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The authors have no conflicts of interest to declare.

REFERENCES

- 1. Bryant A, Lawrie TA, Dowswell T, et al. Ivermectin for prevention and treatment of COVID-19 infection: a systematic review, meta-analysis, and trial sequential analysis to inform clinical guidelines. *Am J Ther.* 2021;28:e434–e460.
- Roman YM, Burela PA, Pasupuleti V, et al. Ivermectin for the treatment of COVID-19: a systematic review and metaanalysis of randomized controlled trials., Clin Infect Dis. 2021; ciab591. doi: 10.1093/cid/ciab591.

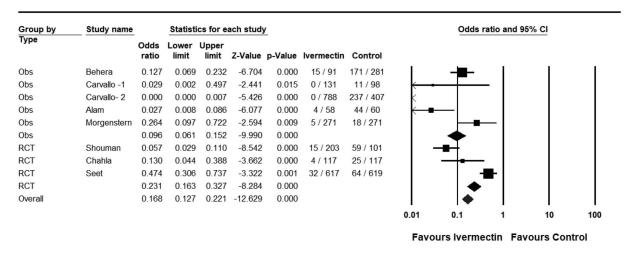
- 3. Crawford M. *The Meta-Analytical Fixers: An Ivermectin Tale;* 2021. Available at: https://roundingtheearth.substack.com/p/the-meta-analytical-fixers-anivermectin. Accessed July 7, 2021.
- 4. Neil M, Fenton NE, Bayesian Hypothesis Testing and Hierarchical Modelling of Ivermectin Effectiveness in Treating Covid-19, 2021. Available at: http://dx.doi.org/10.13140/RG.2.2.19703.75680.
- 5. Niaee MS, Gheibi N, Namdar P, et al. Ivermectin as an adjunct treatment for hospitalized adult COVID-19 patients: a randomized multi-center clinical trial. *Asian Pac J Trop Med*. 2021;14:266.
- Elgazzar A, Hany B, Youssef SA, et al. Efficacy and Safety of Ivermectin for Treatment and Prophylaxis of COVID-19 Pandemic; 2020. Available at: https://www.researchsquare. com/article/rs-100956/v2.

Ivermectin, A Reanalysis of the Data

To the Editor:

Our article entitled "Review of the Emerging Evidence Demonstrating the Efficacy of Ivermectin in the Prophylaxis and Treatment of COVID-19" was recently published in the *American Journal of Therapeutics*. Our article included randomized and observational trial meta-analyses on the efficacy of ivermectin for the prophylaxis and treatment of COVID-19. Recently, the study conducted by Elgazzar et al² has come under

scrutiny with accusations of scientific misconduct. His paper was apparently retracted without his knowledge and without giving him the opportunity to defend these serious claims. This situation is most unfortunate. While this issue is being resolved, we decided to redo the original meta-analyses excluding this study. The summary point estimates were largely unaffected when the study by Elgazzar et al was removed. The revised forest plots are provided below (Figures 1–3).



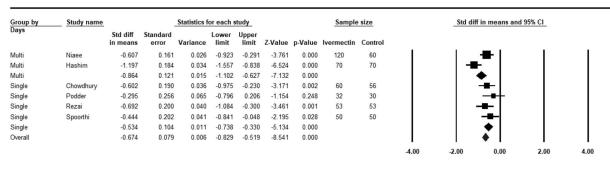
Meta Analysis

FIGURE 1. Meta-analysis of ivermectin prophylaxis trials in COVID-19. Symbols: Squares indicate treatment effect of an individual study. Large diamond reflects summary of study design immediately above. Size of each symbol correlates with the size of the CI around the point estimate of treatment effect with larger sizes indicating a more precise CI. CI, confidence interval; OBS, observational study; RCT, randomized controlled trial.

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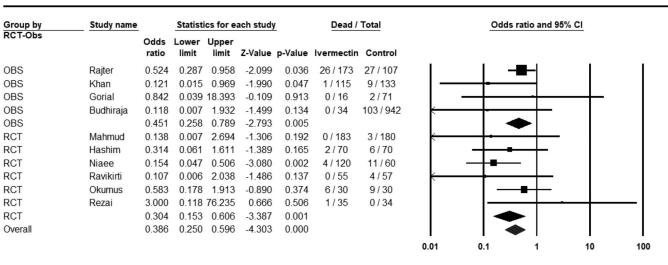
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Favours Ivermectin Favours Control

Meta Analysis

FIGURE 2. Meta-analysis of the outcome of time to clinical recovery from controlled trials of ivermectin treatment in COVID-19. Symbols: Squares indicate treatment effect of an individual study. Large diamond reflects summary of study design immediately above. Small diamond indicates sum effect of all trial designs. Size of each symbol correlates with the size of the CI around the point estimate of treatment effect with larger sizes indicating a more precise CI. CI, confidence interval.



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Meta Analysis

FIGURE 3. Meta-analysis of the outcome of mortality from controlled trials of ivermectin treatment in COVID-19. Symbols: Squares indicate treatment effect of an individual study. Large diamond reflects summary of study design immediately above. Small diamond indicates sum effect of all trial designs. Size of each symbol correlates with the size of the CI around the point estimate of treatment effect with larger sizes indicating a more precise CI. CI, confidence interval; OBS, observational study; RCT, randomized controlled trial.

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The authors have no conflicts of interest to declare.

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REFERENCES

- 1. Kory P, Meduri GU, Iglesias J, et al. Review of the emerging evidence demonstrating the efficacy of ivermectin in the prophylaxis and treatment of COVID-19. *Am J Ther*. 2020;28:e299–e318.
- 2. Elgazzar A, Hany B, Youssef SA, et al. Efficacy and safety of ivermectin for treatment and prophylaxis of COVID-19 pandemic. *Research Square*. 2020.

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