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New and updated Cochrane summaries for COVID-19

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How accurate is chest imaging for diagnosing COVID-19?

Which school-based measures designed to contain the COVID-19 pandemic have been evaluated to date, and how were they evaluated?

What evidence is there that care bundles improve outcomes for patients with COVID-19 in the intensive care setting?

Are corticosteroids (anti-inflammatory medicines) given orally or by injection an effective treatment for people with COVID-19?

Which treatments are best for symptoms in COVID-19 patients at the end of life?

Are laboratory-made, COVID-19-specific monoclonal antibodies an effective treatment for COVID-19?

Is colchicine an effective treatment for people with COVID-19?

How accurate is chest imaging for diagnosing COVID-19?

Authors: Islam N, Salameh J-P, Leeflang MMG, Hooft L, McGrath TA, van der Pol CB, Frank RA, Kazi S, Prager R, Hare SS, Dennie C, Spijker R, Deeks JJ, Dinnes J, Jenniskens K, Korevaar DA, Cohen JF, Van den Bruel A, Takwoingi Y, van de Wijgert J, Wang J, McInnes MDF

Why is this question important?

People with suspected COVID-19 need to know quickly whether they are infected, so they can receive appropriate treatment, self-isolate, and inform close contacts.

Currently, formal diagnosis of COVID-19 requires a laboratory test (RT-PCR) of nose and throat samples. RT-PCR requires specialist equipment and takes at least 24 hours to produce a result. It is not completely accurate, and may require a second RT-PCR or a different test to confirm diagnosis.

COVID-19 is a respiratory disease. Clinicians may use chest imaging to diagnose people who have COVID-19 symptoms, while awaiting RT-PCR results or when RT-PCR results are negative, and the person has COVID-19 symptoms.

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What did we want to find out?

We wanted to know whether chest imaging is accurate enough to diagnose COVID-19 in people with suspected infection. This is the first update of this review; in it we included studies in people with suspected COVID-19 only; we excluded studies in people with confirmed COVID-19.

The evidence is up to date to 22 June 2020.

What are chest imaging tests?

X-rays or scans produce an image of the organs and structures in the chest.

- X-rays (radiography) use radiation to produce a 2-D image. Usually done in hospitals, using fixed equipment by a radiographer, they can also be done on portable machines.
- Computed tomography (CT) scans use a computer to merge 2-D X-ray images and convert them to a 3-D image. They require highly specialised equipment and are done in hospital by a specialist radiographer.
- Ultrasound scans use high-frequency sound waves to produce an image. They can be done in hospital or other healthcare settings, such as a doctor's office.

What did we do?

We searched for studies that assessed the accuracy of chest imaging to diagnose COVID-19 in people with suspected COVID-19. Studies could be of any design and take place anywhere.

What did we find?

We found 34 studies with 9339 people. All the studies confirmed SARS-CoV-2 infection using RT-PCR alone or RT-PCR with another test.

Most studies (31 studies; 8014 participants) evaluated chest CT; three evaluated chest X-rays (1243 participants) and one evaluated lung ultrasound (100 participants). Nineteen studies took place in Asia, 10 in Europe, four in North America and one in Australia. Participants were hospital inpatients (24 studies), and outpatients (4 studies); the setting was unclear in six studies.

Where four or more studies evaluated a particular type of chest imaging, we pooled their results and analysed them together.

Chest CT

Pooled results showed that chest CT correctly diagnosed COVID-19 in 89.9% of people who had COVID-19. However, it incorrectly identified COVID-19 in 38% of people who did not have COVID-19.

Chest X-ray

Correct diagnosis of COVID-19 with chest X-rays ranged from 57% to 89%. However, incorrect diagnosis of COVID-19 in people who did not have COVID-19 ranged from 11% to 89%.

Lung ultrasound

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Lung ultrasound correctly diagnosed COVID-19 in 96% of people with COVID-19. However, it incorrectly diagnosed COVID-19 in 38% of people who did not have COVID-19.

How reliable are the results?

The studies differed from each other and used different methods to report their results. About a quarter of the studies were published as preprints, which do not undergo the same rigorous checks as published studies. We cannot draw confident conclusions based on results from studies in this review.

What does this mean?

The evidence suggests that chest CT is better at ruling out COVID-19 infection than distinguishing it from other respiratory problems. So, its usefulness may be limited to excluding COVID-19 infection rather than distinguishing it from other causes of lung infection.

Chest CT accuracy has improved since our first review, perhaps because radiologists now use better definitions of a positive diagnosis. The stage of the pandemic may also have an effect – with later studies building on knowledge and experience gained earlier.

We plan to update this review as more evidence becomes available. Future studies should predefine what a positive test is, and compare different types of imaging tests on similar groups of people.

Which school-based measures designed to contain the COVID-19 pandemic have been evaluated to date, and how were they evaluated?

Authors: Krishnaratne S, Pfadenhauer LM, Coenen M, Geffert K, Jung-Sievers C, Klinger C, Kratzer S, Littlecott H, Movsisyan A, Rabe JE, Rehfuess E, Sell K, Strahwald B, Stratil JM, Voss S, Wabnitz K, Burns J

Why is this question important?

To combat the spread of SARS-CoV-2 and the impact of COVID-19, countries worldwide have taken a variety of public health measures. In many countries, shutting schools was one of the earliest responses. By mid-April 2020, 192 countries had closed schools, affecting more than 90% of the world's student population. This severely disrupted school, family and work life, with likely negative impacts including:

- a worsening of children's and adolescents' health and well-being;
- increases in inequalities between children and adolescents from disadvantaged and more privileged backgrounds;
- possible decreased parental income and job security;
- possible loss of parental economic productivity.

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Given the potential negative consequences of school closures, many countries have since reopened schools. To avoid disease transmission among students, between staff and students, and beyond, a range of school-based measures have been put in place. These include:

- students and staff wearing face masks and regularly washing their hands;
- adapting school activities (for example, not singing in music classes);
- improving ventilation systems; and
- screening suspected cases of infection.

To date, we know little about which school-based measures designed to contain COVID-19 have been evaluated, and how they have been evaluated. It is important to find this out, so that, in time, we can compare the effectiveness of different measures and inform future policy guidelines.

We set out to identify and map the evidence on school-based measures to contain COVID-19. This work is intended to form the basis of a future review about the effectiveness of these measures. This review will inform guidelines issued by the World Health Organization (WHO).

How did we identify and map the evidence?

First, we searched for studies that evaluated any intervention set in schools designed to prevent the spread of COVID-19. We considered all types of studies, and a broad range of outcomes, including:

- infectious disease transmission;
- other harmful or beneficial effects on health;
- wider implications for society, the economy, and the population.

We then grouped studies according to how similar or different they were. This allowed us to gauge:

- which types of study have been used to evaluate measures to date;
- where studies have been conducted;
- which types of intervention have been evaluated; and
- which outcomes have been studied.

What did we find?

We found 42 studies.

Type of study

Thirty-one studies used mathematical modelling designs, to predict the effects of measures on populations. Two studies used experimental designs, in which researchers divide people or settings into groups to compare the effects of different measures. Nine studies used observational designs, in which researchers simply observed the effect of the intervention.

Study setting

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Studies were conducted in Europe (20 studies), North and South America (13 studies), the West Pacific (6 studies), and the Eastern Mediterranean (1 study). Most studies evaluated measures in more than one school setting (for example, primary education and secondary education). Three studies focused on secondary schools.

Type of intervention

Studies evaluated three broad types of measure:

1. Organizational measures to reduce transmission of SARS-CoV-2 (36 studies): these included:
- measures designed to limit risks of disease transmission between people who come into contact with each other (such as face-masks and physical distancing policies); and
- measures to reduce opportunities for contact (for example, staggered arrival, break and departure times).
2. Structural or environmental measures to reduce transmission of SARS-CoV-2 (11 studies): for example, dividing up school playgrounds or improving air circulation.
3. Surveillance and response measures to detect SARS-CoV-2 infections (19 studies): these included:
- testing, tracing, and symptom screening; and
- isolation of confirmed cases or quarantine of suspected cases.

Outcomes studied

Studies assessed the effects of measures on:
- SARS-CoV-2 transmission (29 studies), including the number of new cases or the average number of people to whom one infected person will pass the virus (reproduction number R);
- healthcare use (8 studies), for example, the number of hospitalizations;
- other health outcomes (3 studies), for example, the risk of developing hand eczema (a skin condition); and
- societal, economic, and other population-level outcomes (5 studies), including cost.

What are the implications of our findings?

A wide range of school-based measures designed to contain COVID-19 have been evaluated to date. To evaluate these, researchers have used different methods and investigated different outcomes. This review is an important first step in gauging what evidence is available, and will inform future rapid reviews on this topic.

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What evidence is there that care bundles improve outcomes for patients with COVID-19 in the intensive care setting?

Authors: Smith V, Devane D, Nichol A, Roche D

What are care bundles?

Care bundles are a set of care practices that are carried out together (as a bundle) when delivering care to patients with the same condition or in the same healthcare setting. There are usually three to five practices in a bundle. Practices could include any aspect of patient care. For example, a bundle might include guidance on inserting breathing tubes, ventilator settings and care of ventilated patients. All the practices are 'evidence-based', that is, they are based on evidence that shows they are useful.

Why might care bundles help?

Some people with COVID-19 can become seriously ill and need intensive care. They will require respiratory (breathing) support and may need to be placed on a ventilator. Recent information suggests that around 26% of people with COVID-19 around the world have been admitted to an intensive care unit (ICU), and of these people, almost one-third have died.

For people with COVID-19 and related conditions (such as viral pneumonia, which also causes serious breathing difficulties), using care bundles will mean that practitioners carry out each care practice in the bundle, each time. Implementing the practices together, rather than individually, should result in better outcomes for patients. Use of care bundles should also reduce variation in how care is delivered and can improve the teamwork needed to provide high-quality health care, which also results in better patient outcomes.

Purpose of the review

The World Health Organization (WHO) commissioned this 'scoping' review to identify how much and what type of evidence is available on the use of care bundles for patients in the ICU setting suffering from COVID-19, acute respiratory distress syndrome (ARDS) or viral pneumonia. We wanted to identify and describe the studies that have been done and what they assessed, but not to appraise their quality or analyse their findings as we would usually do in a standard review. The WHO wanted to use this review to help develop their guidelines, so we prepared it quickly, over a three-week period from 26 October to 18 November 2020.

How did we identify and map the evidence?

We searched for all types of studies that reported on patients who were seriously ill with COVID-19, ARDS or viral pneumonia in the ICU setting, where a care bundle was used. Study participants could be any age. The care bundles could include any practices, but there had to be at least three in a bundle, they had to be evidence-based, and delivered together in the same way each time.

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We grouped the studies according to their participants' health condition: confirmed or suspected COVID-19; ARDS; viral pneumonia; severe respiratory failure; and patients with a variety of these conditions.

What did we find?

We included 21 studies and identified three ongoing studies. The studies were conducted in eight countries, most commonly China and the USA, and were published between 1999 and 2020. Over 2000 participants in total were involved in the studies. Seven studies included patients with COVID-19, seven with ARDS, five with viral pneumonia, one with severe respiratory failure and one with a mixture of conditions.

The descriptions of the care bundles were varied, but most involved care practices related to breathing support or ventilator settings, or the positioning of a patient (e.g. face down), for ARDS and COVID-19. COVID-19-specific studies also focused on infection control and use of personal protective equipment (PPE). Some care bundles were specific to parts of the body such as eye or skin care.

Some of the 'evidence gaps' we identified were a lack of care bundles focused on preparing patients to leave the ICU, preventing infections caused by giving medicines intravenously (by drip), and the long-term effects of COVID-19. None of the studies looked at healthcare workers' experience of adapting care bundles.

Authors' conclusions

Information specific to patients with COVID-19 that compares patients receiving care bundles and not receiving care bundles is limited, and more research is needed. We also need information on how care bundles can best be implemented in practice, and the difficulties that might be associated with this. A separate review that assesses the quality of the evidence that we found in this review, and that combines and analyses the data, is required

Are corticosteroids (anti-inflammatory medicines) given orally or by injection an effective treatment for people with COVID-19?

Authors: Wagner C, Griesel M, Mikolajewska A, Mueller A, Nothacker M, Kley K, Metzendorf M-I, Fischer A-L, Kopp M, Stegemann M, Skoetz N, Fichtner F

Key messages

• Corticosteroids (anti-inflammatory medicines) given orally or by injection (systemic) are probably effective treatments for people hospitalised with COVID-19. We don’t know whether they cause unwanted effects.

• We don’t know which systemic corticosteroid is the most effective. We found no evidence about people without symptoms or with mild COVID-19 who were not hospitalised.

• We found 42 ongoing studies and 16 completed studies that have not published their results. We will update this review when we find new evidence.

What are corticosteroids?

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Corticosteroids are anti-inflammatory medicines that reduce redness and swelling. They also reduce the activity of the immune system, which defends the body against disease and infection. Corticosteroids are used to treat a variety of conditions, such as asthma, eczema, joint strains and rheumatoid arthritis.

Systemic corticosteroids can be swallowed or given by injection to treat the whole body. High doses of corticosteroids taken over a long time may cause unwanted effects, such as increased appetite, difficulty sleeping and mood changes.

Why are corticosteroids possible treatments for COVID-19?

COVID-19 affects the lungs and airways. As the immune system fights the virus, the lungs and airways become inflamed, causing breathing difficulties. Corticosteroids reduce inflammation, so may reduce the need for breathing support with a ventilator (a machine that breathes for a patient). Some patients' immune systems overreact to the virus causing further inflammation and tissue damage; corticosteroids may help to control this response.

What did we want to find out?

We wanted to know whether systemic corticosteroids are an effective treatment for people with COVID-19 and whether they cause unwanted effects.

We were interested in:

- deaths from any cause up to 14 days after treatment, or longer if reported;
- whether people got better or worse after treatment, based on their need for breathing support;
- quality of life;
- unwanted effects and infections caught in hospital.

What did we do?

We searched for studies that investigated systemic corticosteroids for people with mild, moderate or severe COVID-19. People could be any age, sex or ethnicity.

Studies could compare:

- corticosteroids plus usual care versus usual care with or without placebo (sham medicine);
- one corticosteroid versus another;
- corticosteroids versus a different medicine;
- different doses of a corticosteroid; or
- early versus late treatment.

We compared and summarised the results of the studies and rated our confidence in the evidence, based on factors such as study methods and sizes.

What did we find?

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We found 11 studies with 8075 people. About 3000 people received corticosteroids, mostly dexamethasone (2322 people). Most studies took place in high-income countries.

We also found 42 ongoing studies, and 16 completed studies that have not yet published their results.

Main results

Ten studies compared corticosteroids plus usual care versus usual care with or without placebo. Only one study compared two corticosteroids. The studies included only hospitalised people with confirmed or suspected COVID-19. No studies looked at non-hospitalised people, different doses or timing, or provided information about quality of life.

Corticosteroids plus usual care compared to usual care with or without placebo (10 studies)

• Corticosteroids probably reduce the number of deaths from any cause slightly, up to 60 days after treatment (9 studies, 7930 people).

• One study (299 people) reported that people on a ventilator at the start of the study were ventilation-free for more days with corticosteroids than with usual care, so corticosteroids may improve people's symptoms.

• Four studies (427 people) reported whether people not on a ventilator at the start of treatment later needed to be put on a ventilator, but we could not pool the studies' results, so we are unsure if people's symptoms get worse with corticosteroids or usual care.

• We don't know if corticosteroids increase or reduce serious unwanted effects (2 studies, 678 people), any unwanted effects (5 studies, 660 people), or infections caught in hospital (5 studies, 660 people).

Methylprednisolone versus dexamethasone (1 study, 86 people)

• We don't know whether the corticosteroid methylprednisolone reduces the number of deaths from any cause compared to dexamethasone in the 28 days after treatment.

• We don't know if methylprednisolone worsens people's symptoms compared to dexamethasone, based on whether they needed ventilation in the 28 days after treatment.

• The study did not provide information about anything else we were interested in.

What are the limitations of the evidence?

We are moderately confident in the evidence about corticosteroids' effect on deaths from any cause. However, our confidence in the other evidence is low to very low, because studies did not use the most robust methods, and the way results were recorded and reported differed across studies. We did not find any evidence on quality of life and there was no evidence from low-income countries or on people with mild COVID-19 or no symptoms, who were not hospitalised.

How up to date is this evidence?

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Our evidence is up to date to 16 April 2021.

Which treatments are best for symptoms in COVID-19 patients at the end of life?

Authors: Andreas M, Piechotta V, Skoetz N, Grummich K, Becker M, Joos L, Becker G, Meissner W, Boehlke C

The burden of symptoms at the end of life of COVID-19 patients and helpful treatments

COVID-19 patients may show symptoms such as breathlessness or delirium at the end of life. The goal of palliative medicine is to relieve such symptoms with specific treatments. Treatments can be drugs, for example opioids, or non-drugs, such as breathing techniques or relaxation.

What was the aim of our review?

To explore how well different interventions (drugs and non-drugs) work for the treatment of palliative symptoms in COVID-19 patients at the end of life. We included patients of all ages and with all comorbidities (additional medical conditions).

What type of studies did we search for?

We searched selected medical databases and trial registries until 23 March 2021. We included studies looking at how well different palliative treatments work to relieve COVID-19-associated symptoms at the end of life. We wanted to compare studies investigating different medicines or therapies, but we only found studies without a comparison group. Only one study reported the specific drugs used for individual symptoms.

Key results

We found four studies that were published in five papers. Individual papers included between 61 and 2105 participants, and two papers partially reported on the same participants. All of the included studies investigated different drug treatments for palliative symptom management in people with COVID-19.

Drugs for symptom control at the end of life

All of the included studies reported on the effectiveness of palliative care for symptom relief. In all studies, clinicians or nursing staff rated symptom relief rather than the patients themselves. Since the quality of the evidence was very low, we do not know the true effect of drug treatments on symptom relief and have very low confidence in the results of the studies. We did not find any data on quality of life; symptom burden; satisfaction of patients, caregivers, and relatives; or safety of the drug treatments.

Non-drug therapies for symptom control at the end of life

We did not find any data on the benefits and harms of non-drug therapies for symptom control of COVID-19 patients at the end of life.

Conclusions

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Based on our findings, we could not draw any conclusions on palliative symptom control of people with COVID-19. Future studies need to be designed better so that we can determine which treatments work for symptom control in people with COVID-19.

Are laboratory-made, COVID-19-specific monoclonal antibodies an effective treatment for COVID-19?

Authors: Kreuzberger N, Hirsch C, Chai KL, Tomlinson E, Khosravi Z, Popp M, Neidhardt M, Piechotta V, Salomon S, Valk SJ, Monsef I, Schmaderer C, Wood EM, So-Osman C, Roberts DJ, McQuilten Z, Estcourt LJ, Skoetz N

Key messages

- We do not know whether antibodies (the body's natural defence against disease) made in a laboratory and all the same as one another (monoclonal) and designed to target COVID-19, are an effective treatment for COVID-19 because we assessed only six studies exploring different treatments in different types of patients.
- We identified 36 ongoing studies that will provide more evidence when completed.
- We will update this review regularly as more evidence becomes available.

What are 'monoclonal' antibodies?

Antibodies are made by the body as a defence against disease. However, they can also be produced in a laboratory from cells taken from people who have recovered from a disease.

Antibodies that are designed to target only one specific protein – in this case, a protein on the virus that causes COVID-19 – are 'monoclonal'. They attach to the COVID-19 virus and stop it from entering and replicating in human cells, which helps to fight the infection. Monoclonal antibodies have been used successfully to treat other viruses. They are thought to cause fewer unwanted effects than convalescent plasma, which contains a variety of different antibodies.

What did we want to find out?

We wanted to know if COVID-19 specific monoclonal antibodies are an effective treatment for COVID-19. We looked at whether they:

- reduced the number of deaths from any cause;
- improved symptoms or made them worse;
- increased admissions to hospital; and
- caused any serious or other unwanted effects.

What did we do?

We searched for studies that investigated one or more monoclonal antibodies to treat people with confirmed COVID-19 compared with placebo (sham treatment), another treatment or no treatment. Studies could take

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place anywhere globally and include participants of any age, gender or ethnicity, with mild, moderate or severe COVID-19.

We compared and summarised the results of the studies and rated our confidence in the evidence, based on factors such as study methods and size.

What did we find?

We found six active studies including a total of 17,495 people. Four studies investigated non-hospitalised people with no symptoms or mild COVID-19. Two studies investigated hospitalised people with moderate to severe COVID-19. Studies took place across the world. Three studies were funded by pharmaceutical companies. The monoclonal antibodies they studied were bamlanivimab, etesevimab, casirivimab and imdevimab, sotrovimab, regdanvimab. We did not identify data for mortality at 60 days and quality of life.

Non-hospitalised people, with no symptoms or mild COVID-19 (four studies)

One study investigated different doses of bamlanivimab (465 people), compared to placebo.

We don't know whether bamlanivimab:

- increases or reduces the number of deaths because no participants died within 30 days of treatment;
- causes more or fewer serious unwanted effects because there were few events.

Bamlanivimab may reduce the number of admissions to hospital within 30 days of treatment compared to placebo.

- May cause slightly fewer unwanted effects than placebo.
- We did not find data for improved symptoms or worsened symptoms.

One study investigated a combination of bamlanivimab and etesevimab (1035 people), compared to placebo.

- Bamlanivimab and etesevimab may reduce the number of deaths and admissions to hospital.
- May cause slightly more unwanted effects.
- May cause more serious unwanted effects.

For treatment with bamlanivimab alone or in combination with etesevimab we did not find data for improved symptoms or worsened symptoms.

One study (phase 1/2 with 799 people) investigated different doses of casirivimab combined with imdevimab, compared to placebo.

- Casirivimab combined with imdevimab may reduce the number of hospital admissions or death.
- We don't know whether casirivimab and imdevimab causes more unwanted (grades 3 and 4) and serious unwanted effects than placebo because there were too few deaths to allow us to make a judgment.
- We did not find data for the number of people who died at day 30 and development of severe symptoms.

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- We did not include results from phase 3 (5607 people) of this study, because of high risk of bias, as it was not clear which participants were included in the analysis.

One study (583 people) investigated sotrovimab, compared to placebo.

We don't know whether sotrovimab:

- increases or reduces the number of deaths and people requiring invasive mechanical ventilation or dying, because there were too few deaths to allow us to make a judgment.
- Sotrovimab may reduce the number of people requiring oxygen, unwanted (grades 3 to 4) and serious unwanted effects;
- may have little or no effect on unwanted effects (all grades).

Another study (327 people) investigated different doses of regdanvimab (40 mg/kg and 80 mg/kg), compared to placebo.

- Regdanvimab at either dose may reduce the number of admissions to hospital or death.
- May increase unwanted events (grades 3 to 4).
- Regdanvimab at a dose of 80 mg/kg may reduce unwanted effects (all grades) and 40 mg/kg may have little to no effect.
- We don't know whether regdanvimab increases or decreases the number of deaths, requirement for invasive mechanical ventilation, and serious unwanted effects, because there were too few events to allow us to make a judgment.

Hospitalised people with moderate to severe COVID-19 (2 studies)

One study (314 people) investigated bamlanivimab compared to placebo.

- We don’t know whether bamlanivimab increases or decreases the number of deaths due to any cause up to 30 or 90 days after treatment because there were too few deaths to allow us to make a judgment (6 deaths with bamlanivimab and 4 deaths with placebo in 314 people).
- Bamlanivimab may slightly increase the development of severe COVID-19 symptoms five days after treatment and the number of people with unwanted effects.
- Bamlanivimab may have little to no effect on time until discharge from hospital.
- We don’t know whether bamlanivimab causes serious unwanted effects by day 30 because the study was small and reported few serious unwanted effects.

Another study (9785 people) investigated casirivimab combined with imdevimab, compared to standard of care.

- Casirivimab combined with imdevimab has probably little to no effect on the number of deaths, requirement for invasive mechanical ventilation or death, and hospital discharge alive.

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- We did not find data for unwanted and serious unwanted effects.

What are the limitations of the evidence?

Our confidence in the evidence is low because we found only six studies, and they did not report everything we were interested in, such as the number of deaths within 60 days and quality of life. We found 36 ongoing studies. When they are published, we will add their results to our review. These results are likely to change our conclusions and will also help us understand how new variants affect how well monoclonal antibodies work.

How up to date is this evidence?

The evidence is up to date to 17 June 2021.

Is colchicine an effective treatment for people with COVID-19?

Authors: Mikolajewska A, Fischer A-L, Piechotta V, Mueller A, Metzendorf M-I, Becker M, Dorando E, Pacheco RL, Martimbianco ALC, Riera R, Skoetz N, Stegemann M

Key messages

- In hospitalised people with moderate to severe COVID-19, colchicine probably has little to no benefit; we are uncertain about its side effects.
- In non-hospitalised people with no symptoms or mild COVID-19, we are uncertain whether colchicine prevents deaths or side effects, however it probably reduces the need for hospitalisation or death and serious side effects slightly.
- Future studies should assess quality of life in people with no symptoms or mild COVID-19 and non-serious side effects and compare colchicine to other medicines for COVID-19, such as corticosteroids.

What is colchicine?

Colchicine is a medicine used to reduce swelling and inflammation and may consequently relieve pain. It is often used to treat gout, a condition where people's joints become swollen and painful. On the other hand, colchicine can be harmful to people with some health conditions, such as kidney or liver problems, or if you take too much of it.

How might colchicine treat COVID-19?

Since colchicine is an anti-inflammatory drug; researchers are interested in whether it might help with reducing inflammation caused by COVID-19.

What did we want to find out?

We wanted to know whether colchicine is an effective treatment for people with COVID-19 compared to placebo (a treatment that looks and tastes the same as colchicine but with no active ingredient) or usual care

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alone. We looked at people with moderate or severe disease being treated in hospital or with mild disease being treated in the community. We were particularly interested in the effects of colchicine on:

- number of deaths;
- whether people's condition worsened or improved;
- quality of life;
- serious and non-serious side effects

What did we do?

We searched for studies that compared colchicine together with usual care to usual care (plus/minus placebo). Studies could take place anywhere in the world and include people with mild or no symptoms, moderate or severe COVID-19, of any age, sex, or ethnicity.

We compared and summarised the results of the studies and rated our certainty in the evidence, based on factors such as study methods and sizes.

What did we find?

We identified four eligible randomised trials. Three included 11,525 hospitalised people and one included 4488 non-hospitalised people. For hospitalised people, the average age was 64 years, and for non-hospitalised people, the average age was 55 years. Two studies compared colchicine and usual care with usual care alone and 2 studies compared colchicine with usual care and placebo. None of the studies reported quality of life. We also found 17 ongoing studies and 11 completed but unpublished studies.

Main results

Hospitalised people with moderate to severe COVID-19 (3 studies, 11,525 people)

- Colchicine probably does not reduce deaths in the 28 days after treatment (2 studies, 11,445 people).
- Colchicine probably does not prevent the worsening of patients' condition (2 studies, 10,916 people) and probably does not improve it (1 study, 11,340 people).
- We are very uncertain about the effect of colchicine on side effects and serious side effects (2 studies, 177 people).

Non-hospitalised people with no symptoms or mild COVID-19 (1 study, 4488 people)

- We are uncertain whether colchicine prevents deaths up to 28 days after treatment.
- Colchicine probably slightly reduces the risk of hospitalisation or death.
- We are uncertain about the effect of colchicine on side effects, but it probably slightly reduces serious side effects.

What are the limitations of the evidence?

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Our certainty in the evidence is limited. Two studies did not use a placebo, so everybody knew who was treated with colchicine, which could influence the results. There were too few events for non-hospitalised people, such as admissions to hospital and deaths, to be certain about the evidence. Studies used different ways to assess and report unwanted effects, so we could not combine studies into a single result to make a judgement.

How up to date is this evidence?

The evidence is up to date to 21 May 2021.

Editorial note: this is a living systematic review. We search for new evidence every week and update the review when we identify relevant new evidence. Refer to the Cochrane Database of Systematic Reviews for the current status of this review.

If you have any questions or comments with regard to the above document please feel free to contact me.

Kind regards

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