

# Research on the effectiveness of medicinal plants against COVID-19

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## ABSTRACT

In the past, a variety of plants have been utilized to treat various illnesses, notably viral ones (bronchitis, influenza virus and dengue virus). This review mapped the 10 most researched plants throughout the pandemic and assessed their therapeutic potential against Covid-19. In this study, the standardized protocol for systematic reviews (PRISMA-P) was created. All research on medicinal plants and their ability to fend off Covid-19 infection

was taken into account. Information was sought using the search terms "traditional medicine and Covid-19" and "medicinal plants and Covid-19" which appeared in the title, abstract, and keywords. There were just papers (original and reviews) published between October 2020 and 2020. The exclusions included brief messages, letters to the editor, novels, and book chapters.

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## INTRODUCTION

In Wuhan (China), where instances of pneumonia associated with this novel strain were discovered, the new SARS-Cov-2 (Severe Acute Respiratory Syndrome) first surfaced in December 2019. After that, instances spread quickly across most of China. Early in January 2020 in Wuhan, laboratory tests confirmed the first 41 patients who had contracted the new strain. Thirty-one of the patients were men and eleven were women, and they all had a variety of comorbid conditions, such as diabetes, hypertension, and cardiovascular issues. The World Health Organization (WHO) declared the illness a pandemic in the middle of March 2020 as a result of the number of cases spreading to various places throughout the world. By the end of May 2020, there were more than 5 million more cases, and 350,000 confirmed fatalities. Ivermectin, hydroxychloroquine, and azithromycin are a few of the key medicines that are frequently employed. The WHO challenged and did not approve hydroxychloroquine techniques since they did not have the expected effect. The use of botanicals to mitigate the effects of nCoV2019 has been another international therapeutic technique. The International Union for Conservation of Nature (IUCN) estimates that there are

between 50,000 and 80,000 plant species with medical uses worldwide, and that 80% of the world's population relies solely on the usage of medicinal plants to manage their health in their respective countries. However, the traditional medical knowledge held by the general populace (such as *Indigenous and Afro-descendants*) has significantly decreased globally, primarily as a result of the negative component implying environmental degradation, misunderstanding, and foreign invasion of regions. This is partly because there aren't many policies that recognize and safeguard cultural heritage. However, there is a significant gap that needs to be filled based on the data, and that is the lack of recognition of local communities as the owners of significant scientific knowledge. In this way, research into potential novel treatments for potentially fatal respiratory disorders has grown as a result of the medicinal potential displayed by some plant species. *Allium sativum L.*, *Nigella sativa L.*, *Zingiber officinale Roscoe*, *Glycyrrhiza glabra L.*, and *Zingiber officinale* are among the herbs that have a great deal of promise for fighting serious diseases like Covid-19. According to studies, plants can be used to treat serious illnesses including HIV, Dengue, influenza, and Covid-19, among others. Some species, including *Rosmarinus officinalis (L.)*

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*Scheid*, *Salvia leucantha Cav.*, and *A. sativum*, have each been used to treat various types of viral infections, diabetes, and arthritis issues. Lepicatechin and sesquiterpenes, two therapeutically significant bioactive substances, have been found in *Calotropis procera* (Aiton) W.T. Aiton and *Z. officinale*, respectively. Lepicatechin and sesquiterpenes, two therapeutically significant bioactive substances, have been found in *Calotropis procera* (Aiton) W.T. Aiton and *Z. officinale*, respectively. Despite the plausible potential found in traditional medicine, many nations do not take this option into account while dealing with public health issues on their soil. In particular, governments in Europe and North America have shown a lack of empathy by remaining silent on the idea of bolstering traditional medicine in the face of the Covid-19-related health catastrophe. The traditional evidentiary foundation has, for instance, been severely undermined and undervalued throughout Europe. Some plants that were once regarded as potent and effective natural remedies, including *Lythrum salicaria L.*, have fallen out of favor. Despite the health emergency, the governments of North America and Europe decided not to develop treatments based on medicinal plants due to the lack of credible potential found in conventional pharmaceuticals. Health officials in China, India, and South Korea swiftly released instructions to help people discover traditional medicine to lessen the effects of COVID-19 in the interim. The main difference between these two regions (Europe and North America) is probably

due to the disparity in medical care and medication philosophy, history, and culture, as well as the disparity in policies and standards regarding the regulation and legalization of customary practices. Insufficient political will on the part of others has kept traditional medicine from achieving the respect it deserves within international policy agendas. According to the amount of investigations, a study found that *N. sativa*, *Z. officinale*, *G. glabra*, *A. sativum*, *A. indica*, and *W. somnifera* were the species that had garnered the most attention during the epidemic. In contrast to the other plants listed, the number of studies on the first three plants stated were statistically significant. According to the literature, some of these species have a promising future against Covid-19 infection due to the presence of bioactive compounds like thymoquinone, which is present in *N. sativa*, and 27-hydroxyethanolide B, anafenin, 12-deoxy-contramonalide, and withastramonolide, which is present in *W. somnifera*. By looking for and developing novel, specialized antiviral medications, we think traditional medicine could be a valuable ally of modern medicine in managing upcoming respiratory diseases. To prove the efficacy of phytochemicals, additional large-scale clinical trials are still required. It is emphasized that traditional medicines should be primarily patented as drugs where traditional knowledge should be used. To strengthen cultural practices in various regions, the cultural practices, transmission mechanisms, and international agreements should be protected. Protecting these conventional medical procedures will also assist to safeguard biodiversity's uses.