**Literature search results**

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| **Audience: Physiotherapy** | **Search date:15/04/20** | **Time Taken:** 90 mins |
| **Search query: Covid-19, rheumatoid arthritis and methotrexate** | | |
| **Sources searched: Medline, Embase, Emcare, Cinahl, NICE Evidence, Clinical Key, Dynamed, BMJ Best Practice, Google search** | | |
| **Limits: None** | | |
| **Search terms used in HDAS:**  **(**covid OR covid-19 or coronavirus or “corona virus”) AND (rheum\* arthritis OR RA) ti, ab   |  |  | | --- | --- | | Rheum\* AND (covid or covid-19 or coronavirus or “corona virus”) ti, ab  (Methotrexate or amethopterin or rheumatrex or trexall or MTX) AND (covid or covid-19 or coronavirus or “corona virus” ti, ab |  |   **Please let us know if you would like any additional keywords added to the search or if the search requires amending.** | | |
| **Comments about the results:**  **How?** I have used the search terms that you provided in your original request, alongside further synonyms and alternative terminology, to formulate the search strategy. I have searched the above databases and used Boolean operators to ensure the highest success rate. I have also hand sifted the final results. I have searched specifically for covid-19, rheumatoid arthritis and methotrexate, but as there were few articles I have also searched more widely to include covid-19 and rheumatology more generally.  **What?** I have found the following articles that I believe answer your search query. Here are some that I think are most relevant, the rest can be found at the end of this document.   1. [Associations between immune-suppressive and stimulating drugs and novel COVID-19-a systematic review of current evidence.](file:///C:\Users\DSEL\Downloads\HDAS-ST837835-S-1-medium-200415-101126.docx#dba30e27-5e20-2d98-0d44-b7f7a8362659-1)   [9. COVID-19 infection and rheumatoid arthritis: Faraway, so close!](file:///C:\Users\DSEL\Downloads\HDAS-ST837835-S-1-medium-200415-101126.docx#6611cbdf-76cb-f6a0-e797-a52d356fb5d5-9) | | |
| **Requesting full text papers:** If you would like to consult the full text of any of the papers from the search, please email [library@uhbristol.nhs.uk](mailto:library@uhbristol.nhs.uk) with the full bibliographic details.  Please be aware that we cannot request full text papers for conference abstracts as the abstract you see is all that has been published. | | |
| **Disclaimer:** Every effort has been made to ensure that the information supplied is accurate, current and complete. However, for various reasons it may not represent the entire body of information available. No responsibility can be accepted for any action taken on the basis of this information. Searching the literature retrieved the information provided. We also recommend checking the relevance and critically appraising the information contained within when applying to clinical decisions. | | |
| **Feedback:** It would be really useful for the future development of our literature search service if you could complete this short feedback survey: <https://www.surveymonkey.com/r/9PBVQKT>. | | |

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| **FULL TEXT ARTICLE** [**COVID-19: combining antiviral and anti-inflammatory treatments**](https://www.clinicalkey.com/#!/content/journal/1-s2.0-S1473309920301328)[**Download PDF**](https://www.clinicalkey.com/service/content/pdf/watermarked/1-s2.0-S1473309920301328.pdf?locale=en_US&searchIndex=) [Lancet Infectious Diseases, The](https://www.clinicalkey.com/#!/browse/journal/14733099/1-s2.0-S1473309920X00041).  Stebbing, Justin; Phelan, Anne; Griffin, Ivan… Show all.. Published April 1, 2020. Volume 20, Issue 4. Pages 400-402. © 2020. |

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| **British Society for Rheumatology** |
| Covid-19: guidance for rheumatologists  <https://www.rheumatology.org.uk/news-policy/details/covid19-coronavirus-update-members> |

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| [Rheumatoid arthritis](https://cks.nice.org.uk/rheumatoid-arthritis) Source:  [Clinical Knowledge Summaries - CKS](https://www.evidence.nhs.uk/search?om=%5b%7b%22srn%22:%5b%22Clinical%20Knowledge%20Summaries%20-%20CKS%22%5d%7d%5d&q=coronavirus+and+lymphoma&s=Date&sp=on) - 01 April 2020  New management scenario created to provide information regarding COVID-19.  <https://cks.nice.org.uk/rheumatoid-arthritis> [COVID-19 rapid guideline: rheumatological autoimmune, inflammatory and metabolic bone disorders : guidance (NG167)](https://www.nice.org.uk/guidance/ng167) Source:  [National Institute for Health and Care Excellence - NICE](https://www.evidence.nhs.uk/search?om=%5b%7b%22srn%22:%5b%22National%20Institute%20for%20Health%20and%20Care%20Excellence%20-%20NICE%22%5d%7d%5d&q=covid+and+rheumatoid+arthritis&s=Date&sp=on) - 03 April 2020  The purpose of this guideline is to maximise the safety of children and adults with rheumatological autoimmune, inflammatory and metabolic bone disorders during the COVID-19 pandemic, while protecting staff from infection. It also enables services to make the best use of NHS resources. [Azathioprine, leflunomide, mercatopurine, and methotrexate, drug monitoring in primary care during COVID-19](https://www.sps.nhs.uk/articles/dmard-drug-monitoring-in-primary-care-during-covid-19/) Source:  [Specialist Pharmacy Service](https://www.evidence.nhs.uk/search?from=01%2f11%2f2019&om=%5b%7b%22srn%22:%5b%22Specialist%20Pharmacy%20Service%22%5d%7d%5d&q=coronavirus+and+methotrexate&sp=on&to=15%2f04%2f2020) - 31 March 2020  The following advice is for the management of patients taking DMARDs for rheumatology related conditions. [Guidance on management of drugs requiring monitoring during Covid-19](https://www.sps.nhs.uk/articles/drug-monitoring-in-primary-care-for-stable-patients-during-covid-19/) Source:  [Specialist Pharmacy Service](https://www.evidence.nhs.uk/search?from=01%2f11%2f2019&om=%5b%7b%22srn%22:%5b%22Specialist%20Pharmacy%20Service%22%5d%7d%5d&q=coronavirus+and+methotrexate&sp=on&to=15%2f04%2f2020) - 01 April 2020 - Publisher: Specialist Pharmacy Service  The SPS has issued guidance on drug monitoring and factors to consider in mornitoring, for various medicines including azathioprine, leflunomide, mercatopurine, methotrexate… [METHOTREXATE | Drug](http://bnf.nice.org.uk/drug/methotrexate.html)  Source:  [British National Formulary - BNF](https://www.evidence.nhs.uk/search?om=%5b%7b%22srn%22:%5b%22British%20National%20Formulary%20-%20BNF%22%5d%7d%5d&q=methotrexate&sp=on) - 12 March 2020  Indications, dose, contra-indications, side-effects, interactions, cautions, warnings and other safety information for METHOTREXATE.  Clinical guide for the management of rheumatology patients during the coronavirus pandemic, 16 March 2020, Version 1  <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/clinical-guide-rheumatology-patients-v1-19-march-2020.pdf> |

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| **Database results** |
| [1. Associations between immune-suppressive and stimulating drugs and novel COVID-19-a systematic review of current evidence.](file:///C:\Users\DSEL\Downloads\HDAS-ST837835-S-1-medium-200415-101126.docx#dba30e27-5e20-2d98-0d44-b7f7a8362659-1)  [2. Recommendations for coronavirus infection in rheumatic diseases treated with biologic therapy.](file:///C:\Users\DSEL\Downloads\HDAS-ST837835-S-1-medium-200415-101126.docx#164669f1-f480-3210-2d56-ce7a2dd84a1f-2)  [3. Coronavirus disease 2019 (COVID-19) and anti-rheumatic drugs.](file:///C:\Users\DSEL\Downloads\HDAS-ST837835-S-1-medium-200415-101126.docx#14c44bd1-f108-d57f-0485-36a832c3f6eb-3)  [4. COVID-19, rheumatic diseases and immunosuppressive drugs: an appeal for medication adherence.](file:///C:\Users\DSEL\Downloads\HDAS-ST837835-S-1-medium-200415-101126.docx#0d0e2bda-d338-435e-f4c3-46f5a60baaaa-4)  [5. Rheumatologists' perspective on coronavirus disease 19 (COVID-19) and potential therapeutic targets.](file:///C:\Users\DSEL\Downloads\HDAS-ST837835-S-1-medium-200415-101126.docx#406faa38-784d-8d1c-8055-dcf441d5eb8d-5)  [6. Childhood Rheumatic Diseases and COVID-19 Pandemic: An Intriguing Linkage and a New Horizon](file:///C:\Users\DSEL\Downloads\HDAS-ST837835-S-1-medium-200415-101126.docx#9ee9316a-10da-98c3-4a3f-4a680dc57c30-6)  [7. Hydroxychloroquine: a potential ethical dilemma for rheumatologists during the COVID-19 pandemic.](file:///C:\Users\DSEL\Downloads\HDAS-ST837835-S-1-medium-200415-101126.docx#9bff925e-a332-996c-0799-1288011d07d8-7)  [8. The COVID-19 Global Rheumatology Alliance: collecting data in a pandemic](file:///C:\Users\DSEL\Downloads\HDAS-ST837835-S-1-medium-200415-101126.docx#1a4493ae-9c1f-15f1-d935-af384d7fc496-8)  [9. COVID-19 infection and rheumatoid arthritis: Faraway, so close!](file:///C:\Users\DSEL\Downloads\HDAS-ST837835-S-1-medium-200415-101126.docx#6611cbdf-76cb-f6a0-e797-a52d356fb5d5-9)  [10. How to reduce the likelihood of coronavirus-19 (CoV-19 or SARS-CoV-2) infection and lung inflammation mediated by IL-1.](file:///C:\Users\DSEL\Downloads\HDAS-ST837835-S-1-medium-200415-101126.docx#e53e1817-c6a9-2c23-0c0f-2e3c0e0a8204-10)  [11. Are my patients with rheumatic diseases at higher risk of COVID-19?](file:///C:\Users\DSEL\Downloads\HDAS-ST837835-S-1-medium-200415-101126.docx#4957e93d-8a96-3980-9f9d-719ecf1e1381-11)  [12. COVID-19: the new challenge for rheumatologists](file:///C:\Users\DSEL\Downloads\HDAS-ST837835-S-1-medium-200415-101126.docx#dc2621f1-590a-3c6c-1523-022e7045e959-12)  [13. Therapies used in rheumatology with relevance to coronavirus disease 2019](file:///C:\Users\DSEL\Downloads\HDAS-ST837835-S-1-medium-200415-101126.docx#af27d82b-477f-4903-bb00-b0f4ac88d1b4-13)  [14. The Rheumatologist's Role in Covid-19](file:///C:\Users\DSEL\Downloads\HDAS-ST837835-S-1-medium-200415-101126.docx#b71ceb86-fa7b-2782-435d-23c891bf08f7-14)  [15. Respiratory viral infections and the risk of rheumatoid arthritis.](file:///C:\Users\DSEL\Downloads\HDAS-ST837835-S-1-medium-200415-101126.docx#a5b70be0-2b6b-ecfd-ece3-1a6722955a11-15)  [16. Cross-reaction of SARS-CoV antigen with autoantibodies in autoimmune diseases.](file:///C:\Users\DSEL\Downloads\HDAS-ST837835-S-1-medium-200415-101126.docx#948b22e0-cbb6-8eb8-fcd5-f62b9e7a380f-16)  Results  **1. Associations between immune-suppressive and stimulating drugs and novel COVID-19-a systematic review of current evidence.**  **Author(s):** Russell, Beth; Moss, Charlotte; George, Gincy; Santaolalla, Aida; Cope, Andrew; Papa, Sophie; Van Hemelrijck, Mieke  **Source:** Ecancermedicalscience; 2020; vol. 14 ; p. 1022  **Publication Date:** 2020  **Publication Type(s):** Journal Article Review  **PubMedID:** 32256705  Available at [Ecancermedicalscience](http://europepmc.org/search?query=(DOI:10.3332/ecancer.2020.1022)) - from Europe PubMed Central - Open Access  Available at [Ecancermedicalscience](https://ecancer.org/en/journal/article/1022-associations-between-immune-suppressive-and-stimulating-drugs-and-novel-covid-19-a-systematic-review-of-current-evidence/pdf) - from Unpaywall  **Abstract:**BackgroundCancer and transplant patients with COVID-19 have a higher risk of developing severe and even fatal respiratory diseases, especially as they may be treated with immune-suppressive or immune-stimulating drugs. This review focuses on the effects of these drugs on host immunity against COVID-19.MethodsUsing Ovid MEDLINE, we reviewed current evidence for immune-suppressing or -stimulating drugs: cytotoxic chemotherapy, low-dose steroids, tumour necrosis factorα (TNFα) blockers, interlukin-6 (IL-6) blockade, Janus kinase (JAK) inhibitors, IL-1 blockade, mycophenolate, tacrolimus, anti-CD20 and CTLA4-Ig.Results89 studies were included. Cytotoxic chemotherapy has been shown to be a specific inhibitor for severe acute respiratory syndrome coronavirus in in vitro studies, but no specific studies exist as of yet for COVID-19. No conclusive evidence for or against the use of non-steroidal anti-inflammatory drugs (NSAIDs) in the treatment of COVID-19 patients is available, nor is there evidence indicating that TNFα blockade is harmful to patients in the context of COVID-19. COVID-19 has been observed to induce a pro-inflammatory cytokine generation and secretion of cytokines, such as IL-6, but there is no evidence of the beneficial impact of IL-6 inhibitors on the modulation of COVID-19. Although there are potential targets in the JAK-STAT pathway that can be manipulated in treatment for coronaviruses and it is evident that IL-1 is elevated in patients with a coronavirus, there is currently no evidence for a role of these drugs in treatment of COVID-19.ConclusionThe COVID-19 pandemic has led to challenging decision-making about treatment of critically unwell patients. Low-dose prednisolone and tacrolimus may have beneficial impacts on COVID-19. The mycophenolate mofetil picture is less clear, with conflicting data from pre-clinical studies. There is no definitive evidence that specific cytotoxic drugs, low-dose methotrexate for auto-immune disease, NSAIDs, JAK kinase inhibitors or anti-TNFα agents are contraindicated. There is clear evidence that IL-6 peak levels are associated with severity of pulmonary complications.  **Database:** Medline  **2. Recommendations for coronavirus infection in rheumatic diseases treated with biologic therapy.**  **Author(s):** Ceribelli, Angela; Motta, Francesca; De Santis, Maria; Ansari, Aftab A; Ridgway, William M; Gershwin, M Eric; Selmi, Carlo  **Source:** Journal of autoimmunity; May 2020; vol. 109 ; p. 102442  **Publication Date:** May 2020  **Publication Type(s):** Journal Article Review  **PubMedID:** 32253068  Available at [Journal of autoimmunity](https://auth.elsevier.com/ShibAuth/institutionLogin?entityID=https://idp.eng.nhs.uk/openathens&appReturnURL=https%3A%2F%2Fwww.clinicalkey.com%2Fcontent%2FplayBy%2Fdoi%2F%3Fv%3D10.1016%2Fj.jaut.2020.102442) - from ClinicalKey  Available at [Journal of autoimmunity](https://doi.org/10.1016/j.jaut.2020.102442) - from Unpaywall  **Abstract:**The Coronavirus-associated disease, that was first identified in 2019 in China (CoViD-19), is a pandemic caused by a bat-derived beta-coronavirus, named SARS-CoV2. It shares homology with SARS and MERS-CoV, responsible for past outbreaks in China and in Middle East. SARS-CoV2 spread from China where the first infections were described in December 2019 and is responsible for the respiratory symptoms that can lead to acute respiratory distress syndrome. A cytokine storm has been shown in patients who develop fatal complications, as observed in past coronavirus infections. The management includes ventilatory support and broad-spectrum antiviral drugs, empirically utilized, as a targeted therapy and vaccines have not been developed. Based upon our limited knowledge on the pathogenesis of CoViD-19, a potential role of some anti-rheumatic drugs may be hypothesized, acting as direct antivirals or targeting host immune response. Antimalarial drugs, commonly used in rheumatology, may alter the lysosomal proteases that mediates the viral entry into the cell and have demonstrated efficacy in improving the infection. Anti-IL-1 and anti-IL-6 may interfere with the cytokine storm in severe cases and use of tocilizumab has shown good outcomes in a small cohort. Baricitinib has both antiviral and anti-inflammatory properties. Checkpoints inhibitors such as anti-CD200 and anti-PD1 could have a role in the treatment of CoViD-19. Rheumatic disease patients taking immunosuppressive drugs should be recommended to maintain the chronic therapy, prevent infection by avoiding social contacts and pausing immunosuppressants in case of infection. National and international registries are being created to collect data on rheumatic patients with CoViD-19.  **Database:** Medline  **3. Coronavirus disease 2019 (COVID-19) and anti-rheumatic drugs.**  **Author(s):** Georgiev, Tsvetoslav  **Source:** Rheumatology international; May 2020; vol. 40 (no. 5); p. 825-826  **Publication Date:** May 2020  **Publication Type(s):** Letter  **PubMedID:** 32232552  Available at [Rheumatology international](https://link.springer.com/content/pdf/10.1007/s00296-020-04570-z.pdf) - from Unpaywall  **Database:** Medline  **4. COVID-19, rheumatic diseases and immunosuppressive drugs: an appeal for medication adherence.**  **Author(s):** Venerito, Vincenzo; Lopalco, Giuseppe; Iannone, Florenzo  **Source:** Rheumatology international; May 2020; vol. 40 (no. 5); p. 827-828  **Publication Date:** May 2020  **Publication Type(s):** Letter  **PubMedID:** 32232551  Available at [Rheumatology international](https://link.springer.com/content/pdf/10.1007/s00296-020-04566-9.pdf) - from Unpaywall  **Database:** Medline  **5. Rheumatologists' perspective on coronavirus disease 19 (COVID-19) and potential therapeutic targets.**  **Author(s):** Misra, Durga Prasanna; Agarwal, Vikas; Gasparyan, Armen Yuri; Zimba, Olena  **Source:** Clinical rheumatology; Apr 2020  **Publication Date:** Apr 2020  **Publication Type(s):** Journal Article Review  **PubMedID:** 32277367  **Abstract:**The ongoing pandemic coronavirus disease 19 (COVID-19) caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a matter of global concern. Environmental factors such as air pollution and smoking and comorbid conditions (hypertension, diabetes mellitus and underlying cardio-respiratory illness) likely increase the severity of COVID-19. Rheumatic manifestations such as arthralgias and arthritis may be prevalent in about a seventh of individuals. COVID-19 can result in acute interstitial pneumonia, myocarditis, leucopenia (with lymphopenia) and thrombocytopenia, also seen in rheumatic diseases like lupus and Sjogren's syndrome. Severe disease in a subset of patients may be driven by cytokine storm, possibly due to secondary hemophagocytic lymphohistiocytosis (HLH), akin to that in systemic onset juvenile idiopathic arthritis or adult-onset Still's disease. In the absence of high-quality evidence in this emerging disease, understanding of pathogenesis may help postulate potential therapies. Angiotensin converting enzyme 2 (ACE2) appears important for viral entry into pneumocytes; dysbalance in ACE2 as caused by ACE inhibitors or ibuprofen may predispose to severe disease. Preliminary evidence suggests potential benefit with chloroquine or hydroxychloroquine. Antiviral drugs like lopinavir/ritonavir, favipiravir and remdesivir are also being explored. Cytokine storm and secondary HLH might require heightened immunosuppressive regimens. Current international society recommendations suggest that patients with rheumatic diseases on immunosuppressive therapy should not stop glucocorticoids during COVID-19 infection, although minimum possible doses may be used. Disease-modifying drugs should be continued; cessation may be considered during infection episodes as per standard practices. Development of a vaccine may be the only effective long-term protection against this disease.Key Points• Patients with coronavirus disease 19 (COVID-19) may have features mimicking rheumatic diseases, such as arthralgias, acute interstitial pneumonia, myocarditis, leucopenia, lymphopenia, thrombocytopenia and cytokine storm with features akin to secondary hemophagocytic lymphohistiocytosis.• Although preliminary results may be encouraging, high-quality clinical trials are needed to better understand the role of drugs commonly used in rheumatology like hydroxychloroquine and tocilizumab in COVID-19.• Until further evidence emerges, it may be cautiously recommended to continue glucocorticoids and other disease-modifying antirheumatic drugs (DMARDs) in patients receiving these therapies, with discontinuation of DMARDs during infections as per standard practice.  **Database:** Medline  **6. Childhood Rheumatic Diseases and COVID-19 Pandemic: An Intriguing Linkage and a New Horizon**  **Author(s):** Haşlak, Fatih; Yıldız, Mehmet; Adrovic, Amra; Barut, Kenan; Kasapçopur, Özgür  **Source:** Balkan medical journal; Apr 2020  **Publication Date:** Apr 2020  **Publication Type(s):** Journal Article  **PubMedID:** 32264666  Available at [Balkan medical journal](http://europepmc.org/search?query=(DOI:10.4274/balkanmedj.galenos.2020.2020.4.43)) - from Europe PubMed Central - Open Access  Available at [Balkan medical journal](https://doi.org/10.4274/balkanmedj.galenos.2020.2020.4.43) - from Unpaywall  **Abstract:**As it is known, we are all in a pandemic situation due to a novel coronavirus, officially named "Severe Acute Respiratory Syndrome Coronavirus 2" and the disease caused by the virus named "Coronavirus disease-2019". The virus seems to has propensity to infect older male individuals with underlying disease. The clinical features were on a large scale that varies from being an asymptomatic carrier to acute respiratory distress syndrome and multiorgan dysfunction. Fever, dry cough and fatigue are the most common symptoms. Not only, the disease seems to be rare and have a milder course in pediatric age but also respiratory failure, multiorgan dysfunction, and death are extremely rare. Although several comorbidities such as hypertension, diabetes and cardiovascular diseases are defined as a risk factor for developing the acute respiratory syndrome and need for intensive care; immune-compromised situations such as rheumatic disease which require immunosuppressive treatment strikingly are not found to be a risk factor for more severe disease course. However, there is a lack of data regarding the effects of "Coronavirus disease-2019" on pediatric patients with rheumatic diseases. Additionally, there are three controversial circumstances that patients with rheumatic diseases are believed to be more likely to have viral infections like "Severe Acute Respiratory Syndrome Coronavirus 2", on the other hand, antirheumatic drugs may have a protective and therapeutic role in Coronavirus disease-2019 and children are more unlikely to have serious disease course. Therefore, we aimed to have a contributor role for explaining this conundrum and present a bird's eye view regarding this equivocal issue in this review.  **Database:** Medline  **7. Hydroxychloroquine: a potential ethical dilemma for rheumatologists during the COVID-19 pandemic.**  **Author(s):** Scuccimarri, Rosie; Sutton, Evelyn; Fitzcharles, Mary-Ann  **Source:** The Journal of rheumatology; Apr 2020  **Publication Date:** Apr 2020  **Publication Type(s):** Journal Article  **PubMedID:** 32241801  Available at [The Journal of rheumatology](http://www.jrheum.org/content/jrheum/early/2020/04/01/jrheum.200369.full.pdf) - from Unpaywall  **Abstract:**Two antimalarial agents, chloroquine (CQ) and hydroxychloroquine (HCQ), have been trusted treatments for a range of rheumatic diseases over the past seventy years [1]. These agents have attracted intense media attention in the past few weeks with suggestions that this category of drugs may have potential in the management of coronavirus (SARS-CoV2) associated disease called COVID-19 [2, 3].  **Database:** Medline  **8. The COVID-19 Global Rheumatology Alliance: collecting data in a pandemic**  **Author(s):** Robinson P.C.; Yazdany J.  **Source:** Nature reviews. Rheumatology; Apr 2020  **Publication Date:** Apr 2020  **Publication Type(s):** Article  **PubMedID:** 32242121  Available at [Nature reviews. Rheumatology](https://www.nature.com/articles/s41584-020-0418-0.pdf) - from Unpaywall  **Database:** EMBASE  **9. COVID-19 infection and rheumatoid arthritis: Faraway, so close!**  **Author(s):** Favalli, Ennio Giulio; Ingegnoli, Francesca; De Lucia, Orazio; Cincinelli, Gilberto; Cimaz, Rolando; Caporali, Roberto  **Source:** Autoimmunity reviews; Mar 2020 ; p. 102523  **Publication Date:** Mar 2020  **Publication Type(s):** Journal Article Review  **PubMedID:** 32205186  Available at [Autoimmunity reviews](https://auth.elsevier.com/ShibAuth/institutionLogin?entityID=https://idp.eng.nhs.uk/openathens&appReturnURL=https%3A%2F%2Fwww.clinicalkey.com%2Fcontent%2FplayBy%2Fdoi%2F%3Fv%3D10.1016%2Fj.autrev.2020.102523) - from ClinicalKey  Available at [Autoimmunity reviews](https://doi.org/10.1016/j.autrev.2020.102523) - from Unpaywall  **Abstract:**The outbreak of the new coronavirus infections COVID-19 in December 2019 in China has quickly become a global health emergency. Given the lack of specific anti-viral therapies, the current management of severe acute respiratory syndrome coronaviruses (SARS-CoV-2) is mainly supportive, even though several compounds are now under investigation for the treatment of this life-threatening disease. COVID-19 pandemic is certainly conditioning the treatment strategy of a complex disorder as rheumatoid arthritis (RA), whose infectious risk is increased compared to the general population because of an overall impairment of immune system typical of autoimmune diseases combined with the iatrogenic effect generated by corticosteroids and immunosuppressive drugs. However, the increasing knowledge about the pathophysiology of SARS-CoV-2 infection is leading to consider some anti-rheumatic drugs as potential treatment options for the management of COVID-19. In this review we will critically analyse the evidences on either positive or negative effect of drugs commonly used to treat RA in this particular scenario, in order to optimize the current approach to RA patients.  **Database:** Medline  **10. How to reduce the likelihood of coronavirus-19 (CoV-19 or SARS-CoV-2) infection and lung inflammation mediated by IL-1.**  **Author(s):** Conti, P; Gallenga, C E; Tetè, G; Caraffa, Al; Ronconi, G; Younes, A; Toniato, E; Ross, R; Kritas, S K  **Source:** Journal of biological regulators and homeostatic agents; Mar 2020; vol. 34 (no. 2)  **Publication Date:** Mar 2020  **Publication Type(s):** Editorial  **PubMedID:** 32228825  Available at [Journal of biological regulators and homeostatic agents](http://search.ebscohost.com/login.aspx?direct=true&scope=site&site=ehost-live&db=mdc&AN=32228825) - from EBSCO (MEDLINE Complete)  **Abstract:**SARS-CoV-2, also referred to as CoV-19, is an RNA virus which can cause severe acute respiratory diseases (COVID-19), with serious infection of the lower respiratory tract followed by bronchitis, pneumonia and fibrosis. The severity of the disease depends on the efficiency of the immune system which, if it is weak, cannot stem the infection and its symptoms. The new CoV-19 spreads in the population at a rate of 0.8-3% more than normal flu and mostly affects men, since immune genes are more expressed on the X chromosome. If CoV-19 would spread with a higher incidence rate (over 10%), and affect the people who live in closed communities such as islands, it would cause many more deaths. Moreover, people from the poorest classes are most at risk because of lack of health care and should be given more assistance by the competent authorities. To avoid the aggravation of CoV-19 infection, and the collapse of the health system, individuals should remain at home in quarantine for a period of approximately one month in order to limit viral transmission. In the case of a pandemic, the severe shortage of respirators and protective clothing, due to the enormous demand and insufficient production, could lead the CoV-19 to kill a large number of individuals. At present, there is no drug capable of treating CoV-19 flu, the only therapeutic remedies are those aimed at the side effects caused by the virus, such as inflammation and pulmonary fibrosis, recognized as the first causes of death. One of the COVID-19 treatments involves inhaling a mixture of gaseous hydrogen and oxygen, obtaining better results than with oxygen alone. It was also noted that individuals vaccinated for viral and/or bacterial infectious diseases were less likely to become infected. In addition, germicidal UV radiation "breaks down" the oxygen O2 which then aggregate into O3 (ozone) molecules creating the ozone layer, capable of inhibiting viral replication and improving lung respiration. All these precautions should be taken into consideration to lower the risk of infection by CoV-19. New anti-viral therapies with new drugs should also be taken into consideration. For example, microbes are known to bind TLR, inducing IL-1, a pleiotropic cytokine, highly inflammatory, mediator of fever and fibrosis. Therefore, drugs that suppress IL-1 or IL-1R, also used for the treatment of rheumatoid arthritis are to be taken into consideration to treat COVID-19. We strongly believe that all these devices described above can lead to greater survival and. therefore, reduction in mortality in patients infected with CoV-19.  **Database:** Medline  **11. Are my patients with rheumatic diseases at higher risk of COVID-19?**  **Author(s):** Figueroa-Parra, Gabriel; Aguirre-Garcia, Gloria Mayela; Gamboa-Alonso, Carmen Magdalena; Camacho-Ortiz, Adrian; Galarza-Delgado, Dionicio Angel  **Source:** Annals of the rheumatic diseases; Mar 2020  **Publication Date:** Mar 2020  **Publication Type(s):** Letter  **PubMedID:** 32205336  Available at [Annals of the rheumatic diseases](https://go.openathens.net/redirector/nhs?url=https%3A%2F%2Fard.bmj.com%2Flookup%2Fdoi%2F10.1136%2Fannrheumdis-2020-217322) - from BMJ Journals  Available at [Annals of the rheumatic diseases](https://ard.bmj.com/content/annrheumdis/early/2020/03/22/annrheumdis-2020-217322.full.pdf) - from Unpaywall  **Database:** Medline  **12. COVID-19: the new challenge for rheumatologists**  **Author(s):** Ferro F.; Elefante E.; Baldini C.; Talarico R.; Mosca M.; Bartoloni E.; Puxeddu I.; Bombardieri S.  **Source:** Clinical and experimental rheumatology; Mar 2020; vol. 38 (no. 2); p. 175-180  **Publication Date:** Mar 2020  **Publication Type(s):** Editorial  **PubMedID:** 32207680  **Database:** EMBASE  **13. Therapies used in rheumatology with relevance to coronavirus disease 2019**  **Author(s):** Pires da Rosa G.; Ferreira E.  **Source:** Clinical and experimental rheumatology; Mar 2020; vol. 38 (no. 2); p. 370  **Publication Date:** Mar 2020  **Publication Type(s):** Letter  **PubMedID:** 32202241  **Database:** EMBASE  **14. The Rheumatologist's Role in Covid-19**  **Author(s):** Cron R.Q.; Chatham W.W.  **Source:** The Journal of rheumatology; Mar 2020  **Publication Date:** Mar 2020  **Publication Type(s):** Article  **PubMedID:** 32209661  Available at [The Journal of rheumatology](http://www.jrheum.org/content/jrheum/early/2020/03/24/jrheum.200334.full.pdf) - from Unpaywall  **Abstract:**The novel coronavirus (SARS-CoV-2) pandemic has spread rapidly throughout the planet. It is believed to have originated in the Wuhan province of China, but this highly contagious respiratory virus has spread to over 140 countries on 6 continents as of mid-March 2020 according to the World Health Organization (WHO). Worldwide, there have been over 164,000 cases identified and over 6,500 deaths attributed to the viral infection. As of March 15, 2020, there are over 3,700 confirmed cases and 68 deaths ascribed to Covid-19 (the disease caused by SARS-CoV-2) in the United States [https://www.livescience.com/coronavirus-updates-unitedstates.html].  **Database:** EMBASE  **15. Respiratory viral infections and the risk of rheumatoid arthritis.**  **Author(s):** Joo, Young Bin; Lim, Youn-Hee; Kim, Ki-Jo; Park, Kyung-Su; Park, Yune-Jung  **Source:** Arthritis research & therapy; Aug 2019; vol. 21 (no. 1); p. 199  **Publication Date:** Aug 2019  **Publication Type(s):** Journal Article  **PubMedID:** 31470887  Available at [Arthritis research & therapy](https://arthritis-research.biomedcentral.com/articles/10.1186/s13075-019-1977-9) - from BioMed Central  Available at [Arthritis research & therapy](http://europepmc.org/search?query=(DOI:10.1186/s13075-019-1977-9)) - from Europe PubMed Central - Open Access  Available at [Arthritis research & therapy](http://search.ebscohost.com/login.aspx?direct=true&scope=site&site=ehost-live&db=mdc&AN=31470887) - from EBSCO (MEDLINE Complete)  Available at [Arthritis research & therapy](http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2004&res_id=xri:pqm&req_dat=xri:pqil:pq_clntid=48304&rft_val_fmt=ori/fmt:kev:mtx:journal&genre=article&issn=1478-6354&volume=21&issue=1&spage=199) - from ProQuest (Health Research Premium) - NHS Version  Available at [Arthritis research & therapy](https://arthritis-research.biomedcentral.com/track/pdf/10.1186/s13075-019-1977-9) - from Unpaywall  **Abstract:**BACKGROUNDWe aimed to investigate the effects of ambient respiratory viral infections in the general population on rheumatoid arthritis (RA) development.METHODSData of weekly incident RA (2012-2013) were obtained from the Korean National Health Insurance claims database, and those of weekly observations on eight respiratory viral infections were obtained from the Korea Centers for Disease Control and Prevention database. We estimated the percentage change in incident RA associated with ambient mean respiratory viral infections using a generalized linear model, after adjusting for time trend, air pollution, and meteorological data.RESULTSA total of 24,117 cases of incident RA (mean age 54.7 years, 18,688 [77.5%] women) were analyzed. Ambient respiratory viral infections in the population were associated with a higher number of incident RA over time, and its effect peaked 6 or 7 weeks after exposure. Among the 8 viruses, parainfluenza virus (4.8% for 1% respiratory viral infection increase, 95% CI 1.6 to 8.1, P = .003), coronavirus (9.2%, 3.9 to 14.8, P < .001), and metapneumovirus (44%, 2.0 to 103.4, P = .038) were associated with increased number of incident RA. The impact of these respiratory viral infections remained significant in women (3.8%, 12.1%, and 67.4%, respectively, P < .05) and in older patients (10.7%, 14.6%, and 118.2%, respectively, P < .05).CONCLUSIONSAmbient respiratory viral infections in the population were associated with an increased number of incident RA, especially in women and older patients, suggesting that respiratory viral infections can be a novel environmental risk factor for the development of RA.  **Database:** Medline  **16. Cross-reaction of SARS-CoV antigen with autoantibodies in autoimmune diseases.**  **Author(s):** Wang, Yunshan; Sun, Shanhui; Shen, Hong; Jiang, Lihua; Zhang, Maoxiu; Xiao, Dongjie; Liu, Yang; Ma, Xiaoli; Zhang, Yong; Guo, Nongjian; Jia, Tanghong  **Source:** Cellular & molecular immunology; Aug 2004; vol. 1 (no. 4); p. 304-307  **Publication Date:** Aug 2004  **Publication Type(s):** Journal Article  **PubMedID:** 16225774  **Abstract:**To investigate the significance of the SARS-associated coronavirus (SARS-CoV) antibody, detected by ELISA and indirect immunofluorescence assays (IFA) for the SARS-CoV Vero E6 cell lysates, in non-SARS subjects, 114 serum samples from healthy controls and 104 serum specimens from autoimmune disease patients were collected. The results of ELISA showed that among 114 sera from healthy controls, 4 (3.5%) were positive of SARS-CoV-IgG antibody and 114 (100%) were all negative of SARS-CoV-IgM antibody; the specificity of SARS-CoV-IgG antibody for SARS patients was 96.5%, but the specificity of both SARS-CoV-IgG and -IgM antibodies for SARS patients was 100%. In 58 cases with SLE, positive rates of SARS-CoV-IgG and -IgM antibodies were 32.8% (19/58) and 8.6% (5/58), respectively, in which 11 cases (19%) were positive of both SARS-CoV-IgG and -IgM antibodies; in 10 cases with SS, positive rate of both SARS-CoV-IgG and -IgM antibodies was 10% (1/10); in 16 cases with MCTD, positive rate of SARS-CoV-IgG was 37.5% (6/16), positive rate of both SARS-CoV-IgG and -IgM antibodies was 6.3% (1/16); in 20 cases with RA, one case was positive (5%) of SARS-CoV-IgG. However, of all samples with positive SARS-CoV-IgG and -IgM antibodies for autoimmune diseases and healthy controls, SARS-CoV RNA and antibodies were all negative by RT-PCR and IFA. All sera for negative or positive ELISA results were also negative or positive results using ELISA with Vero E6 cells lysates. These studies showed that SARS-CoV Vero E6 cell lysates for the ELISA to detect SARS-CoV antibodies could lead to the false-positive reactions or cross-reactions of SARS-CoV antibodies in non-SARS diseases and healthy controls, and the false-positive reactions or cross-reactions were related to Vero E6 cell lysates and autoantibodies in non-SARS population.  **Database:** Medline  Strategy   |  |  |  |  | | --- | --- | --- | --- | | **#** | **Database** | **Search term** | **Results** | | 1 | Medline | (covid OR covid-19 OR coronavirus OR "corona virus").ti,ab | 13578 | | 2 | Medline | (rheum\* arthritis OR RA).ti,ab | 138405 | | 3 | Medline | (1 AND 2) | 6 | | 4 | CINAHL | (covid OR covid-19 OR coronavirus OR "corona virus").ti,ab | 1796 | | 5 | CINAHL | (rheum\* arthritis OR RA).ti,ab | 30126 | | 6 | CINAHL | (4 AND 5) | 0 | | 7 | EMBASE | (covid OR covid-19 OR coronavirus OR "corona virus").ti,ab | 13631 | | 8 | EMBASE | (rheum\* arthritis OR RA).ti,ab | 203298 | | 9 | EMBASE | (7 AND 8) | 6 | | 10 | EMBASE | (7 AND 8) | 6 | | 11 | Medline | (rheum\* AND (covid-19 OR corona virus OR coronavirus OR covid)).ti,ab | 18 | | 12 | CINAHL | (rheum\* AND (covid-19 OR corona virus OR coronavirus OR covid)).ti,ab | 1 | | 13 | EMBASE | (rheum\* AND (covid-19 OR corona virus OR coronavirus OR covid)).ti,ab | 28 | | 14 | EMCARE | (rheum\* AND (covid-19 OR corona virus OR coronavirus OR covid)).ti,ab | 1 | | 15 | EMBASE | ((methotrexate OR amethopterin OR rheumatrex OR trexall OR MTX) AND (covid-19 OR corona virus OR coronavirus OR covid)).ti,ab | 3 | | 16 | Medline | ((methotrexate OR amethopterin OR rheumatrex OR trexall OR MTX) AND (covid-19 OR corona virus OR coronavirus OR covid)).ti,ab | 3 | |