

COVID-19: NATURAL ANTIVIRALS – AN EVIDENCE-BASED INFORMATION LEAFLET

Many natural remedies have shown proven antiviral activity. Other than Vitamin C, Vitamin D and Zinc (see separate leaflets), some of the better-known remedies with evidenced benefit for COVID-19 are included below. Please also refer to our Natural Immune Support leaflet.

Curcumin is the major active compound in turmeric and has long been known as an anti-inflammatory. Hospitalised COVID-19 patients given 80 mg/day curcuminoids for 2 weeks showed significantly improved immune cell number, recovery time, reduced symptoms and less oxygen usage¹; similar results were seen in non-hospitalised patients². Hospitalised patients given 160 mg/day showed a significant reduction in inflammatory markers and immune regulators^{3,4,5}. Symptom improvements were also seen in a trial of 1,050 mg/day curcumin with 5 mg/day piperine to aid absorption, with shorter duration of hospitalisation and fewer thromboembolic events and deaths⁶. Dosage: up to 2,000 mg/day, reducing when recovered.

Quercetin is an antiviral, anti-inflammatory and antioxidant and can prevent blood clotting^{7,8}. It also acts as a zinc ionophore, transporting zinc across the cell membrane to improve utilisation⁹. Outpatients given 1,000 mg/day showed reduction in frequency and length of hospitalisation, requirement for oxygen therapy, progression to intensive care and death¹⁰. Other studies showed that quercetin increased viral clearance and reduced symptom severity¹¹. FLCCC prevention protocol recommends 250 mg/day, with 500 mg/day for outpatients¹².

Lactoferrin is an antimicrobial constituent of breast milk, which plays an important role in innate immune system function^{13,14,15,16} and can activate the immune system of the elderly, known to have reduced immune function^{17,18,19,20,21}. It has particular antiviral activity, with a meta-analysis showing that it can reduce the risk of respiratory tract infections²². It can also inactivate DNA and RNA viruses, including SARS^{23,24,25,26}. In asymptomatic COVID patients lactoferrin reduced the time to testing negative²⁷. Dosage: 250-300 mg/day.

Black Seed oil from *Nigella sativa* seeds can act against a number of viruses^{28,29,30,31}. It had potent antiviral activity in COVID-infected animals³² and it is thought to inhibit SARS-CoV-2 replication and attachment to host cell receptors³³. COVID patients given 1000mg/day or 40mg/kg/day *Nigella sativa* had faster symptom reduction and hospital discharge^{34,35}, while when combined with honey there was around a 50% faster symptom reduction and hospital discharge, increased viral clearance and 4-fold lower mortality rate³⁶. Similarly, A COVID prevention study found that 40 mg/kg/day induced a lower infection rate³⁷. Dosage: 1000mg/day or 40mg/kg/day

Iodine (also povidone iodine) has long been known as a universal antiseptic and antiviral^{38,39,40,41,42} and could inactivate SARS-CoV-2 on a variety of materials and surfaces^{43,44}. Gargle, nasal or throat sprays containing iodine significantly reduced the risk of developing COVID-19 and reduced viral load^{45,46,47,48}; it could also reduce hospitalisation and mortality^{49,50}. Dosage: depends on type used and thyroid status. Please refer to a health professional.

Probiotics given to hospitalised and non-hospitalised COVID-19 patients resulted in significant symptom improvement^{51,52,53}, reduced oxygen requirement, faster viral clearance and hospital discharge, reduced viral shedding and secondary infections and fewer deaths^{54,55,56,57}.

Resveratrol has been found to reduce inflammation⁵⁸ and inhibit replication of the flu virus⁵⁹ as well SARS and MERS, both coronaviruses^{60,61,62,63}. A poor quality study found that outpatients treated with 4,000 mg/day resveratrol for at least 7 days, and up to 15 days if COVID symptoms persisted, had a lower incidence of hospitalisation, COVID-related emergency room visits and pneumonia⁶⁴. Recommended dosage generally up to 500mg/day; do not continue with 4,000mg/day once recovered.

N-acetylcysteine is protective against sepsis, can inhibit a number of respiratory viruses and lowers inflammatory markers⁶⁵. COVID patients given 1200 mg/day showed lower rates of progression to severe respiratory failure, need for mechanical ventilation and death⁶⁶.

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Curcumin

- ¹ <https://onlinelibrary.wiley.com/doi/10.1002/ptr.7004>
- ² <https://onlinelibrary.wiley.com/doi/full/10.1002/fsn3.2226>
- ³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7574843/>
- ⁴ <https://www.sciencedirect.com/science/article/abs/pii/S0024320521004227>
- ⁵ <https://onlinelibrary.wiley.com/doi/full/10.1002/ptr.7294>
- ⁶ <https://www.frontiersin.org/articles/10.3389/fphar.2021.669362/full>

Quercetin

- ⁷ <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC8197660/>
- ⁸ <https://www.frontiersin.org/articles/10.3389/fimmu.2020.01451/full>
- ⁹ <https://pubs.acs.org/doi/10.1021/jf5014633#>
- ¹⁰ <https://www.dovepress.com/possible-therapeutic-effects-of-adjuvant-quercetin-supplementation-aga-peer-reviewed-fulltext-article-IJGM#>
- ¹¹ <https://www.dovepress.com/potential-clinical-benefits-of-quercetin-in-the-early-stage-of-covid-1-peer-reviewed-fulltext-article-IJGM>
- ¹² <https://covid19criticalcare.com/covid-19-protocols/i-mask-plus-protocol/>

Lactoferrin

- ¹³ <https://pubmed.ncbi.nlm.nih.gov/34575388/>
- ¹⁴ <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC4814036/>
- ¹⁵ <https://www.sciencedirect.com/science/article/pii/S1631069114001711>
- ¹⁶ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7390755/?fbclid=IwAR0DLKScs8gkjin0i8YDem5kKRzSSjsXVzFXI9tKxhdtrS6zL1asy9lBcjg>
- ¹⁷ <https://www.sciencedirect.com/science/article/abs/pii/S0958694615000424>
- ¹⁸ <https://pubmed.ncbi.nlm.nih.gov/34575388/>
- ¹⁹ <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC4814036/>
- ²⁰ <https://www.sciencedirect.com/science/article/pii/S1631069114001711>
- ²¹ <https://doi.org/10.1139/o11-056>
- ²² <https://pubmed.ncbi.nlm.nih.gov/34620326/>
- ²³ <https://www.sciencedirect.com/science/article/pii/S1341321X14002864>
- ²⁴ <https://pubmed.ncbi.nlm.nih.gov/25182867/>
- ²⁵ <https://doi.org/10.1371/journal.pone.0023710>
- ²⁶ <https://doi.org/10.3389/fimmu.2020.01221>
- ²⁷ <https://pubmed.ncbi.nlm.nih.gov/34575388/>

Black seed oil

- ²⁸ https://pharmacologyonline.silae.it/files/newsletter/2019/vol2/PhOL_2019_2_NL007_Moll_a.pdf
- ²⁹ <https://www.sciencedirect.com/science/article/abs/pii/S0192056100000369?via%3Dihub>
- ³⁰ <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.906.8400&rep=rep1&type=pdf>
- ³¹ <https://www.wjnet.com/1007-9327/full/v19/i16/2529.htm>
- ³² <https://www.pnas.org/content/117/43/26955>
- ³³ <https://www.sciencedirect.com/science/article/pii/S0011393X2030028X>
- ³⁴ <https://www.sciencedirect.com/science/article/pii/S0965229921001102>
- ³⁵ https://www.researchgate.net/publication/352134969_Clinical_Trial_of_Black_Seeds_Against_COVID_-19_in_Kirkuk_City_Iraq
- ³⁶ <https://www.medrxiv.org/content/10.1101/2020.10.30.20217364v4.full.pdf>
- ³⁷ <https://pjmhsonline.com/2021/jan/384.pdf>

Iodine

- ³⁸ <https://www.semanticscholar.org/paper/Iodine%3A-the-Forgotten-Weapon-Against-Influenza-Derry/a6e0d74a0dafa3a7ee2a020d76a98cc564d45a30>
- ³⁹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1532103/>
- ⁴⁰ <https://pubmed.ncbi.nlm.nih.gov/9403252/>
- ⁴¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3930944/>
- ⁴² <https://www.thelancet.com/journals/lancet/article/PIIS0140673604168062/fulltext>
- ⁴³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7970236/>
- ⁴⁴ <https://pubmed.ncbi.nlm.nih.gov/33206913/>
- ⁴⁵ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8056783/>
- ⁴⁶ <https://pubmed.ncbi.nlm.nih.gov/33538761/>
- ⁴⁷ <https://www.medrxiv.org/content/10.1101/2020.09.07.20180448v1>
- ⁴⁸ <https://link.springer.com/article/10.1007/s12070-021-02616-7>
- ⁴⁹ <https://www.bioresearchcommunications.com/index.php/brc/article/view/176/159>
- ⁵⁰ <https://www.medrxiv.org/content/10.1101/2021.08.16.21262044v1>

Probiotics

- ⁵¹ <https://www.medrxiv.org/content/10.1101/2021.05.20.21256954v1>
- ⁵² <https://pubmed.ncbi.nlm.nih.gov/34394726/>
- ⁵³ <https://www.frontiersin.org/articles/10.3389/fmed.2020.00389/full>
- ⁵⁴ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7934664/>

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⁵⁵ <https://internal-journal.frontiersin.org/articles/10.3389/fnut.2020.613928/full>

⁵⁶ <https://journals.sagepub.com/doi/full/10.1177/17562848211035670>

⁵⁷ <https://www.mdpi.com/2072-6643/13/8/2898>

Resveratrol

⁵⁸ <https://pubmed.ncbi.nlm.nih.gov/31077997/>

⁵⁹ <https://pubmed.ncbi.nlm.nih.gov/15838800>

⁶⁰ <https://pubmed.ncbi.nlm.nih.gov/33222316>

⁶¹ <https://abstracts.societyforscience.org/Home/PrintPdf/11601>

⁶² <https://doi.org/10.1101/2020.09.24.285940>

⁶³ <https://pubmed.ncbi.nlm.nih.gov/28193191/>

⁶⁴ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8452104/>

N-acetylcysteine

⁶⁵ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7910139/>

⁶⁶ <https://www.tandfonline.com/doi/abs/10.1080/23744235.2021.1945675>

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