |  | |  | 0.43 | 1.57 |
| Balci et al 2021 | 26 | | 68 | 94 | | 0.387 | 0.230 | | -0.0702 to 0.845 |  | |  | 0.89 | 1.72 |
| Bombaci et al 2023 | 81 | | 26 | 107 | | 3.145 | 0.310 | | 2.530 to 3.760 |  | |  | 0.49 | 1.60 |
| Chopra et al 2023 | 124 | | 276 | 400 | | 0.391 | 0.109 | | 0.178 to 0.605 |  | |  | 3.99 | 1.85 |
| Çölkesen et al 2022 | 17 | | 191 | 208 | | 0.452 | 0.253 | | -0.0475 to 0.951 |  | |  | 0.74 | 1.69 |
| Deng et al 2021 | 50 | | 50 | 100 | | 1.440 | 0.223 | | 0.997 to 1.883 |  | |  | 0.95 | 1.73 |
| Devang et al 2022 | 48 | | 142 | 190 | | 0.545 | 0.169 | | 0.212 to 0.878 |  | |  | 1.66 | 1.79 |
| D'Souza's et al 2022 | 91 | | 506 | 597 | | 1.163 | 0.119 | | 0.930 to 1.396 |  | |  | 3.36 | 1.84 |
| El-Khattab et al 2023 | 11 | | 89 | 100 | | 1.611 | 0.337 | | 0.943 to 2.280 |  | |  | 0.42 | 1.56 |
| Evlice et al 2022 | 29 | | 318 | 347 | | 0.866 | 0.196 | | 0.480 to 1.252 |  | |  | 1.23 | 1.76 |
| Geraili et al 2022 | 75 | | 649 | 724 | | 2.264 | 0.136 | | 1.998 to 2.531 |  | |  | 2.57 | 1.83 |
| Gjuzelova et al 2023 | 32 | | 72 | 104 | | -0.456 | 0.213 | | -0.879 to -0.0333 |  | |  | 1.04 | 1.74 |
| Hafeez et al 2022 | 44 | | 92 | 136 | | 0.213 | 0.183 | | -0.148 to 0.575 |  | |  | 1.42 | 1.78 |
| Hassan et al 2023 | 102 | | 148 | 250 | | 1.658 | 0.148 | | 1.367 to 1.950 |  | |  | 2.15 | 1.81 |
| Huyut et al 2023 | 232 | | 2336 | 2568 | | 1.402 | 0.0715 | | 1.261 to 1.542 |  | |  | 9.24 | 1.87 |
| Jang et al 2021 | 10 | | 39 | 49 | | 0.162 | 0.349 | | -0.541 to 0.864 |  | |  | 0.39 | 1.54 |
| Katkat et al 2022 | 49 | | 393 | 442 | | 0.655 | 0.153 | | 0.355 to 0.956 |  | |  | 2.02 | 1.81 |
| Küçük et al 2022 | 181 | | 135 | 316 | | 0.237 | 0.114 | | 0.0130 to 0.461 |  | |  | 3.65 | 1.84 |
| Kurri et al 2021 | 30 | | 54 | 84 | | 0.0967 | 0.226 | | -0.352 to 0.546 |  | |  | 0.93 | 1.73 |
| Lee et al 2022 | 18 | | 265 | 283 | | 0.170 | 0.243 | | -0.308 to 0.649 |  | |  | 0.80 | 1.70 |
| Lino et al 2021 | 44 | | 53 | 97 | | 0.785 | 0.210 | | 0.368 to 1.202 |  | |  | 1.07 | 1.75 |
| Mesa et al 2021 | 7 | | 43 | 50 | | 1.410 | 0.425 | | 0.555 to 2.265 |  | |  | 0.26 | 1.41 |
| Milenkovic et al 2022 | 195 | | 123 | 318 | | 0.0287 | 0.115 | | -0.197 to 0.255 |  | |  | 3.58 | 1.84 |
| Mohammadshahi et al 2023 | 26 | | 274 | 300 | | 0.421 | 0.205 | | 0.0171 to 0.826 |  | |  | 1.12 | 1.75 |
| Monserrat et al 2022 | 37 | | 249 | 286 | | 0.850 | 0.179 | | 0.497 to 1.202 |  | |  | 1.47 | 1.78 |
| Mahmood et al 2022 | 19 | | 31 | 50 | | 2.245 | 0.364 | | 1.512 to 2.977 |  | |  | 0.36 | 1.51 |
| Naqvi et al 2021 | 27 | | 221 | 248 | | 4.261 | 0.279 | | 3.711 to 4.811 |  | |  | 0.61 | 1.65 |
| Oguz et al 2022 | 28 | | 95 | 123 | | 1.041 | 0.224 | | 0.598 to 1.484 |  | |  | 0.94 | 1.73 |
| Olivieri et al 2022 | 220 | | 421 | 641 | | 0.442 | 0.0840 | | 0.277 to 0.607 |  | |  | 6.70 | 1.86 |
| Onuk et al 2023 | 27 | | 36 | 63 | | 0.478 | 0.255 | | -0.0324 to 0.987 |  | |  | 0.73 | 1.68 |
| Onur et al 2020 | 56 | | 245 | 301 | | 2.427 | 0.178 | | 2.078 to 2.777 |  | |  | 1.49 | 1.78 |
| Ozger et al 2021 | 8 | | 29 | 37 | | 0.922 | 0.405 | | 0.0998 to 1.745 |  | |  | 0.29 | 1.45 |
| Pál et al 2022 | 89 | | 28 | 117 | | -0.118 | 0.215 | | -0.545 to 0.308 |  | |  | 1.02 | 1.74 |
| Parimoo et al 2021 | 55 | | 87 | 142 | | 0.0247 | 0.171 | | -0.314 to 0.363 |  | |  | 1.61 | 1.79 |
| Rai et al 2022 | 254 | | 730 | 984 | | 0.967 | 0.0760 | | 0.818 to 1.116 |  | |  | 8.19 | 1.87 |
| Raman et al 2021 | 20 | | 190 | 210 | | 1.518 | 0.246 | | 1.034 to 2.002 |  | |  | 0.78 | 1.70 |
| Rasyid et al 2021 | 31 | | 264 | 295 | | 0.595 | 0.191 | | 0.219 to 0.970 |  | |  | 1.30 | 1.77 |
| Rizo-Tellez et al 2020 | 20 | | 34 | 54 | | 0.931 | 0.292 | | 0.345 to 1.516 |  | |  | 0.56 | 1.63 |
| Sakthivadivel et al 2021 | 28 | | 244 | 272 | | 0.915 | 0.203 | | 0.515 to 1.314 |  | |  | 1.15 | 1.75 |
| Sanchez-de Prada et al 2022 | 20 | | 88 | 108 | | 0.472 | 0.248 | | -0.0198 to 0.964 |  | |  | 0.77 | 1.69 |
| Szabo et al 2022 | 11 | | 13 | 24 | | 0.988 | 0.420 | | 0.116 to 1.860 |  | |  | 0.27 | 1.42 |
| Taşkin et al 2023 | 447 | | 164 | 611 | | 1.471 | 0.100 | | 1.273 to 1.668 |  | |  | 4.69 | 1.85 |
| Terra et al 2022 | 39 | | 80 | 119 | | 0.293 | 0.195 | | -0.0934 to 0.679 |  | |  | 1.24 | 1.76 |
| Uzum et al 2023 | 51 | | 221 | 272 | | 0.0914 | 0.155 | | -0.214 to 0.397 |  | |  | 1.97 | 1.81 |
| Vadi et al 2023 | 118 | | 38 | 156 | | 0.441 | 0.187 | | 0.0713 to 0.811 |  | |  | 1.35 | 1.77 |
| Yağcı et al 2021 | 23 | | 36 | 59 | | 0.790 | 0.273 | | 0.243 to 1.337 |  | |  | 0.63 | 1.66 |
| Yurt et al 2023 | 38 | | 271 | 309 | | 2.203 | 0.194 | | 1.821 to 2.585 |  | |  | 1.25 | 1.76 |
| Total (fixed effects) | 3723 | | 12119 | 15842 | | 0.919 | 0.0217 | | 0.877 to 0.962 | 42.286 | | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 3723 | | 12119 | 15842 | | 0.956 | 0.101 | | 0.759 to 1.154 | 9.489 | | <0.001 | 100.00 | 100.00 |
|  | | | | | | | | | | | | | | |
| Test for heterogeneity | | | | | Publication bias | | | | | |
| Q | | 1153.0869 | | | Egger's test | | | | | |
| DF | | 57 | | | Intercept | | | 0.3145 | | |
| Significance level | | P < 0.0001 | | | 95% CI | | | -2.5187 to 3.1478 | | |
| I2 (inconsistency) | | 95.06% | | | Significance level | | | P = 0.8248 | | |
| 95% CI for I2 | | 94.21 to 95.78 | | | Begg's test | | | | | |
|  | | | | | Kendall's Tau | | | 0.08772 | | |
| Significance level | | | P = 0.3307 | | |

**Table 3-J. ICU admission in COVID-19 according to Fibrinogen.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | ICU | Non-ICU | | Total | SMD | | SE | 95% CI | | t | P | Weight (%) | |
| Fixed | Random |
| Abbas et al 2022 | 26 | 24 | | 50 | 0.133 | | 0.279 | -0.428 to 0.693 | |  |  | 9.31 | 16.90 |
| Făgărăsan et al 2023 | 90 | 276 | | 366 | -0.0676 | | 0.121 | -0.306 to 0.171 | |  |  | 49.32 | 24.92 |
| Kaya et al 2022 | 38 | 42 | | 80 | 0.889 | | 0.233 | 0.426 to 1.352 | |  |  | 13.38 | 19.22 |
| Phan et al 2021 | 40 | 41 | | 81 | 0.383 | | 0.222 | -0.0589 to 0.826 | |  |  | 14.67 | 19.77 |
| Solimando et al 2021 | 25 | 70 | | 95 | 0.422 | | 0.233 | -0.0408 to 0.885 | |  |  | 13.32 | 19.19 |
| Total (fixed effects) | 219 | 453 | | 672 | 0.210 | | 0.0851 | 0.0434 to 0.378 | | 2.474 | 0.014 | 100.00 | 100.00 |
| Total (random effects) | 219 | 453 | | 672 | 0.333 | | 0.182 | -0.0242 to 0.691 | | 1.831 | 0.068 | 100.00 | 100.00 |
|  | | | | | | | | | | | | | |
| Test for heterogeneity | | | | | | Publication bias | | | | | |
| Q | | | 15.2947 | | | Egger's test | | | | | |
| DF | | | 4 | | | Intercept | | | 4.0545 | | |
| Significance level | | | P = 0.0041 | | | 95% CI | | | -2.8463 to 10.9553 | | |
| I2 (inconsistency) | | | 73.85% | | | Significance level | | | P = 0.1583 | | |
| 95% CI for I2 | | | 34.95 to 89.49 | | | Begg's test | | | | | |
|  | | | | | | Kendall's Tau | | | 0.2000 | | |
| Significance level | | | P = 0.6242 | | |

**Table 3-K. Mortality in COVID-19 according to Fibrinogen.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | Dead | Alive | | Total | SMD | | SE | | 95% CI | t | | P | Weight (%) | |
| Fixed | Random |
| Abbas et al 2022 | 12 | 38 | | 50 | -0.594 | | 0.331 | | -1.260 to 0.0720 |  | |  | 1.28 | 4.35 |
| Acehan et al 2021 | 53 | 560 | | 613 | 0.389 | | 0.144 | | 0.106 to 0.671 |  | |  | 6.79 | 6.57 |
| Avila-Nava et al 2021 | 14 | 24 | | 38 | 0.299 | | 0.331 | | -0.373 to 0.970 |  | |  | 1.28 | 4.35 |
| Deng et al 2021 | 50 | 50 | | 100 | 0.174 | | 0.199 | | -0.220 to 0.569 |  | |  | 3.56 | 5.93 |
| Hilda et al 2022 | 52 | 235 | | 287 | 1.058 | | 0.159 | | 0.745 to 1.371 |  | |  | 5.56 | 6.40 |
| Huyut et al 2023 | 232 | 2336 | | 2568 | 0.533 | | 0.0692 | | 0.397 to 0.669 |  | |  | 29.37 | 7.23 |
| Jang et al 2021 | 10 | 39 | | 49 | -0.396 | | 0.351 | | -1.102 to 0.310 |  | |  | 1.14 | 4.14 |
| Küçükceran et al 2021 | 126 | 591 | | 717 | 0.465 | | 0.0988 | | 0.271 to 0.659 |  | |  | 14.42 | 7.01 |
| Milenkovic et al 2022 | 195 | 123 | | 318 | 0.000 | | 0.115 | | -0.226 to 0.226 |  | |  | 10.66 | 6.87 |
| Mohammadshahi et al 2023 | 26 | 274 | | 300 | 1.696 | | 0.216 | | 1.270 to 2.121 |  | |  | 3.01 | 5.72 |
| Onuk et al 2023 | 27 | 36 | | 63 | 0.384 | | 0.254 | | -0.123 to 0.892 |  | |  | 2.19 | 5.26 |
| Onur et al 2020 | 56 | 245 | | 301 | 0.0492 | | 0.148 | | -0.242 to 0.340 |  | |  | 6.45 | 6.53 |
| Ozger et al 2021 | 8 | 29 | | 37 | 1.352 | | 0.421 | | 0.497 to 2.207 |  | |  | 0.79 | 3.46 |
| Phan et al 2021 | 20 | 61 | | 81 | -0.0644 | | 0.255 | | -0.572 to 0.444 |  | |  | 2.16 | 5.24 |
| Rizo-Tellez 2020 | 20 | 34 | | 54 | 0.305 | | 0.279 | | -0.255 to 0.866 |  | |  | 1.80 | 4.95 |
| Saylik et al 2021 | 51 | 125 | | 176 | 0.697 | | 0.170 | | 0.363 to 1.032 |  | |  | 4.89 | 6.28 |
| Szabo et al 2022 | 11 | 13 | | 24 | -0.106 | | 0.396 | | -0.926 to 0.715 |  | |  | 0.90 | 3.69 |
| Terra et al 2022 | 39 | 80 | | 119 | -0.132 | | 0.194 | | -0.517 to 0.252 |  | |  | 3.73 | 5.99 |
| Total (fixed effects) | 1002 | 4893 | | 5895 | 0.412 | | 0.0375 | | 0.339 to 0.486 | 10.995 | | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 1002 | 4893 | | 5895 | 0.357 | | 0.107 | | 0.147 to 0.566 | 3.330 | | 0.001 | 100.00 | 100.00 |
|  | | | | | | | | | | | | | | |
| Test for heterogeneity | | | | | | Publication bias | | | | |
| Q | | | 111.1260 | | | Egger's test | | | | |
| DF | | | 17 | | | Intercept | | -0.8183 | | |
| Significance level | | | P < 0.0001 | | | 95% CI | | -3.5262 to 1.8896 | | |
| I2 (inconsistency) | | | 84.70% | | | Significance level | | P = 0.5308 | | |
| 95% CI for I2 | | | 77.14 to 89.76 | | | Begg's test | | | | |
|  | | | | | | Kendall's Tau | | -0.09804 | | |
| Significance level | | P = 0.5699 | | |

**Table 3-L. ICU admission in COVID-19 according to IL-6.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | ICU | | Non-ICU | Total | | SMD | SE | 95% CI | | t | | P | Weight (%) | |
| Fixed | Random |
| Balci et al 2021 | 46 | | 48 | 94 | | 1.225 | 0.223 | 0.781 to 1.668 | |  | |  | 26.62 | 26.62 |
| Gohda et al 2022 | 40 | | 40 | 80 | | 0.929 | 0.233 | 0.464 to 1.393 | |  | |  | 24.38 | 24.38 |
| Phan et al 2021 | 40 | | 41 | 81 | | 0.721 | 0.227 | 0.268 to 1.173 | |  | |  | 25.69 | 25.69 |
| Solimando et al 2021 | 25 | | 70 | 95 | | 0.819 | 0.239 | 0.345 to 1.292 | |  | |  | 23.31 | 23.31 |
| Total (fixed effects) | 151 | | 199 | 350 | | 0.928 | 0.115 | 0.702 to 1.155 | | 8.059 | | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 151 | | 199 | 350 | | 0.928 | 0.115 | 0.702 to 1.155 | | 8.059 | | <0.001 | 100.00 | 100.00 |
|  | | | | | | | | | | | | | | |
| Test for heterogeneity | | | | | Publication bias | | | | | |
| Q | | 2.8098 | | | Egger's test | | | | | |
| DF | | 3 | | | Intercept | | | | -17.9283 | |
| Significance level | | P = 0.4219 | | | 95% CI | | | | -103.1208 to 67.2641 | |
| I2 (inconsistency) | | 0.00% | | | Significance level | | | | P = 0.4608 | |
| 95% CI for I2 | | 0.00 to 86.22 | | | Begg's test | | | | | |
|  | | | | | Kendall's Tau | | | | -0.3333 | |
| Significance level | | | | P = 0.4969 | |

**Table 3-M. Mortality in COVID-19 according to IL-6.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | Dead | Alive | | Total | SMD | | SE | 95% CI | | t | P | Weight (%) | |
| Fixed | Random |
| Ahmed et al 2022 | 40 | 60 | | 100 | 2.403 | | 0.264 | 1.878 to 2.927 | |  |  | 0.97 | 2.59 |
| Alaaluah et al 2022 | 28 | 47 | | 75 | 0.464 | | 0.239 | -0.0126 to 0.941 | |  |  | 1.19 | 2.68 |
| Al-Aghbari et al 2023 | 136 | 308 | | 444 | 0.623 | | 0.105 | 0.417 to 0.829 | |  |  | 6.19 | 3.05 |
| Andriani et al 2021 | 35 | 15 | | 50 | 0.114 | | 0.304 | -0.497 to 0.725 | |  |  | 0.74 | 2.45 |
| Arsentieva et al 2022 | 16 | 13 | | 29 | 0.710 | | 0.375 | -0.0592 to 1.478 | |  |  | 0.49 | 2.20 |
| Avila-Nava et al 2021 | 14 | 24 | | 38 | 1.305 | | 0.362 | 0.571 to 2.038 | |  |  | 0.52 | 2.25 |
| Balci et al 2021 | 26 | 68 | | 94 | 1.703 | | 0.260 | 1.186 to 2.220 | |  |  | 1.01 | 2.61 |
| Birben et al 2020 | 124 | 264 | | 388 | 0.803 | | 0.112 | 0.582 to 1.024 | |  |  | 5.39 | 3.03 |
| Cheng et al 2020 | 85 | 220 | | 305 | 1.299 | | 0.138 | 1.028 to 1.570 | |  |  | 3.59 | 2.98 |
| Chopra et al 2023 | 124 | 276 | | 400 | 0.366 | | 0.109 | 0.153 to 0.580 | |  |  | 5.77 | 3.04 |
| Deng et al 2021 | 50 | 50 | | 100 | 0.813 | | 0.207 | 0.403 to 1.223 | |  |  | 1.60 | 2.79 |
| Gadotti et al 2020 | 18 | 38 | | 56 | 0.0619 | | 0.282 | -0.504 to 0.628 | |  |  | 0.86 | 2.53 |
| Gjuzelova et al 2023 | 32 | 72 | | 104 | -0.327 | | 0.212 | -0.748 to 0.0935 | |  |  | 1.51 | 2.77 |
| Hafeez et al 2022 | 44 | 92 | | 136 | -0.0462 | | 0.182 | -0.407 to 0.314 | |  |  | 2.05 | 2.86 |
| Halmaciu et al 2022 | 82 | 185 | | 267 | 1.383 | | 0.145 | 1.097 to 1.669 | |  |  | 3.23 | 2.96 |
| Harsini et al 2023 | 23 | 51 | | 74 | 0.954 | | 0.261 | 0.435 to 1.474 | |  |  | 1.00 | 2.61 |
| Hassan et al 2023 | 102 | 148 | | 250 | 1.526 | | 0.145 | 1.240 to 1.813 | |  |  | 3.23 | 2.96 |
| Huang et al 2020 | 140 | 536 | | 676 | 1.396 | | 0.102 | 1.196 to 1.597 | |  |  | 6.53 | 3.05 |
| Jang et al 2021 | 10 | 39 | | 49 | 0.876 | | 0.360 | 0.152 to 1.600 | |  |  | 0.53 | 2.25 |
| Küçük et al 2022 | 181 | 135 | | 316 | 0.123 | | 0.114 | -0.101 to 0.346 | |  |  | 5.28 | 3.03 |
| Kurri et al 2021 | 30 | 54 | | 84 | 0.142 | | 0.226 | -0.307 to 0.591 | |  |  | 1.33 | 2.72 |
| Luo et al 2020 | 201 | 817 | | 1018 | 1.732 | | 0.0875 | 1.560 to 1.904 | |  |  | 8.89 | 3.08 |
| Mesa et al 2021 | 7 | 43 | | 50 | 1.096 | | 0.416 | 0.260 to 1.932 | |  |  | 0.39 | 2.06 |
| Milenkovic et al 2022 | 195 | 123 | | 318 | 0.547 | | 0.117 | 0.317 to 0.777 | |  |  | 4.98 | 3.03 |
| Mahmood et al 2022 | 19 | 31 | | 50 | 2.812 | | 0.402 | 2.005 to 3.620 | |  |  | 0.42 | 2.11 |
| Olivieri et al 2022 | 220 | 421 | | 641 | 0.538 | | 0.0844 | 0.372 to 0.704 | |  |  | 9.55 | 3.08 |
| Onuk et al 2023 | 27 | 36 | | 63 | 0.627 | | 0.258 | 0.111 to 1.142 | |  |  | 1.03 | 2.62 |
| Ozger et al 2021 | 8 | 29 | | 37 | 0.989 | | 0.407 | 0.162 to 1.816 | |  |  | 0.41 | 2.09 |
| Pál et al 2022 | 89 | 28 | | 117 | 0.664 | | 0.220 | 0.229 to 1.099 | |  |  | 1.41 | 2.75 |
| Parimoo et al 2021 | 55 | 87 | | 142 | -0.280 | | 0.172 | -0.620 to 0.0608 | |  |  | 2.30 | 2.89 |
| Phan et al 2021 | 20 | 61 | | 81 | 1.567 | | 0.283 | 1.003 to 2.131 | |  |  | 0.85 | 2.53 |
| Putra et al 2022 | 146 | 411 | | 557 | 0.618 | | 0.0980 | 0.425 to 0.810 | |  |  | 7.10 | 3.06 |
| Quan Liu et al 2020 | 138 | 170 | | 308 | 1.081 | | 0.122 | 0.841 to 1.322 | |  |  | 4.55 | 3.01 |
| Rahayu et al 2022 | 23 | 57 | | 80 | 0.230 | | 0.245 | -0.259 to 0.718 | |  |  | 1.13 | 2.66 |
| Sakthivadivel et al 2021 | 28 | 244 | | 272 | 0.661 | | 0.201 | 0.265 to 1.056 | |  |  | 1.69 | 2.80 |
| Szabo et al 2022 | 11 | 13 | | 24 | 1.391 | | 0.444 | 0.471 to 2.311 | |  |  | 0.35 | 1.96 |
| Vadi et al 2023 | 118 | 38 | | 156 | 0.351 | | 0.187 | -0.0180 to 0.719 | |  |  | 1.95 | 2.85 |
| Total (fixed effects) | 2645 | 5304 | | 7949 | 0.816 | | 0.0261 | 0.765 to 0.867 | | 31.265 | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 2645 | 5304 | | 7949 | 0.823 | | 0.101 | 0.625 to 1.022 | | 8.137 | <0.001 | 100.00 | 100.00 |
|  | | | | | | | | | | | | | |
| Test for heterogeneity | | | | | | Publication bias | | | | |
| Q | | | 488.7368 | | | Egger's test | | | | |
| DF | | | 36 | | | Intercept | | | -0.1440 | |
| Significance level | | | P < 0.0001 | | | 95% CI | | | -2.9839 to 2.6959 | |
| I2 (inconsistency) | | | 92.63% | | | Significance level | | | P = 0.9186 | |
| 95% CI for I2 | | | 90.79 to 94.11 | | | Begg's test | | | | |
|  | | | | | | Kendall's Tau | | | 0.1652 | |
| Significance level | | | P = 0.1502 | |

**Table 3-N. ICU admission in COVID-19 according to LDH.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | ICU | Non-ICU | | Total | SMD | | SE | 95% CI | | t | P | Weight (%) | |
| Fixed | Random |
| Abbas et al 2022 | 26 | 24 | | 50 | 0.559 | | 0.284 | -0.0120 to 1.131 | |  |  | 1.54 | 8.26 |
| Astagimath et al 2022 | 139 | 3717 | | 3856 | 0.459 | | 0.0865 | 0.290 to 0.629 | |  |  | 16.64 | 11.66 |
| Balci et al 2021 | 46 | 48 | | 94 | 1.111 | | 0.220 | 0.673 to 1.548 | |  |  | 2.57 | 9.48 |
| Bendaraf et al 2022 | 66 | 40 | | 106 | 0.711 | | 0.205 | 0.305 to 1.117 | |  |  | 2.97 | 9.77 |
| Feng et al 2021 | 156 | 115 | | 271 | 1.917 | | 0.148 | 1.626 to 2.207 | |  |  | 5.72 | 10.79 |
| Gohda et al 2022 | 40 | 40 | | 80 | 1.277 | | 0.243 | 0.792 to 1.761 | |  |  | 2.10 | 9.03 |
| Hachim et al 2021 | 153 | 388 | | 541 | 0.637 | | 0.0973 | 0.446 to 0.828 | |  |  | 13.17 | 11.53 |
| Kaya et al 2022 | 38 | 42 | | 80 | 1.566 | | 0.254 | 1.061 to 2.072 | |  |  | 1.93 | 8.83 |
| Kumari et al 2023 | 449 | 6946 | | 7395 | 0.827 | | 0.0492 | 0.730 to 0.923 | |  |  | 51.55 | 12.00 |
| Solimando et al 2021 | 25 | 70 | | 95 | 1.727 | | 0.263 | 1.205 to 2.249 | |  |  | 1.80 | 8.66 |
| Total (fixed effects) | 1138 | 11430 | | 12568 | 0.843 | | 0.0353 | 0.774 to 0.912 | | 23.874 | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 1138 | 11430 | | 12568 | 1.057 | | 0.144 | 0.775 to 1.340 | | 7.335 | <0.001 | 100.00 | 100.00 |
|  | | | | | | | | | | | | | |
| Test for heterogeneity | | | | | | Publication bias | | | | |
| Q | | | 102.5813 | | | Egger's test | | | | |
| DF | | | 9 | | | Intercept | | | 2.4760 | |
| Significance level | | | P < 0.0001 | | | 95% CI | | | -1.6562 to 6.6083 | |
| I2 (inconsistency) | | | 91.23% | | | Significance level | | | P = 0.2044 | |
| 95% CI for I2 | | | 86.00 to 94.50 | | | Begg's test | | | | |
|  | | | | | | Kendall's Tau | | | 0.3333 | |
| Significance level | | | P = 0.1797 | |

**Table 3-O. Mortality in COVID-19 according to LDH.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | Dead | Alive | | Total | | SMD | SE | 95% CI | | t | | P | Weight (%) | |
| Fixed | Random |
| Abbas et al 2022 | 12 | 38 | | 50 | | 0.430 | 0.329 | -0.231 to 1.091 | |  | |  | 0.55 | 1.83 |
| Abrishami et al 2021 | 13 | 67 | | 80 | | 1.282 | 0.317 | 0.651 to 1.912 | |  | |  | 0.59 | 1.87 |
| Acehan et al 2021 | 53 | 560 | | 613 | | 0.543 | 0.144 | 0.260 to 0.827 | |  | |  | 2.85 | 2.31 |
| Ahmed et al 2022 | 40 | 60 | | 100 | | 0.667 | 0.208 | 0.254 to 1.080 | |  | |  | 1.37 | 2.16 |
| Alici et al 2021 | 53 | 168 | | 221 | | 1.142 | 0.166 | 0.815 to 1.469 | |  | |  | 2.15 | 2.26 |
| Allahverdiyev et al 2020 | 92 | 363 | | 455 | | 1.022 | 0.121 | 0.784 to 1.261 | |  | |  | 4.04 | 2.35 |
| Almasud et al 2023 | 26 | 55 | | 81 | | 0.921 | 0.247 | 0.430 to 1.412 | |  | |  | 0.98 | 2.06 |
| Arshad et al 2020 | 22 | 216 | | 238 | | 2.498 | 0.251 | 2.004 to 2.992 | |  | |  | 0.95 | 2.05 |
| Avila-Nava et al 2021 | 14 | 24 | | 38 | | 0.864 | 0.344 | 0.167 to 1.561 | |  | |  | 0.50 | 1.79 |
| Balci et al 2021 | 26 | 68 | | 94 | | 0.610 | 0.233 | 0.147 to 1.072 | |  | |  | 1.09 | 2.10 |
| Bombaci et al 2023 | 81 | 26 | | 107 | | 0.438 | 0.226 | -0.00985 to 0.886 | |  | |  | 1.17 | 2.12 |
| Cheng et al 2020 | 85 | 220 | | 305 | | 1.797 | 0.147 | 1.509 to 2.086 | |  | |  | 2.76 | 2.30 |
| Chopra et al 2023 | 124 | 276 | | 400 | | 0.0871 | 0.108 | -0.125 to 0.299 | |  | |  | 5.10 | 2.37 |
| Devang et al 2022 | 48 | 142 | | 190 | | 0.992 | 0.174 | 0.649 to 1.336 | |  | |  | 1.96 | 2.24 |
| D'Souza's et al 2022 | 91 | 506 | | 597 | | 1.879 | 0.126 | 1.632 to 2.127 | |  | |  | 3.74 | 2.34 |
| Ergenç et al 2022 | 36 | 242 | | 278 | | 1.343 | 0.187 | 0.974 to 1.711 | |  | |  | 1.70 | 2.21 |
| Evlice et al 2022 | 29 | 318 | | 347 | | 1.194 | 0.199 | 0.803 to 1.585 | |  | |  | 1.50 | 2.18 |
| Feng et al 2021 | 182 | 89 | | 271 | | 1.567 | 0.145 | 1.280 to 1.853 | |  | |  | 2.81 | 2.30 |
| Ghorbaninezhad et al 2022 | 70 | 89 | | 159 | | 0.869 | 0.166 | 0.541 to 1.198 | |  | |  | 2.15 | 2.26 |
| Gjuzelova et al 2023 | 32 | 72 | | 104 | | -0.734 | 0.217 | -1.164 to -0.304 | |  | |  | 1.26 | 2.14 |
| Hassan et al 2023 | 102 | 148 | | 250 | | 1.746 | 0.150 | 1.450 to 2.042 | |  | |  | 2.63 | 2.29 |
| Haydar et al 2022 | 70 | 61 | | 131 | | 1.154 | 0.188 | 0.781 to 1.526 | |  | |  | 1.68 | 2.21 |
| Huang et al 2020 | 140 | 536 | | 676 | | 1.687 | 0.105 | 1.480 to 1.894 | |  | |  | 5.36 | 2.37 |
| Jang et al 2021 | 10 | 39 | | 49 | | -0.115 | 0.349 | -0.817 to 0.587 | |  | |  | 0.49 | 1.77 |
| Lino et al 2021 | 44 | 53 | | 97 | | -0.153 | 0.203 | -0.555 to 0.249 | |  | |  | 1.45 | 2.18 |
| Mesa et al 2021 | 7 | 43 | | 50 | | 1.586 | 0.431 | 0.718 to 2.453 | |  | |  | 0.32 | 1.55 |
| Mohamad et al 2023 | 27 | 40 | | 67 | | 0.295 | 0.248 | -0.199 to 0.789 | |  | |  | 0.97 | 2.06 |
| Mohammadshahi et al 2023 | 26 | 274 | | 300 | | 0.139 | 0.205 | -0.264 to 0.542 | |  | |  | 1.42 | 2.17 |
| Naqvi et al 2021 | 27 | 221 | | 248 | | 0.791 | 0.206 | 0.385 to 1.197 | |  | |  | 1.40 | 2.17 |
| Onuk et al 2023 | 27 | 36 | | 63 | | 0.787 | 0.261 | 0.265 to 1.309 | |  | |  | 0.87 | 2.02 |
| Onur et al 2020 | 56 | 245 | | 301 | | 1.421 | 0.159 | 1.108 to 1.733 | |  | |  | 2.36 | 2.28 |
| Ozger et al 2021 | 8 | 29 | | 37 | | 1.202 | 0.415 | 0.360 to 2.045 | |  | |  | 0.35 | 1.59 |
| Quan Liu et al 2020 | 138 | 170 | | 308 | | 1.521 | 0.130 | 1.266 to 1.776 | |  | |  | 3.53 | 2.33 |
| Rai et al 2022 | 254 | 730 | | 984 | | 1.136 | 0.0772 | 0.985 to 1.288 | |  | |  | 9.98 | 2.41 |
| Rizo-Tellez 2020 | 20 | 34 | | 54 | | 0.964 | 0.293 | 0.377 to 1.552 | |  | |  | 0.69 | 1.93 |
| Rizo-Tellez et al 2021 | 123 | 255 | | 378 | | 1.175 | 0.118 | 0.944 to 1.406 | |  | |  | 4.30 | 2.35 |
| Sakthivadivel et al 2021 | 28 | 244 | | 272 | | 0.662 | 0.201 | 0.266 to 1.058 | |  | |  | 1.47 | 2.18 |
| Sanchez-de Prada et al 2022 | 20 | 88 | | 108 | | 0.907 | 0.254 | 0.405 to 1.410 | |  | |  | 0.92 | 2.04 |
| Satilmis et al 2023 | 23 | 772 | | 795 | | 0.390 | 0.212 | -0.0257 to 0.805 | |  | |  | 1.33 | 2.15 |
| Saylik et al 2021 | 51 | 125 | | 176 | | 0.646 | 0.169 | 0.312 to 0.979 | |  | |  | 2.08 | 2.25 |
| Serin et al 2020 | 68 | 2149 | | 2217 | | 1.373 | 0.125 | 1.128 to 1.617 | |  | |  | 3.81 | 2.34 |
| Szabo et al 2022 | 11 | 13 | | 24 | | 1.472 | 0.449 | 0.541 to 2.403 | |  | |  | 0.29 | 1.50 |
| Taşkin et al 2023 | 447 | 164 | | 611 | | 0.687 | 0.0933 | 0.504 to 0.870 | |  | |  | 6.83 | 2.39 |
| Terra et al 2022 | 39 | 80 | | 119 | | 0.213 | 0.195 | -0.172 to 0.599 | |  | |  | 1.57 | 2.19 |
| Tjahyadi et al 2020 | 19 | 43 | | 62 | | 1.048 | 0.288 | 0.472 to 1.624 | |  | |  | 0.72 | 1.95 |
| Vidal-Cevallos et al 2021 | 79 | 298 | | 377 | | 0.862 | 0.130 | 0.607 to 1.118 | |  | |  | 3.51 | 2.33 |
| Wang et al 2020 | 12 | 119 | | 131 | | 3.302 | 0.364 | 2.582 to 4.022 | |  | |  | 0.45 | 1.73 |
| Total (fixed effects) | 3005 | 10608 | | 13613 | | 1.026 | 0.0244 | 0.978 to 1.074 | | 42.096 | | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 3005 | 10608 | | 13613 | | 0.978 | 0.0881 | 0.806 to 1.151 | | 11.101 | | <0.001 | 100.00 | 100.00 |
|  | | | | | | | | | | | | | | |
| Test for heterogeneity | | | | | Publication bias | | | | | |
| Q | | | 557.6757 | | Egger's test | | | | | |
| DF | | | 46 | | Intercept | | | | -1.0356 | |
| Significance level | | | P < 0.0001 | | 95% CI | | | | -3.7041 to 1.6329 | |
| I2 (inconsistency) | | | 91.75% | | Significance level | | | | P = 0.4385 | |
| 95% CI for I2 | | | 89.87 to 93.28 | | Begg's test | | | | | |
|  | | | | | Kendall's Tau | | | | -0.08973 | |
| Significance level | | | | P = 0.3737 | |

**Table 3-P. ICU admission in COVID-19 according to NLR.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | ICU | | Non-ICU | Total | SMD | | SE | | 95% CI | | t | P | Weight (%) | |
| Fixed | Random |
| Akan et al 2021 | 35 | | 125 | 160 | 0.723 | | 0.195 | | 0.339 to 1.107 | |  |  | 4.12 | 9.69 |
| Balci et al 2021 | 46 | | 48 | 94 | 0.378 | | 0.206 | | -0.0321 to 0.788 | |  |  | 3.66 | 9.45 |
| Bozan et al 2021 | 101 | | 671 | 772 | 1.222 | | 0.111 | | 1.004 to 1.441 | |  |  | 12.65 | 11.22 |
| Çakirca et al 2023 | 151 | | 426 | 577 | 1.456 | | 0.104 | | 1.252 to 1.660 | |  |  | 14.48 | 11.33 |
| Chen et al 2023 | 18 | | 105 | 123 | 1.880 | | 0.280 | | 1.325 to 2.435 | |  |  | 1.99 | 7.96 |
| Kaya et al 2022 | 38 | | 42 | 80 | 1.360 | | 0.246 | | 0.869 to 1.851 | |  |  | 2.57 | 8.64 |
| Rasyid et al 2021 | 45 | | 250 | 295 | 1.016 | | 0.167 | | 0.687 to 1.344 | |  |  | 5.61 | 10.24 |
| Solimando et al 2021 | 25 | | 70 | 95 | 1.982 | | 0.272 | | 1.441 to 2.522 | |  |  | 2.11 | 8.12 |
| Vuillaume et al 2021 | 246 | | 789 | 1035 | 0.888 | | 0.0755 | | 0.740 to 1.037 | |  |  | 27.36 | 11.69 |
| Yilmaz et al 2021 | 253 | | 922 | 1175 | 1.608 | | 0.0783 | | 1.455 to 1.762 | |  |  | 25.46 | 11.66 |
| Total (fixed effects) | 958 | | 3448 | 4406 | 1.233 | | 0.0395 | | 1.155 to 1.310 | | 31.196 | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 958 | | 3448 | 4406 | 1.231 | | 0.135 | | 0.967 to 1.496 | | 9.131 | <0.001 | 100.00 | 100.00 |
|  | | | | | | | | | | | | | | |
| Test for heterogeneity | | | | | | Publication bias | | | |
| Q | | 87.2619 | | | | Egger's test | | | |
| DF | | 9 | | | | Intercept | | -0.09199 | |
| Significance level | | P < 0.0001 | | | | 95% CI | | -5.5785 to 5.3945 | |
| I2 (inconsistency) | | 89.69% | | | | Significance level | | P = 0.9701 | |
| 95% CI for I2 | | 83.17 to 93.68 | | | | Begg's test | | | |
|  | | | | | | Kendall's Tau | | 0.1111 | |
| Significance level | | P = 0.6547 | |

**Table 3-Q. Mortality in COVID-19 according to NLR.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | Dead | | Alive | Total | SMD | | SE | 95% CI | | t | P | Weight (%) | |
| Fixed | Random |
| Abeid et al 2022 | 30 | | 66 | 96 | 3.009 | | 0.308 | 2.397 to 3.620 | |  |  | 0.36 | 1.61 |
| Abrishami et al 2021 | 13 | | 67 | 80 | 0.987 | | 0.310 | 0.370 to 1.605 | |  |  | 0.36 | 1.61 |
| Acar et al 2021 | 19 | | 129 | 148 | 0.760 | | 0.248 | 0.269 to 1.251 | |  |  | 0.56 | 1.72 |
| Allahverdiyev et al 2020 | 92 | | 363 | 455 | 1.178 | | 0.123 | 0.937 to 1.420 | |  |  | 2.28 | 1.89 |
| Aminy et al 2023 | 59 | | 165 | 224 | 0.490 | | 0.153 | 0.188 to 0.791 | |  |  | 1.48 | 1.86 |
| Antariska et al 2021 | 64 | | 46 | 110 | 0.652 | | 0.197 | 0.262 to 1.043 | |  |  | 0.89 | 1.80 |
| Arbănasi et al 2022 | 114 | | 396 | 510 | 1.667 | | 0.118 | 1.435 to 1.899 | |  |  | 2.47 | 1.89 |
| Balci et al 2021 | 26 | | 68 | 94 | 0.135 | | 0.229 | -0.320 to 0.590 | |  |  | 0.66 | 1.75 |
| Bellan et al 2021 | 211 | | 453 | 664 | 0.732 | | 0.0856 | 0.564 to 0.900 | |  |  | 4.71 | 1.92 |
| Birben et al 2020 | 124 | | 264 | 388 | 0.325 | | 0.109 | 0.110 to 0.540 | |  |  | 2.89 | 1.90 |
| Bozan et al 2021 | 92 | | 680 | 772 | 1.489 | | 0.117 | 1.259 to 1.720 | |  |  | 2.51 | 1.89 |
| Chopra et al 2023 | 124 | | 276 | 400 | 0.331 | | 0.109 | 0.118 to 0.545 | |  |  | 2.93 | 1.90 |
| D'Souza's et al 2022 | 91 | | 506 | 597 | 2.412 | | 0.133 | 2.150 to 2.674 | |  |  | 1.94 | 1.88 |
| Ergenç et al 2021 | 51 | | 584 | 635 | 0.404 | | 0.146 | 0.117 to 0.691 | |  |  | 1.61 | 1.86 |
| Evlice et al 2022 | 29 | | 318 | 347 | 0.669 | | 0.195 | 0.285 to 1.053 | |  |  | 0.91 | 1.80 |
| Geraili et al 2022 | 75 | | 649 | 724 | 1.242 | | 0.126 | 0.994 to 1.489 | |  |  | 2.17 | 1.88 |
| Halmaciu et al 2022 | 82 | | 185 | 267 | 1.723 | | 0.152 | 1.424 to 2.022 | |  |  | 1.50 | 1.86 |
| Harsini et al 2023 | 23 | | 51 | 74 | 0.192 | | 0.249 | -0.304 to 0.689 | |  |  | 0.56 | 1.72 |
| Haydar et al 2022 | 70 | | 61 | 131 | 1.215 | | 0.190 | 0.840 to 1.590 | |  |  | 0.96 | 1.81 |
| Hilda et al 2022 | 52 | | 235 | 287 | 1.022 | | 0.159 | 0.710 to 1.335 | |  |  | 1.37 | 1.85 |
| Isbaniah et al 2021 | 60 | | 154 | 214 | 0.253 | | 0.152 | -0.0467 to 0.553 | |  |  | 1.49 | 1.86 |
| Kaylon et al 2021 | 58 | | 117 | 175 | 0.927 | | 0.167 | 0.596 to 1.257 | |  |  | 1.23 | 1.84 |
| Küçük et al 2022 | 181 | | 135 | 316 | 0.370 | | 0.114 | 0.145 to 0.595 | |  |  | 2.64 | 1.90 |
| Kuizon et al 2023 | 55 | | 107 | 162 | 1.063 | | 0.175 | 0.716 to 1.409 | |  |  | 1.12 | 1.83 |
| Mohamad et al 2023 | 27 | | 40 | 67 | 1.186 | | 0.267 | 0.654 to 1.719 | |  |  | 0.49 | 1.69 |
| Moisa et al 2021 | 142 | | 130 | 272 | 1.245 | | 0.132 | 0.985 to 1.506 | |  |  | 1.97 | 1.88 |
| Mureşan et al 2022 | 143 | | 746 | 889 | 1.975 | | 0.103 | 1.774 to 2.176 | |  |  | 3.28 | 1.91 |
| Nurhayatun et al 2020 | 8 | | 41 | 49 | 0.748 | | 0.388 | -0.0325 to 1.528 | |  |  | 0.23 | 1.47 |
| Oguz et al 2022 | 28 | | 95 | 123 | 1.218 | | 0.227 | 0.767 to 1.668 | |  |  | 0.67 | 1.75 |
| Olivieri et al 2022 | 220 | | 421 | 641 | 1.023 | | 0.0879 | 0.850 to 1.196 | |  |  | 4.47 | 1.92 |
| Onuk et al 2023 | 27 | | 36 | 63 | 0.437 | | 0.254 | -0.0721 to 0.945 | |  |  | 0.53 | 1.71 |
| Ortega-Rojas et al 2022 | 180 | | 82 | 262 | 0.689 | | 0.136 | 0.421 to 0.958 | |  |  | 1.86 | 1.87 |
| Özdemir et al 2023 | 112 | | 358 | 470 | 0.765 | | 0.111 | 0.547 to 0.983 | |  |  | 2.80 | 1.90 |
| Pandilov et al 2021 | 21 | | 74 | 95 | 1.301 | | 0.263 | 0.779 to 1.823 | |  |  | 0.50 | 1.69 |
| Peng et al 2022 | 74 | | 537 | 611 | 2.260 | | 0.140 | 1.985 to 2.534 | |  |  | 1.77 | 1.87 |
| Rahayu et al 2022 | 23 | | 57 | 80 | 0.540 | | 0.248 | 0.0461 to 1.035 | |  |  | 0.56 | 1.72 |
| Rai et al 2022 | 254 | | 730 | 984 | 1.221 | | 0.0778 | 1.069 to 1.374 | |  |  | 5.70 | 1.92 |
| Raman et al 2021 | 20 | | 190 | 210 | 1.500 | | 0.245 | 1.016 to 1.984 | |  |  | 0.57 | 1.72 |
| Rasyid et al 2021 | 31 | | 264 | 295 | 0.987 | | 0.194 | 0.606 to 1.368 | |  |  | 0.92 | 1.80 |
| Sai et al 2021 | 28 | | 480 | 508 | 2.925 | | 0.215 | 2.504 to 3.347 | |  |  | 0.75 | 1.77 |
| Sakthivadivel et al 2021 | 28 | | 244 | 272 | 1.490 | | 0.209 | 1.079 to 1.901 | |  |  | 0.79 | 1.78 |
| Seyfi et al 2023 | 158 | | 154 | 312 | 0.585 | | 0.115 | 0.358 to 0.812 | |  |  | 2.59 | 1.90 |
| Shetty et al 2021 | 138 | | 1839 | 1977 | 1.373 | | 0.0909 | 1.195 to 1.551 | |  |  | 4.18 | 1.92 |
| Singh et al 2021 | 91 | | 110 | 201 | 0.405 | | 0.143 | 0.124 to 0.687 | |  |  | 1.70 | 1.87 |
| Taşkin et al 2023 | 447 | | 164 | 611 | 0.0595 | | 0.0912 | -0.120 to 0.239 | |  |  | 4.15 | 1.92 |
| Tawfik et al 2022 | 57 | | 57 | 114 | 0.806 | | 0.194 | 0.422 to 1.189 | |  |  | 0.92 | 1.80 |
| Terra et al 2022 | 39 | | 80 | 119 | 0.596 | | 0.198 | 0.204 to 0.988 | |  |  | 0.88 | 1.80 |
| Thungthienthong et al 2023 | 63 | | 152 | 215 | 0.872 | | 0.155 | 0.567 to 1.178 | |  |  | 1.43 | 1.85 |
| Vadi et al 2023 | 118 | | 38 | 156 | 0.474 | | 0.188 | 0.104 to 0.845 | |  |  | 0.98 | 1.81 |
| Vaseie et al 2022 | 75 | | 138 | 213 | 0.813 | | 0.148 | 0.520 to 1.105 | |  |  | 1.57 | 1.86 |
| Visuddho et al 2021 | 148 | | 193 | 341 | 1.046 | | 0.116 | 0.818 to 1.275 | |  |  | 2.56 | 1.89 |
| Vuillaume et al 2021 | 139 | | 896 | 1035 | -0.641 | | 0.0922 | -0.822 to -0.460 | |  |  | 4.06 | 1.91 |
| Wang et al 2020 | 12 | | 119 | 131 | 3.121 | | 0.358 | 2.414 to 3.829 | |  |  | 0.27 | 1.52 |
| Yilmaz et al 2021 | 286 | | 889 | 1175 | 1.651 | | 0.0760 | 1.502 to 1.800 | |  |  | 5.98 | 1.93 |
| Zakeri et al 2022 | 73 | | 77 | 150 | 0.321 | | 0.164 | -0.00202 to 0.644 | |  |  | 1.29 | 1.84 |
| Total (fixed effects) | 5005 | | 15506 | 20511 | 0.961 | | 0.0186 | 0.925 to 0.998 | | 51.754 | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 5005 | | 15506 | 20511 | 1.013 | | 0.0942 | 0.828 to 1.197 | | 10.746 | <0.001 | 100.00 | 100.00 |
|  | | | | | | | | | | | | | |
| Test for heterogeneity | | | | | | Publication bias | | | | |
| Q | | 1335.4158 | | | | Egger's test | | | | |
| DF | | 54 | | | | Intercept | | | 1.0215 | |
| Significance level | | P < 0.0001 | | | | 95% CI | | | -2.7309 to 4.7739 | |
| I2 (inconsistency) | | 95.96% | | | | Significance level | | | P = 0.5874 | |
| 95% CI for I2 | | 95.29 to 96.53 | | | | Begg's test | | | | |
|  | | | | | | Kendall's Tau | | | 0.06263 | |
| Significance level | | | P = 0.4996 | |

**Table 3-R. ICU admission in COVID-19 according to Procalcitonin.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | ICU | Non-ICU | | Total | SMD | | SE | 95% CI | | t | P | Weight (%) | |
| Fixed | Random |
| Hachim et al 2021 | 153 | 388 | | 541 | 0.320 | | 0.0958 | 0.132 to 0.508 | |  |  | 73.26 | 48.79 |
| Kaya et al 2022 | 38 | 42 | | 80 | 0.708 | | 0.229 | 0.253 to 1.163 | |  |  | 12.86 | 25.04 |
| Phan et al 2021 | 40 | 41 | | 81 | 0.0550 | | 0.220 | -0.383 to 0.493 | |  |  | 13.88 | 26.17 |
| Total (fixed effects) | 231 | 471 | | 702 | 0.333 | | 0.0820 | 0.172 to 0.494 | | 4.062 | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 231 | 471 | | 702 | 0.348 | | 0.149 | 0.0555 to 0.640 | | 2.336 | 0.020 | 100.00 | 100.00 |
|  | | | | | | | | | | | | | |
| Test for heterogeneity | | | | | | Publication bias | | | | |
| Q | | | 4.3041 | | | Egger's test | | | | |
| DF | | | 2 | | | Intercept | | | 0.4971 | |
| Significance level | | | P = 0.1162 | | | 95% CI | | | -36.9787 to 37.9728 | |
| I2 (inconsistency) | | | 53.53% | | | Significance level | | | P = 0.8937 | |
| 95% CI for I2 | | | 0.00 to 86.68 | | | Begg's test | | | | |
|  | | | | | | Kendall's Tau | | | 0.3333 | |
| Significance level | | | P = 0.6015 | |

**Table 3-S. Mortality in COVID-19 according to Procalcitonin.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | Dead | | Alive | Total | | SMD | SE | | 95% CI | | t | P | Weight (%) | |
| Fixed | Random |
| Aditianingsih et al 2023 | 106 | | 153 | 259 | | 0.630 | 0.129 | | 0.376 to 0.884 | |  |  | 3.90 | 2.90 |
| Ahmed et al 2021 | 21 | | 115 | 136 | | 1.249 | 0.248 | | 0.759 to 1.739 | |  |  | 1.06 | 2.57 |
| Allahverdiyev et al 2020 | 92 | | 363 | 455 | | 0.991 | 0.121 | | 0.753 to 1.229 | |  |  | 4.43 | 2.91 |
| Almasud et al 2023 | 26 | | 55 | 81 | | 0.515 | 0.239 | | 0.0386 to 0.991 | |  |  | 1.13 | 2.60 |
| Aminy et al 2023 | 59 | | 165 | 224 | | 0.708 | 0.155 | | 0.403 to 1.013 | |  |  | 2.71 | 2.84 |
| Antariska et al 2021 | 64 | | 46 | 110 | | 0.490 | 0.195 | | 0.103 to 0.876 | |  |  | 1.71 | 2.73 |
| Avila-Nava et al 2021 | 14 | | 24 | 38 | | 0.177 | 0.330 | | -0.492 to 0.846 | |  |  | 0.60 | 2.30 |
| Birben et al 2020 | 124 | | 264 | 388 | | 0.684 | 0.111 | | 0.465 to 0.903 | |  |  | 5.23 | 2.93 |
| Bombaci et al 2023 | 81 | | 26 | 107 | | 0.360 | 0.225 | | -0.0861 to 0.807 | |  |  | 1.28 | 2.64 |
| Cheng et al 2020 | 85 | | 220 | 305 | | 1.335 | 0.138 | | 1.062 to 1.607 | |  |  | 3.39 | 2.88 |
| Deng et al 2021 | 50 | | 50 | 100 | | 0.797 | 0.206 | | 0.388 to 1.207 | |  |  | 1.52 | 2.70 |
| Feng et al 2021 | 182 | | 89 | 271 | | 2.570 | 0.170 | | 2.236 to 2.904 | |  |  | 2.25 | 2.80 |
| Geraili et al 2022 | 75 | | 649 | 724 | | 2.175 | 0.135 | | 1.911 to 2.439 | |  |  | 3.58 | 2.89 |
| Gjuzelova et al 2023 | 32 | | 72 | 104 | | -0.350 | 0.212 | | -0.771 to 0.0714 | |  |  | 1.44 | 2.68 |
| Hafeez et al 2022 | 44 | | 92 | 136 | | 0.352 | 0.184 | | -0.0112 to 0.715 | |  |  | 1.93 | 2.77 |
| Hassan et al 2023 | 102 | | 148 | 250 | | 0.734 | 0.132 | | 0.474 to 0.995 | |  |  | 3.70 | 2.89 |
| Haydar et al 2022 | 70 | | 61 | 131 | | 0.711 | 0.180 | | 0.356 to 1.066 | |  |  | 2.01 | 2.78 |
| Huang et al 2020 | 140 | | 536 | 676 | | 1.398 | 0.102 | | 1.197 to 1.598 | |  |  | 6.22 | 2.95 |
| Jang et al 2021 | 10 | | 39 | 49 | | 1.021 | 0.364 | | 0.289 to 1.752 | |  |  | 0.49 | 2.19 |
| Kim et al 2022 | 19 | | 123 | 142 | | 2.193 | 0.278 | | 1.644 to 2.741 | |  |  | 0.84 | 2.48 |
| Küçük et al 2022 | 181 | | 135 | 316 | | 0.182 | 0.114 | | -0.0413 to 0.406 | |  |  | 5.02 | 2.93 |
| Lee et al 2022 | 18 | | 265 | 283 | | 1.567 | 0.252 | | 1.072 to 2.063 | |  |  | 1.02 | 2.56 |
| Olivieri et al 2022 | 220 | | 421 | 641 | | 0.962 | 0.0873 | | 0.790 to 1.133 | |  |  | 8.51 | 2.97 |
| Onuk et al 2023 | 27 | | 36 | 63 | | 0.470 | 0.255 | | -0.0394 to 0.980 | |  |  | 1.00 | 2.55 |
| Onur et al 2020 | 56 | | 245 | 301 | | 0.886 | 0.152 | | 0.587 to 1.185 | |  |  | 2.81 | 2.85 |
| Ozger et al 2021 | 8 | | 29 | 37 | | 1.295 | 0.419 | | 0.445 to 2.145 | |  |  | 0.37 | 2.00 |
| Parimoo et al 2021 | 55 | | 87 | 142 | | 0.0158 | 0.171 | | -0.323 to 0.355 | |  |  | 2.21 | 2.80 |
| Phan et al 2021 | 20 | | 61 | 81 | | 0.665 | 0.261 | | 0.147 to 1.184 | |  |  | 0.96 | 2.53 |
| Quan Liu et al 2020 | 138 | | 170 | 308 | | 0.964 | 0.121 | | 0.727 to 1.202 | |  |  | 4.45 | 2.92 |
| Rizo-Tellez et al 2020 | 20 | | 34 | 54 | | 0.715 | 0.286 | | 0.140 to 1.289 | |  |  | 0.79 | 2.45 |
| Sanchez-de Prada et al 2022 | 20 | | 88 | 108 | | 0.955 | 0.254 | | 0.450 to 1.459 | |  |  | 1.00 | 2.55 |
| Serin et al 2020 | 68 | | 2149 | 2217 | | 0.213 | 0.123 | | -0.0290 to 0.454 | |  |  | 4.28 | 2.91 |
| Szabo et al 2022 | 11 | | 13 | 24 | | 1.009 | 0.421 | | 0.135 to 1.883 | |  |  | 0.37 | 1.99 |
| Taşkin et al 2023 | 447 | | 164 | 611 | | -0.108 | 0.0912 | | -0.287 to 0.0710 | |  |  | 7.80 | 2.97 |
| Uzum et al 2023 | 51 | | 221 | 272 | | 0.802 | 0.159 | | 0.490 to 1.115 | |  |  | 2.58 | 2.83 |
| Visuddho et al 2021 | 148 | | 193 | 341 | | 0.790 | 0.113 | | 0.568 to 1.013 | |  |  | 5.07 | 2.93 |
| Zakeri et al 2022 | 73 | | 77 | 150 | | 0.665 | 0.167 | | 0.335 to 0.995 | |  |  | 2.33 | 2.81 |
| Total (fixed effects) | 2957 | | 7678 | 10635 | | 0.790 | 0.0255 | | 0.740 to 0.840 | | 31.019 | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 2957 | | 7678 | 10635 | | 0.826 | 0.101 | | 0.627 to 1.025 | | 8.139 | <0.001 | 100.00 | 100.00 |
|  | | | | | | | | | | | | | | |
| Test for heterogeneity | | | | | Publication bias | | | | |
| Q | | 535.6122 | | | Egger's test | | | | |
| DF | | 36 | | | Intercept | | | 0.9015 | |
| Significance level | | P < 0.0001 | | | 95% CI | | | -2.6492 to 4.4521 | |
| I2 (inconsistency) | | 93.28% | | | Significance level | | | P = 0.6095 | |
| 95% CI for I2 | | 91.64 to 94.59 | | | Begg's test | | | | |
|  | | | | | Kendall's Tau | | | 0.03604 | |
| Significance level | | | P = 0.7536 | |

**Table 3-T. ICU admission in COVID-19 according to WBC.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | ICU | | Non-ICU | Total | SMD | | SE | 95% CI | | t | P | Weight (%) | |
| Fixed | Random |
| Abbas et al 2022 | 26 | | 24 | 50 | 0.600 | | 0.285 | 0.0270 to 1.173 | |  |  | 1.86 | 6.51 |
| Bayram et al 2021 | 68 | | 680 | 748 | 0.0588 | | 0.127 | -0.191 to 0.308 | |  |  | 9.35 | 8.31 |
| Bendaraf et al 2022 | 66 | | 40 | 106 | 0.526 | | 0.202 | 0.125 to 0.927 | |  |  | 3.69 | 7.52 |
| Bozan et al 2021 | 101 | | 671 | 772 | 0.843 | | 0.109 | 0.630 to 1.057 | |  |  | 12.77 | 8.46 |
| Chen et al 2023 | 18 | | 105 | 123 | 0.357 | | 0.255 | -0.147 to 0.861 | |  |  | 2.33 | 6.89 |
| Făgărăsan et al 2023 | 90 | | 276 | 366 | 0.240 | | 0.121 | 0.00129 to 0.479 | |  |  | 10.24 | 8.36 |
| Gohda et al 2022 | 40 | | 40 | 80 | 0.740 | | 0.229 | 0.284 to 1.196 | |  |  | 2.88 | 7.20 |
| Hachim et al 2021 | 153 | | 388 | 541 | 0.215 | | 0.0956 | 0.0271 to 0.402 | |  |  | 16.54 | 8.56 |
| Kaya et al 2022 | 38 | | 42 | 80 | 0.778 | | 0.230 | 0.320 to 1.236 | |  |  | 2.85 | 7.19 |
| Phan et al 2021 | 40 | | 41 | 81 | 0.404 | | 0.222 | -0.0388 to 0.846 | |  |  | 3.05 | 7.28 |
| Rasyid et al 2021 | 45 | | 250 | 295 | 1.023 | | 0.167 | 0.694 to 1.351 | |  |  | 5.42 | 7.92 |
| Solimando et al 2021 | 25 | | 70 | 95 | 0.676 | | 0.236 | 0.207 to 1.145 | |  |  | 2.71 | 7.11 |
| Yilmaz et al 2021 | 253 | | 922 | 1175 | 1.294 | | 0.0758 | 1.145 to 1.442 | |  |  | 26.30 | 8.69 |
| Total (fixed effects) | 963 | | 3549 | 4512 | 0.682 | | 0.0389 | 0.606 to 0.758 | | 17.548 | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 963 | | 3549 | 4512 | 0.598 | | 0.140 | 0.324 to 0.872 | | 4.274 | <0.001 | 100.00 | 100.00 |
|  | | | | | | | | | | | | | |
| Test for heterogeneity | | | | | | Publication bias | | | |
| Q | | 136.8401 | | | | Egger's test | | | |
| DF | | 12 | | | | Intercept | | | -2.2272 |
| Significance level | | P < 0.0001 | | | | 95% CI | | | -7.3167 to 2.8623 |
| I2 (inconsistency) | | 91.23% | | | | Significance level | | | P = 0.3562 |
| 95% CI for I2 | | 86.84 to 94.16 | | | | Begg's test | | | |
|  | | | | | | Kendall's Tau | | | -0.02564 |
| Significance level | | | P = 0.9029 |

**Table 3-U. Mortality in COVID-19 according to WBC.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | Dead | Alive | | Total | SMD | | SE | 95% CI | | t | | P | Weight (%) | |
| Fixed | Random |
| Abbas et al 2022 | 12 | 38 | | 50 | 0.388 | | 0.328 | -0.272 to 1.048 | |  | |  | 0.28 | 1.03 |
| Abrishami et al 2021 | 13 | 67 | | 80 | 0.370 | | 0.302 | -0.230 to 0.971 | |  | |  | 0.34 | 1.09 |
| Acar et al 2021 | 19 | 129 | | 148 | 0.226 | | 0.245 | -0.258 to 0.710 | |  | |  | 0.51 | 1.23 |
| Acehan et al 2021 | 53 | 560 | | 613 | 0.320 | | 0.144 | 0.0379 to 0.603 | |  | |  | 1.48 | 1.46 |
| Aditianingsih et al 2023 | 106 | 153 | | 259 | 0.331 | | 0.127 | 0.0812 to 0.581 | |  | |  | 1.90 | 1.50 |
| Ahmed et al 2022 | 40 | 60 | | 100 | 1.149 | | 0.218 | 0.716 to 1.582 | |  | |  | 0.64 | 1.29 |
| Alaaluah et al 2022 | 28 | 47 | | 75 | 0.0847 | | 0.236 | -0.386 to 0.556 | |  | |  | 0.55 | 1.25 |
| Alici et al 2021 | 53 | 168 | | 221 | 1.265 | | 0.168 | 0.933 to 1.596 | |  | |  | 1.08 | 1.41 |
| Allahverdiyev et al 2020 | 92 | 363 | | 455 | 1.099 | | 0.122 | 0.859 to 1.339 | |  | |  | 2.06 | 1.50 |
| Almasud et al 2023 | 26 | 55 | | 81 | 1.360 | | 0.259 | 0.845 to 1.875 | |  | |  | 0.46 | 1.20 |
| Aminy et al 2023 | 59 | 165 | | 224 | 0.434 | | 0.153 | 0.133 to 0.734 | |  | |  | 1.32 | 1.44 |
| Antariska et al 2021 | 64 | 46 | | 110 | 0.916 | | 0.202 | 0.517 to 1.316 | |  | |  | 0.75 | 1.33 |
| Avila-Nava et al 2021 | 14 | 24 | | 38 | 1.319 | | 0.362 | 0.584 to 2.054 | |  | |  | 0.23 | 0.95 |
| Bayram et al 2021 | 47 | 701 | | 748 | 0.0582 | | 0.151 | -0.237 to 0.354 | |  | |  | 1.35 | 1.45 |
| Bellan et al 2021 | 211 | 453 | | 664 | 0.397 | | 0.0840 | 0.233 to 0.562 | |  | |  | 4.35 | 1.56 |
| Birben et al 2020 | 124 | 264 | | 388 | 0.146 | | 0.109 | -0.0677 to 0.360 | |  | |  | 2.59 | 1.53 |
| Bozan et al 2021 | 92 | 680 | | 772 | 0.866 | | 0.113 | 0.644 to 1.089 | |  | |  | 2.39 | 1.52 |
| Cheng et al 2020 | 85 | 220 | | 305 | 1.260 | | 0.137 | 0.990 to 1.530 | |  | |  | 1.63 | 1.48 |
| Chopra et al 2023 | 124 | 276 | | 400 | 0.442 | | 0.109 | 0.228 to 0.657 | |  | |  | 2.58 | 1.53 |
| Çölkesen et al 2022 | 17 | 191 | | 208 | 1.314 | | 0.260 | 0.801 to 1.827 | |  | |  | 0.45 | 1.19 |
| Deng et al 2021 | 50 | 50 | | 100 | 0.504 | | 0.202 | 0.103 to 0.904 | |  | |  | 0.75 | 1.33 |
| El-Desoky et al 2022 | 57 | 75 | | 132 | 0.783 | | 0.181 | 0.424 to 1.141 | |  | |  | 0.93 | 1.38 |
| El-Khattab et al 2023 | 11 | 89 | | 100 | 0.853 | | 0.323 | 0.212 to 1.493 | |  | |  | 0.29 | 1.04 |
| Ergenç et al 2022 | 36 | 242 | | 278 | 1.092 | | 0.184 | 0.730 to 1.455 | |  | |  | 0.90 | 1.37 |
| Evlice et al 2022 | 29 | 318 | | 347 | 0.200 | | 0.194 | -0.181 to 0.581 | |  | |  | 0.82 | 1.35 |
| Gadotti et al 2020 | 18 | 38 | | 56 | 0.727 | | 0.290 | 0.145 to 1.309 | |  | |  | 0.36 | 1.12 |
| Hafeez et al 2022 | 44 | 92 | | 136 | 0.928 | | 0.191 | 0.550 to 1.305 | |  | |  | 0.84 | 1.36 |
| Hassan et al 2023 | 102 | 148 | | 250 | 0.0812 | | 0.128 | -0.172 to 0.334 | |  | |  | 1.86 | 1.49 |
| Haydar et al 2022 | 70 | 61 | | 131 | 0.998 | | 0.185 | 0.632 to 1.363 | |  | |  | 0.90 | 1.37 |
| Hilda et al 2022 | 52 | 235 | | 287 | 0.816 | | 0.157 | 0.508 to 1.124 | |  | |  | 1.25 | 1.44 |
| Huang et al 2020 | 140 | 536 | | 676 | 0.859 | | 0.0976 | 0.667 to 1.051 | |  | |  | 3.21 | 1.55 |
| Isbaniah et al 2021 | 60 | 154 | | 214 | 0.392 | | 0.153 | 0.0905 to 0.693 | |  | |  | 1.31 | 1.44 |
| Katkat et al 2022 | 49 | 393 | | 442 | 1.456 | | 0.159 | 1.143 to 1.768 | |  | |  | 1.21 | 1.43 |
| Kılıç et al 2023 | 183 | 275 | | 458 | 0.557 | | 0.0970 | 0.367 to 0.748 | |  | |  | 3.26 | 1.55 |
| Kilic et al 2022 | 197 | 320 | | 517 | 0.517 | | 0.0918 | 0.337 to 0.698 | |  | |  | 3.63 | 1.55 |
| Kim et al 2022 | 19 | 123 | | 142 | 0.189 | | 0.245 | -0.296 to 0.674 | |  | |  | 0.51 | 1.23 |
| Küçük et al 2022 | 181 | 135 | | 316 | 0.368 | | 0.114 | 0.143 to 0.593 | |  | |  | 2.34 | 1.52 |
| Kuizon et al 2023 | 55 | 107 | | 162 | 0.841 | | 0.172 | 0.502 to 1.180 | |  | |  | 1.04 | 1.40 |
| Lee et al 2022 | 18 | 265 | | 283 | 0.666 | | 0.245 | 0.184 to 1.147 | |  | |  | 0.51 | 1.23 |
| Mohamad et al 2023 | 27 | 40 | | 67 | 0.414 | | 0.249 | -0.0830 to 0.911 | |  | |  | 0.50 | 1.22 |
| Mohammadshahi et al 2023 | 26 | 274 | | 300 | 0.150 | | 0.205 | -0.253 to 0.553 | |  | |  | 0.73 | 1.33 |
| Moisa et al 2021 | 142 | 130 | | 272 | 0.714 | | 0.125 | 0.468 to 0.960 | |  | |  | 1.97 | 1.50 |
| Monserrat et al 2022 | 37 | 249 | | 286 | 0.806 | | 0.179 | 0.453 to 1.158 | |  | |  | 0.96 | 1.39 |
| Oguz et al 2022 | 28 | 95 | | 123 | 0.952 | | 0.222 | 0.512 to 1.391 | |  | |  | 0.62 | 1.28 |
| Onur et al 2020 | 56 | 245 | | 301 | 0.363 | | 0.148 | 0.0713 to 0.656 | |  | |  | 1.39 | 1.45 |
| Ortega-Rojas et al 2022 | 180 | 82 | | 262 | 0.681 | | 0.136 | 0.413 to 0.949 | |  | |  | 1.65 | 1.48 |
| Özdemir et al 2021 | 5 | 98 | | 103 | 0.000 | | 0.455 | -0.903 to 0.903 | |  | |  | 0.15 | 0.77 |
| Özdemir et al 2023 | 112 | 358 | | 470 | 0.476 | | 0.109 | 0.262 to 0.691 | |  | |  | 2.57 | 1.53 |
| Ozger et al 2021 | 8 | 29 | | 37 | 0.637 | | 0.398 | -0.170 to 1.445 | |  | |  | 0.19 | 0.88 |
| Pandilov et al 2021 | 21 | 74 | | 95 | 1.114 | | 0.258 | 0.601 to 1.627 | |  | |  | 0.46 | 1.20 |
| Peng et al 2022 | 74 | 537 | | 611 | 1.632 | | 0.132 | 1.372 to 1.892 | |  | |  | 1.75 | 1.48 |
| Phan et al 2021 | 20 | 61 | | 81 | 0.585 | | 0.259 | 0.0691 to 1.101 | |  | |  | 0.46 | 1.19 |
| Rahayu et al 2022 | 23 | 57 | | 80 | 0.139 | | 0.245 | -0.349 to 0.626 | |  | |  | 0.51 | 1.23 |
| Rasyid et al 2021 | 31 | 264 | | 295 | 0.861 | | 0.193 | 0.482 to 1.240 | |  | |  | 0.83 | 1.35 |
| Rizo-Tellez et al 2020 | 20 | 34 | | 54 | -0.0139 | | 0.278 | -0.571 to 0.543 | |  | |  | 0.40 | 1.15 |
| Sakthivadivel et al 2021 | 28 | 244 | | 272 | 0.546 | | 0.200 | 0.152 to 0.941 | |  | |  | 0.76 | 1.34 |
| Sanchez-de Prada et al 2022 | 20 | 88 | | 108 | 0.428 | | 0.248 | -0.0630 to 0.919 | |  | |  | 0.50 | 1.22 |
| Satilmis et al 2023 | 23 | 772 | | 795 | 0.902 | | 0.213 | 0.484 to 1.319 | |  | |  | 0.68 | 1.31 |
| Saylik et al 2021 | 51 | 125 | | 176 | 0.494 | | 0.168 | 0.163 to 0.824 | |  | |  | 1.09 | 1.41 |
| Serin et al 2020 | 68 | 2149 | | 2217 | 0.678 | | 0.124 | 0.436 to 0.920 | |  | |  | 2.01 | 1.50 |
| Seyfi et al 2023 | 158 | 154 | | 312 | 0.170 | | 0.113 | -0.0528 to 0.393 | |  | |  | 2.39 | 1.52 |
| Shetty et al 2021 | 138 | 1839 | | 1977 | 1.964 | | 0.0936 | 1.780 to 2.147 | |  | |  | 3.50 | 1.55 |
| Szabo et al 2022 | 11 | 13 | | 24 | 0.661 | | 0.407 | -0.183 to 1.505 | |  | |  | 0.19 | 0.86 |
| Taşkin et al 2023 | 447 | 164 | | 611 | 0.186 | | 0.0913 | 0.00643 to 0.365 | |  | |  | 3.67 | 1.55 |
| Thungthienthong et al 2023 | 63 | 152 | | 215 | 0.922 | | 0.156 | 0.615 to 1.229 | |  | |  | 1.26 | 1.44 |
| Uzum et al 2023 | 51 | 221 | | 272 | 0.104 | | 0.155 | -0.201 to 0.409 | |  | |  | 1.28 | 1.44 |
| Vaseie et al 2022 | 75 | 138 | | 213 | 0.698 | | 0.147 | 0.408 to 0.987 | |  | |  | 1.42 | 1.46 |
| Vastani et al 2022 | 26 | 24 | | 50 | 0.846 | | 0.291 | 0.260 to 1.431 | |  | |  | 0.36 | 1.12 |
| Vidal-Cevallos et al 2021 | 79 | 298 | | 377 | 0.616 | | 0.128 | 0.363 to 0.868 | |  | |  | 1.86 | 1.49 |
| Visuddho et al 2021 | 148 | 193 | | 341 | 0.852 | | 0.114 | 0.628 to 1.075 | |  | |  | 2.37 | 1.52 |
| Yilmaz et al 2021 | 286 | 889 | | 1175 | 1.265 | | 0.0728 | 1.122 to 1.408 | |  | |  | 5.79 | 1.58 |
| Yurt et al 2023 | 38 | 271 | | 309 | 1.050 | | 0.178 | 0.700 to 1.400 | |  | |  | 0.97 | 1.39 |
| Zakeri et al 2022 | 73 | 77 | | 150 | 0.165 | | 0.163 | -0.157 to 0.487 | |  | |  | 1.16 | 1.42 |
| Zhu et al 2021 | 33 | 130 | | 163 | 1.127 | | 0.204 | 0.724 to 1.529 | |  | |  | 0.74 | 1.33 |
| Total (fixed effects) | 5276 | 18884 | | 24160 | 0.694 | | 0.0175 | 0.660 to 0.729 | | 39.666 | | <0.001 | 100.00 | 100.00 |
| Total (random effects) | 5276 | 18884 | | 24160 | 0.676 | | 0.0551 | 0.568 to 0.784 | | 12.267 | | <0.001 | 100.00 | 100.00 |
|  | | | | | | | | | | | | | | |
| Test for heterogeneity | | | | | | Publication bias | | | | |
| Q | | | 669.6646 | | | Egger's test | | | | |
| DF | | | 73 | | | Intercept | | | -0.5655 | |
| Significance level | | | P < 0.0001 | | | 95% CI | | | -2.4735 to 1.3426 | |
| I2 (inconsistency) | | | 89.10% | | | Significance level | | | P = 0.5565 | |
| 95% CI for I2 | | | 86.99 to 90.87 | | | Begg's test | | | | |
|  | | | | | | Kendall's Tau | | | 0.08404 | |
| Significance level | | | P = 0.2894 | |