

<b>Title</b>	Summary of evidence: Use de Ribavirin in patients with COVID-19
<b>Identification Code</b>	03262020KC
<b>Applicant Area</b>	COVID-19. Keralty Public health Crisis Committee
<b>Name</b>	COVID-19. Keralty Public health Crisis Committee
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**Question:**

*Is the use of Ribavirin effective in the treatment of COVID-19 patients?*

**Methodology:** A fast-systematic search was performed. (Fast Systematic Search Manual. Institute of Clinical Global Excellence. 2019)

**Search Terms:** COVID 19, 2019 CoV, SARS-Cov2, Ribavirin.

**Types of studies:** clinical practice guidelines, literature systematic reviews, meta-analysis, clinical trials and other primary studies.

**Information Sources:** Pubmed, Science Direct, Cochrane Library, Clinical Trials.

**Background:** Ribavirin is a nucleoside inhibitor antiviral drug, with FDA approved indications for respiratory Syncytial virus infections. It's efficacy and safety have been assessed in patients with Middle East Respiratory Syndrome (MERS) and SARS. It has been reported in literature that the SARS virus, is the closest strain to the COVID-19 virus. The National Commission Health in China, suggested the parenteral use of this medication due to the lack of treatment for COVID-19 (1). For this reason, it is thought that it could be a treatment option for this disease. Therefore, a quick systematic review of Ribavirin is performed to identify the available evidence in the treatment of COVID-19 (2) patients.

**Summary of evidence:**

14 documents were found. Two of them, answered the questions of interest. These were molecular coupling studies, both carried out by Elfiky, 2020 (1,3). The first study the authors present a model for ARN- dependent ARN Polymerase (RdRp) proteins for COVID-19, which allows testing in *silico*. Both studies suggest the potential efficacy of Ribavirin for treatment in COVID-19 patients. This is thought to be due to the fact that for the COVID-19 RdRp, the sequence identity percentage

related to SARS is 90.2%, with MERS it is 56.8%, with OC43 it is 55.1%, with NL63 it is 48.8%, with 229E it is 48.5% and HKU1 strains of HCoV is 48.2%.

Now a days, two randomized clinical trials are being carried out to evaluate the safety and efficacy of drug combinations for COVID-19, one of them include Ribavirin within interventions (NCT04276688) and it is in the process of recruiting participants (4).

### Recommendations:

- At this time there is no evidence that supports the use of Ribavirin in patients with COVID-19 pneumonia. To this date, the findings show a potential input for pharmacological developments.
- It is necessary to take into account that the available evidence regarding COVID-19 is produced in a very fast manner and thus change Therefore, we will carry out updates periodically.

### References:

1. Elfiky, A. A. (2020). Anti-HCV, nucleotide inhibitors, repurposing against COVID-19. Life Sciences. doi: 10.1016/j.lfs.2020.117477.
2. Du, B., Qiu, H. B., Zhan, X., Wang, Y. S., Kang, HY., *et al*, (2020). Pharmacotherapeutics for the New Coronavirus Pneumonia. Zhonghua jie he he hu xi za zhi= Zhonghua jiehe he huxi zazhi= Chinese journal of tuberculosis and respiratory diseases, 43, E012.doi: 10.3760 / cma.j. issn.1001-0939.2020.0012.
3. Elfiky, A. A. (2020). Ribavirin, Remdesivir, Sofosbuvir, Galidesivir, and Tenofovir against SARS-CoV-2 RNA dependent RNA polymerase (RdRp): A molecular docking study. Life Sciences. doi: 10.1016/j.lfs.2020.117592
4. ClinicalTrials.gov. [Internet] Available in <https://clinicaltrials.gov/ct2/results?cond=Coronavirus&term=Ribavirin&cntry=&state=&city=&dist=>