## SEARCH QUERY

('coronavirus infection'/exp OR 'coronavirus infection' OR 'coronaviridae'/exp OR 'coronaviridae' OR 'covid'/exp OR covid) AND [13-6-2021]/sd NOT [20-6-2021]/sd AND 'priority journal' AND ([cochrane review]/lim OR [systematic review]/lim OR [meta analysis]/lim OR [controlled clinical trial]/lim OR [randomized controlled trial]/lim)

## RECORD 1

**COVID-19 and multisystem inflammatory syndrome in children: A systematic review and meta-analysis**

Yasuhara J., Watanabe K., Takagi H., Sumitomo N., Kuno T.

*Pediatric Pulmonology (2021) 56:5 (837-848)*. Date of Publication: 1 May 2021

Background: Multisystem inflammatory syndrome in children (MIS-C) associated with coronavirus disease 2019 has been increasingly recognized. However, the clinical features of MIS-C and the differences from Kawasaki disease remain unknown. The study aims to investigate the epidemiology and clinical course of MIS-C. Methods: PubMed and EMBASE were searched through August 30, 2020. Observational studies describing MIS-C were included. Data regarding demographic features, clinical symptoms, laboratory, echocardiography and radiology findings, treatments, and outcomes were extracted. Study-specific estimates were combined using one-group meta-analysis in a random-effects model. Results: A total of 27 studies were identified including 917 MIS-C patients. The mean age was 9.3 (95% confidence interval [CI], 8.4–10.1). The pooled proportions of Hispanic and Black cases were 34.6% (95% CI, 28.3–40.9) and 31.5% (95% CI, 24.8–38.1), respectively. The common manifestations were gastrointestinal symptoms (87.3%; 95% CI, 82.9–91.6) and cardiovascular involvement such as myocardial dysfunction (55.3%; 95% CI, 42.4–68.2), coronary artery aneurysms (21.7%; 95% CI, 12.8–30.1) and shock (65.8%; 95% CI, 51.1–80.4), with marked elevated inflammatory and cardiac markers. The majority of patients received intravenous immunoglobulin (81.0%; 95% CI, 75.0–86.9), aspirin (67.3%; 95% CI, 48.8–85.7), and corticosteroids (63.6%; 95% CI, 53.4–73.8) with a variety of anti-inflammatory agents. Although myocardial dysfunction improved in 55.1% (95% CI, 33.4–76.8) at discharge, the rate of extracorporeal membrane oxygenation use was 6.3% (95% CI, 2.8–9.8) and the mortality was 1.9% (95% CI, 1.0–2.8). Conclusion: Our findings suggest that MIS-C leads to multiple organ failure, including gastrointestinal manifestations, myocardial dysfunction and coronary abnormalities, and has distinct features from Kawasaki disease.

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**RECORD 2**

**Mental health outcomes of coronavirus infection survivors: A rapid meta-analysis**
Liu D., Baumeister R.F., Zhou Y.
*Journal of Psychiatric Research (2021) 137 (542-553)*. Date of Publication: 1 May 2021

Background: The current COVID pandemic is happening while the long-term effects of coronavirus infection remain poorly understood. The present article meta-analyzed mental health outcomes (anxiety, depression, etc.) from a previous coronavirus outbreak in China (2002). Method: CNKI, Wanfang, PubMed/Medline, Scopus, Web of Science, Baidu Scholar, and Google Scholar were searched up to early June 2020 for articles in English or Chinese reporting mental illness symptoms of SARS patients. Main outcome measures include SCL-90, SAS, SDS, and IES-R scales. 29 papers met the inclusion criteria. The longest follow-up time included in the analysis was 46 months. Findings: The systematic meta-analysis indicated that mental health problems were most serious before or at hospital discharge and declined significantly during the first 12 months after hospital discharge. Nevertheless, average symptom levels remained above healthy norms even at 12 months and continued to improve, albeit slowly, thereafter. Interpretation: The adverse mental health impact of being hospitalized with coronavirus infection long outlasts the physical illness. Mental health issues were the most serious for coronavirus infected patients before (including) hospital discharge and improved continuously during the first 12 months after hospital discharge. If COVID-19 infected patients follow a similar course of mental health development, most patients should recover to normal after 12 months of hospital discharge.

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## RECORD 3

**Efficacy and safety of convalescent plasma therapy in severe COVID-19 patients with acute respiratory distress syndrome**

Allahyari A., Seddigh-Shamsi M., Mahmoudi M., Amel Jamehdar S., Amini M., Mozdourian M., Javidarabshahi Z., Eslami Hasan Abadi S., Amini S., Sedaghat A., Emadzadeh M., Moeini Nodeh M., Rahimi H., Bari A., Mozaheb Z., Kamandi M., Ataei Azimi S., Abrishami M., Akbarian A., Ataei P., Allahyari N., Hasanzadeh S., Saeedian N.

Since SARS-CoV-2 infection is rapidly spreading all around the world, affecting many people and exhausting health care resources, therapeutic options must be quickly investigated in order to develop a safe and effective treatment. The present study was designed to evaluate the safety and efficacy of convalescent plasma (CP) for treating severe cases of COVID-19 who developed acute respiratory distress syndrome (ARDS). Among 64 confirmed cases of severe COVID-19 with ARDS in this study, 32 patients received CP besides first line treatment. Their clinical response and outcome in regard to disease severity and mortality rate were evaluated and compared with the other 32 patients in the control group who were historically matched while randomly chosen from previous patients with the same conditions except for receiving CP therapy. Analysis of the data was performed using SPSS software. Patients with plasma therapy showed improvements in their clinical outcomes including a reduction in disease severity in terms of SOFA and APACHE II scores, the length of ICU stay, need for noninvasive ventilation and intubation and also showed an increase in oxygenation. They also showed reduction in mortality which was statistically significant in less severe cases with mild or moderate ARDS. Early administration of the convalescent plasma could successfully contribute to the treatment of severe COVID-19 patients with mild or moderate ARDS at risk of progressing to critical state.

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## RECORD 4

**Interventions to address mental health issues in healthcare workers during infectious disease outbreaks: A systematic review**

Zaçe D., Hoxhaj I., Orfino A., Viteritti A.M., Janiri L., Di Pietro M.L.

*Journal of Psychiatric Research (2021) 136 (319-333)*. Date of Publication: 1 Apr 2021

Considering the importance of evidence on interventions to tackle mental health problems in healthcare workers (HCWs) during pandemics, we conducted a systematic review, aiming to identify and summarize the implemented interventions to deal with mental health issues of HCWs during infectious disease outbreaks and report their effectiveness. Web of Science, PubMed, Cochrane, Scopus, CINAHL and PsycInfo electronic databases were searched until October 2nd, 2020. Primary-data articles, describing any implemented interventions and their effectiveness were considered pertinent. Studies were screened according to the inclusion/exclusion criteria and subsequently data extraction was performed. Twenty-four articles, referring to SARS, Ebola, Influenza AH1N1 and COVID-19 were included. Interventions addressing mental health issues in HCWs during pandemics/epidemics were grouped into four categories: 1) informational support (training, guidelines, prevention programs), 2) instrumental support (personal protective equipment, protection protocols); 3) organizational support (manpower allocation, working hours, re-organization of facilities/structures, provision of rest areas); 4) emotional and psychological support (psychoeducation and training, mental health support team, peer-support and counselling, therapy, digital platforms and tele-support). These results might be helpful for researchers, stakeholders, and policymakers to develop evidence-based sustainable interventions and guidelines, aiming to prevent or reduce the immediate and long-term effect of pandemics on mental health status of HCWs.

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## RECORD 5

**Association of smoking history with severe and critical outcomes in COVID-19 patients: A systemic review and meta-analysis**
Zhang H., Ma S., Han T., Qu G., Cheng C., Uy J.P., Shaikh M.B., Zhou Q., Song E.J., Sun C.
*European Journal of Integrative Medicine (2021) 43 Article Number: 101313*. Date of Publication: 1 Apr 2021

Introduction: The highly infectious coronavirus disease 2019 (COVID-19) has now rapidly spread around the world. This meta-analysis was strictly focused on the influence of smoking history on the severe and critical outcomes on people with COVID-19 pneumonia. Methods: A systematic literature search was conducted in eight online databases before 1 February 2021. All studies meeting our selection criteria were included and evaluated. Stata 14.0 software was used to analyze the data. Results: A total of 109 articles involving 517,020 patients were included in this meta-analysis. A statistically significant association was discovered between smoking history and COVID-19 severity, the pooled OR was 1.55 (95%CI: 1.41-1.71). Smoking was significantly associated with the risk of admission to intensive care unit (ICU) (OR=1.73, 95%CI: 1.36-2.19), increased mortality (OR=1.58, 95%CI: 1.38-1.81), and critical diseases composite endpoints (OR=1.61, 95%CI: 1.35-1.93), whereas there was no relationship with mechanical ventilation. The pooled prevalence of smoking using the random effects model (REM) was 15% (95%CI: 14%-16%). Meta-regression analysis showed that age (P=0.004), hypertension (P=0.007), diabetes (P=0.029), chronic obstructive pulmonary disease (COPD) (P=0.001) were covariates that affect the association. Conclusions: Smoking was associated with severe or critical outcomes and increased the risk of admission to ICU and mortality in COVID-19 patients, but not associated with mechanical ventilation. This association was more significant for former smokers than in current smokers. Current smokers also had a higher risk of developing severe COVID-19 compared with non-smokers. More detailed data, which are representative of more countries, are needed to confirm these preliminary findings.

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## RECORD 6

**The effect of Emotional Freedom Techniques on nurses' stress, anxiety, and burnout levels during the COVID-19 pandemic: A randomized controlled trial**
Dincer B., Inangil D.
*Explore (2021) 17:2 (109-114)*. Date of Publication: 1 Mar 2021

Background and Objective: Infectious disease outbreaks pose psychological challenges to the general population, and especially to healthcare workers. Nurses who work with COVID-19 patients are particularly vulnerable to emotions such as fear and anxiety, due to fatigue, discomfort, and helplessness related to their high intensity work. This study aims to investigate the efficacy of a brief online form of Emotional Freedom Techniques (EFT) in the prevention of stress, anxiety, and burnout in nurses involved in the treatment of COVID patients. Methods: The study is a randomized controlled trial. It complies with the guidelines prescribed by the Consolidated Standards of Reporting Trials (CONSORT) checklist. It was conducted in a COVID-19 department at a university hospital in Turkey. We recruited nurses who care for patients infected with COVID-19 and randomly allocated them into an intervention group (n = 35) and a no-treatment control group (n = 37). The intervention group received one guided online group EFT session. Results: Reductions in stress (p < .001), anxiety (p < .001), and burnout (p < .001) reached high levels of statistical significance for the intervention group. The control group showed no statistically significant changes on these measures (p > .05). Conclusions: A single online group EFT session reduced stress, anxiety, and burnout levels in nurses treating COVID-19.

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## RECORD 7

## RECORD 7

**A meta-meta-analysis: Evaluation of meta-analyses published in the effectiveness of cardiovascular comorbidities on the severity of COVID-19**

Naeini M.B., Sahebi M., Nikbakht F., Jamshidi Z., Ahmadimanesh M., Hashemi M., Ramezani J., Miri H.H., Yazdian-Robati R.

*Obesity Medicine (2021) 22 Article Number: 100323*. Date of Publication: 1 Mar 2021

On January 2020, WHO confirmed the epidemic outbreak of SARS-CoV-2 as a Health Emergency of International Concern. The aim of this meta-meta-analysis is quantifying meta-analytic findings on the association of cardiovascular disease (CVD) comorbidities and COVID-19 severity. Findings suggest that chances of getting severe COVID-19 disease in patients with CVD is greater than those without CVD. Also, prevalence of CVD in patents with COVID-19 is 0.08 (95% CI = 0.07–0.08). The OR as 3.44 indicates that the odds of getting severe COVID-19 is more than 3 times higher in those with CVD. Also, prevalence of hypertension in patient with COVID-19 is 0.27 (95%CI = 0.27–0.28) and the OR as 2.68 indicates that the odds of getting severe COVID-19 in cases with high blood pressure is more than 2.5 times higher than those without hypertension. It is rational to suppose that persons with coronary artery disease are prone to severe viral infection thereby, guideline-directed diagnosis and medical therapy is vital in CVD patients.

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## RECORD 8

**Case study of a critically ill person with COVID-19 on ECMO successfully treated with leronlimab**

Elneil S., Lalezari J.P., Pourhassan N.Z.

*Journal of Translational Autoimmunity (2021) 4 Article Number: 100097*. Date of Publication: 1 Jan 2021

The number of confirmed cases of infection with SARS-CoV-2, the virus causing Coronavirus disease 2019 (COVID-19), continues to increase and is associated with substantial morbidity and mortality in virtually every country in the world. Although in the long-term mass vaccinations remains the most promising approach to control the pandemic, evidence suggests that new variants of the virus have emerged that may be able to evade the immune responses triggered by current vaccines. Therefore despite the recent approval of a number of SARS-CoV-2 vaccines there remains considerable urgency for effective treatments for COVID-19. Severe-to-critical COVID-19 has been shown to be associated with a dysregulated host immune response to SARS-CoV-2 with elevated levels of C–C chemokine receptor type 5 (CCR5) ligands including chemokine C–C ligands 3, 4, 5, as well as interleukins 6 and 10. Leronlimab, a CCR5-specific humanised IgG4 monoclonal antibody originally developed for the treatment of HIV has been studied for the treatment of COVID-19. In the TEMPEST trial which compared leronlimab to placebo in subjects with mild-to-moderate COVID-19, a post hoc analysis showed that leronlimab led to improvements from baseline in National Early Warning Score 2 (NEWS2) at Day 14 in the sub-set of people with more severe disease. Data has also been released on a further ongoing, randomized, placebo-controlled phase 3 registrational trial of leronlimab in 394 people with severe-to-critical COVID-19. The results show that Day 28 mortality was reduced (P = 0.0319) in the subset of participants receiving leronlimab plus other pre-specified commonly used COVID-19 treatments including dexamethasone administered as part of their standard of care (SOC) compared to participants receiving placebo plus other pre-specified commonly used COVID-19 treatments including dexamethasone as part of their SOC. Several cases have recently been reported demonstrated that treatment with leronlimab restores immune function and achieves clinical improvement in people with critical COVID-19. Here we report on a further case of a critically ill person who was treated with leronlimab. This person had been on extracorporeal membrane oxygenation (ECMO) for an extended period of time before receiving 4 doses of leronlimab. The male subject received his first dose of leronlimab on Day 79 of hospitalization he was weaned off ECMO by Day 84 and discharged from the ECMO intensive care unit on Day 91.

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