

# Mechanisms of action and adverse effects of the major therapeutic agents in trial for COVID-19 therapeutics: review of literature

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## Abstract

Coronavirus disease 2019, an infectious viral disease caused by severe acute respiratory syndrome coronavirus 2 has been declared a global pandemic by World Health Organisation. The race to find an effective cure for it is on. Most of the candidate drugs in various clinical trials are being re-purposed but none has been approved as at date. It is pertinent for the bedside physicians to understand the mechanisms of action of these agents and their peculiar adverse effects so they are properly guided on the risk/benefit of the drugs they choose in managing COVID-19 patients. In this review, we aimed to review the mechanisms of action and adverse effects of the major drugs in clinical trials for COVID-19 therapeutics. Clinicaltrials.gov, the international clinical trials platform of the WHO, the EU clinical trials register and the Cochrane Central Register of Controlled Trials were searched for registered clinical trials. Studies in therapeutic trials were considered eligible for the work. Frequency table was made for the most common trialled drugs and the mechanisms of actions and adverse effects of the selected drugs were reviewed. 10 studies were selected for review in a descending order of their frequency in different therapeutic trials and these are ritonavir, lopinavir, chloroquine/hydroxychloroquine, interferon, remdesvir, favipravir, umifenovir, darunavir, tocilizumab and methylprednisolone. The bedside physicians need to understand the mechanisms of action of these agents and their peculiar adverse effects so they are properly guided on the risk/benefit of the drugs they choose in managing COVID-19 patients.

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Figure 1.docx available at <https://authorea.com/users/338549/articles/467748-mechanisms-of-action-and-adverse-effects-of-the-major-therapeutic-agents-in-trial-for-covid-19-therapeutics-review-of-literature>

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