Supplementary data re López-Medina et al. 2021

Table S1. Sales of Ivermectin in liquid and capsule form in the Colombian state of Valle del Cauca, encompassing the study region, from January 2019 through November 2020.¹ Units of liquid IVM were bottles each containing 5 ml of 0.6% IVM, and units of capsules were blister packs of 7 pills, 3 mg each. On July 9, 2020, a week before the Lopez-Medina et al. study began recruiting patients in Cali, its mayor, Jorge Iván Ospina, announced that his city would begin distributing 10,000 doses of IVM to COVID-19 patients the following day. With IVM available over the counter (OTC) in Colombia without prescription, sales of IVM quintupled in Valle del Cauca from June to July 2020. Sales of IVM during the study period of July through November 2020 totaled 154,919 units (each unit about one dose), 1.6 times the number of COVID-19 cases (95,387, see Table S2) during that period.

	2019		2020	
Month	Capsules	Liquid	Capsules	Liquid
Jan	0	2,745	0	4,131
Feb	0	2,980	0	4,541
Mar	0	3,406	0	2,910
Apr	0	4,387	0	9,850
May	0	4,076	0	8,293
Jun	0	4,109	0	10,503
Jul	0	4,727	935	48,943
Aug	0	3,938	3,463	34,228
Sep	0	3,548	821	15,887
Oct	0	3,915	757	21,093
Nov	0	4,225	949	27,843
Dec	0	3,206		



Figure S1. Google trends for *ivermectina* v. *vacuna covid* in the Colombian state of Valle del Cauca, encompassing the Lopez-Medina study region, during and prior to the study enrollment period of July 15 through November 30, 2020. The number of Google searches for *ivermectina* (Spanish for ivermectin) spiked from 2 to 33 times that for COVID vaccine (*vacuna covid*) from the last week in June to the first week of July 2020. Total searches for *ivermectina* in the weeks beginning July through November 2020 were 2.7 times greater than those for *vacuna covid*.²

Table S2. COVID-19 cases in the Colombian state of Valle del Cauca, encompassing the study region, from June through December 2020, by month.³

Month	June 2020	Jul 2020	Aug 2020	Sept 2020	Oct 2020	Nov 2020	Dec 2020
Number of cases	6,365	14,432	21,785	15,172	20,072	23,926	28,165

Adverse event	Ivermectin (n=275)	Placebo (n=198)
Dizziness (number, %)	98 (35.6%)	68 (34.3%)
Diarrhea (#, %)	83 (30.2%)	65 (32.8%)
Nausea #, %)	66 (24.0%)	47 (23.7%)
Disturbances of vision, any (#, %)	44 (16.0%)	28 (14.1%)
Photophobia (#, %)	9 (3.3%)	4 (2.0%)
Blurry vision (#, %)	31 (11.3%)	23 (11.6%)

Table S3. Summary of adverse effects associated with IVM as reported in eTable 7 of López-Medina et al.

Table S4. Timeline of breaches of boundaries between treatment and placebo groups in Lopez-Medina et al.

Date	Event	Source
Oct. 20, 2020	"On October 20, 2020, the lead pharmacist observed that a labeling error had occurred between September 29 and October 15, 2020, resulting in all patients receiving ivermectin and none receiving placebo during this time frame." This affected 75 patients, 38 of which were randomized to receive placebo. These 75 patients were excluded in the analysis for the primary endpoint but included in several other tables presented in supplement 2.	Main study paper, p. 3; study protocol, p. 43
Aug 26, 2020	This is the date through which "the placebo was a mixture of 5% dextrose in saline and 5% dextrose in distilled water." This placebo solution was used for the study's first 64 patients.	Main study paper, p. 2; supplement 2, eFigure 1
Aug 26, 2020	Protocol amendment 2 reported that the study's provider of IVM solution, Tecnoquímicas, could not initially confirm that it could produce a like tasting placebo solution, but did provide that on August 26. No specifics of the composition of that new placebo solution were provided.	Study protocol, p. 43

AE/Symptom	Incidence as AE with high-dose IVM	Symptom of COVID-19
All AEs reported in Lopez-Medina et al., eTable 7	These are described in the study protocol as having been "historically been reported in subjects receiving ivermectin (uncontrollable shaking of a body part, dizziness, loss of appetite, nausea, vomiting, stomach pain or bloating, diarrhea, constipation, weakness, drowsiness, blurred vision." (study protocol, p. 14)	- (varies by item)
Blurred vision	Transient reduction in visual acuity lasting a few days, including blurred vision, is an AE characteristic for ivermectin when given at 400-800 μ g /kg and above. ^{4,5}	Such disturbances in vision are rare in COVID-19 cases. ⁶
Dizziness	This is another neurological symptom associated with IVM, especially at higher doses. ⁷	COVID-19 meta-studies reported dizziness at incidences of 8.7% ⁸ and 6.8% ⁹ (whereas Lopez-Medina reported incidences of 35.6 and 34.4%, respectively, for the IVM and placebo groups).
Nausea and diarrhea	Common AEs for IVM. ⁷	Nausea and diarrhea occur regularly with COVID-19 cases. ^{8,10}

Links for López-Medina et al.

Study paper: <u>https://jamanetwork.com/journals/jama/fullarticle/2777389</u>. Supplement 1, <u>study protocol</u>. Supplement 2, <u>Tables and Figures</u>.

Data sources

1. Propriety data from Iqvia Solutions, Colombia. To inquire about purchasing this data, either use this URL, telelphone (+57) 1 5946350, or email solucionesIQVIA@iqvia.com. Alternatively, the authors will share the raw spreadsheet for this data to researchers whose proposed use of the data does not violate its licensing restrictions and is approved by one of the authors. Contact dscheim@alum.mit.edu.

2. Google Trends, searches for *ivermectina* vs. for *vacuna covid* in the Colombian state of Valle del Cauca, for the past 12 months. <u>https://trends.google.com/trends/explore?geo=CO-VAC&q=ivermectina,vacuna%20covid</u> (accessed March 8, 2021).

3. COVID-19 case incidence for Colombia. <u>https://www.ins.gov.co/Noticias/Paginas/Coronavirus.aspx</u> (accessed March 9, 2021).

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<u>19 A very significant decrease in the Mortality Rate is reported with its use/citation/download</u> (accessed March 6, 2021) doi:10.13140/RG.2.2.26424.57600/2.

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9. Chen X, Laurent S, Onur OA, et al. A systematic review of neurological symptoms and complications of COVID-19. *Journal of Neurology* 2021; **268**(2): 392-402.

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