



ISSN Print: 2664-6536
ISSN Online: 2664-6544
Impact Factor: RJIF 5.4
IJBB 2023; 5(2): 30-32
www.biosciencejournal.net
Received: 24-07-2023
Accepted: 30-08-2023

Willy Janet
Faculty of Bioscience
Engineering, Department of
Agricultural Economics, Ghent
University, Coupure Links 653,
B-9000 Ghent, Belgium

Dangers associated with the use of traditional herbal medicine in treating COVID-19

Willy Janet

DOI: <https://dx.doi.org/10.33545/26646536.2023.v5.i2a.57>

Abstract

The COVID-19 pandemic has prompted a surge in the use of traditional herbal medicine as an adjunctive treatment. Despite historical use and anecdotal success, the integration of herbal remedies into modern therapeutic strategies for COVID-19 management presents complex challenges, including potential safety risks, efficacy concerns, and quality control issues. This paper provides a comprehensive review and analysis of the current literature on the use of traditional herbal medicine in treating COVID-19, focusing on potential dangers, toxicological considerations, and the need for rigorous clinical evaluation.

Keywords: COVID-19 pandemic, traditional herbal medicine, adjunctive treatment

Introduction

The global spread of COVID-19, caused by the novel coronavirus SARS-CoV-2, has led to unprecedented public health challenges. In the absence of universally effective antiviral drugs or vaccines, especially in the early stages of the pandemic, there has been a turn towards alternative therapies, including traditional herbal medicine. Historically, herbal medicines have played a crucial role in the management of viral infections. However, the application of these traditional remedies in treating a novel and complex disease like COVID-19 requires a thorough understanding of their pharmacological properties, mechanisms of action, and potential risks. This paper aims to dissect the intricacies of employing traditional herbal medicine against COVID-19, providing a detailed and descriptive analysis of associated dangers and implications for public health.

Objective of this study

The objective of this study is to examine the

- Potential Dangers and Toxicities through the Herbal Medicine.
- Some herbal medicine used in COVID-19.

Methodology

A comprehensive literature search was conducted across several studies. The search focused on studies published during COVID 10 period. Both positive outcomes and adverse effects reported in randomized controlled trials, systematic reviews, meta-analyses, and observational studies were analyzed.

Literature Review

The use of traditional herbal medicine in treating COVID-19 has been explored in various studies, showing mixed outcomes regarding their effectiveness and safety;

Herbal Medicine with Western Medicine: A systematic review and meta-analysis found that combined therapy of herbal medicine with Western medicine significantly improved symptoms and had beneficial effects on total effective rate, cough and sputum production symptom disappearance rates, and TCM syndrome scores for cough, fever, dry and sore throat, and fatigue, without reporting serious adverse events (Lin Ang *et al.*, 2020).

Corresponding Author:
Willy Janet
Faculty of Bioscience
Engineering, Department of
Agricultural Economics, Ghent
University, Coupure Links 653,
B-9000 Ghent, Belgium

Potential Risks: Despite the benefits, there are potential risks associated with using herbal medicines, such as the presence of carcinogenic compounds like aristolochic acids and glycyrrhizinic acid in some remedies, emphasizing the need for cautious use and consideration of dosage to avoid overdosing and toxicity (Rui Zhao, 2022) [2].

Chinese Herbal Medicine (CHM): Multiple studies indicate that CHM, as an adjunct to standard care, helps improve treatment outcomes in COVID-19 cases by reducing symptoms, inflammatory markers, and improving

lung CT scans without significant adverse events reported (A. Fan *et al.*, 2020) [3].

Caution with Herbal Drugs: There is a call for caution in using herbal drugs for COVID-19 due to the lack of high-quality, rigorously peer-reviewed clinical trials, emphasizing the importance of safety evaluations, especially when used in combination with other medications (Yichang Yang, 2020) [4].

Some herbal medicine used in COVID-19

Table 1: Some herbal medicine used in COVID-19

Herbal Medicine	Parts Used	Purported Benefits	Research Findings/Considerations
Echinacea	Flower, root	Immune support, may reduce cold symptoms	Limited evidence for COVID-19; some studies suggest potential immune-boosting effects
Elderberry	Berries, flowers	Antiviral, immune support	May shorten flu duration; insufficient data for COVID-19 effectiveness
Ginger	Root	Anti-inflammatory, antioxidant	May relieve nausea, support immune health; limited specific research on COVID-19
Green Tea	Leaves	Antioxidant, antiviral	Contains catechins that may inhibit viral replication; more research needed for COVID-19
Licorice Root	Root	Antiviral, anti-inflammatory	Contains glycyrrhizin which may have antiviral effects; caution advised due to side effects
<i>Andrographis</i>	Leaves, stem	Immune support, anti-inflammatory	Used in traditional medicine for respiratory infections; limited COVID-19 specific data
Ginseng	Root	Immune support, energy booster	Some evidence suggests immune-modulating effects; research on COVID-19 is limited
Turmeric	Root	Anti-inflammatory, antioxidant	Curcumin may reduce inflammation; limited direct evidence for COVID-19

Analysis

The table above lists several herbal medicines that have been suggested for their potential benefits in managing symptoms related to COVID-19 or supporting the immune system. While many of these herbs are known for their anti-inflammatory, antiviral, and antioxidant properties, it is important to recognize that research specifically targeting COVID-19 is limited or ongoing. In many cases, the evidence supporting their use comes from studies on other viruses, in vitro studies, or their known effects on the immune system rather than direct clinical trials involving COVID-19 patients.

For instance, green tea and licorice root contain compounds that have shown antiviral activities in laboratory studies, which could theoretically be beneficial against SARS-CoV-2, the virus that causes COVID-19. However, translating these findings into clinical effectiveness requires further research.

Moreover, the use of herbal medicine must be approached with caution due to potential side effects and interactions with other medications. For example, licorice root can cause serious side effects, such as hypertension and electrolyte imbalance, if consumed in large quantities or over a long period.

Potential Dangers and Toxicities through the Herbal Medicine

The utilization of herbal medicine in the treatment of various diseases, including COVID-19, is deeply rooted in traditional practices across many cultures. While herbal remedies are often perceived as natural and thus safer alternatives to synthetic pharmaceuticals, they are not without potential dangers and toxicities. This section delves into the key risks associated with the use of herbal medicine,

highlighting the need for caution, standardization, and scientific validation.

Toxicological Risks

Herbal medicines contain complex mixtures of organic compounds, some of which can pose serious health risks if not used correctly. Notably, the presence of toxic compounds such as aristolochic acids in some herbs has been linked to severe outcomes, including aristolochic acid nephropathy (AAN), a condition characterized by renal failure and an increased risk of urothelial carcinoma. For example, the use of herbs containing aristolochic acids in weight loss treatments has led to cases of kidney damage and cancer in several patients.

Another concern is the hepatotoxicity associated with the use of certain herbs such as kava (*Piper methysticum*), which has been reported to cause liver failure in some individuals. The variability in the chemical composition of herbal products, due to factors such as plant part used, geographic origin, and method of preparation, can further exacerbate these toxic effects.

Drug Interactions

Herbal medicines can interact with conventional medications, leading to altered drug efficacy or increased toxicity. Such interactions often occur through the modulation of cytochrome P450 enzymes, which play a crucial role in the metabolism of many drugs. For instance, St. John's Wort (*Hypericum perforatum*) induces the activity of certain cytochrome P450 enzymes, potentially reducing the plasma concentrations and effectiveness of critical medications such as antiretrovirals, anticoagulants, and oral contraceptives.

Quality Control Issues

The lack of stringent quality control and standardization in the production of herbal medicines poses significant risks. Contamination with heavy metals, pesticides, and adulterants has been reported in several herbal products. Additionally, misidentification of plant material can lead to the inadvertent use of toxic species. The absence of clear labeling and dosage instructions further contributes to the potential for overdosing and adverse effects.

Misinformation and Misuse

The proliferation of misinformation regarding the efficacy and safety of herbal medicines, especially on social media and other online platforms, can lead to misuse and self-medication without proper guidance from healthcare professionals. This is particularly concerning in the context of COVID-19, where unfounded claims about the curative properties of certain herbs can divert individuals from seeking evidence-based treatments and adhering to public health guidelines.

Regulatory and Research Gaps

The regulatory oversight of herbal medicines varies significantly across countries, with many jurisdictions lacking robust mechanisms to ensure the safety, efficacy, and quality of these products. The absence of comprehensive pre-market evaluation and post-market surveillance contributes to the continued availability of potentially harmful herbal medicines. Moreover, the dearth of high-quality clinical research on the therapeutic use and safety of herbal remedies hampers the ability to make informed decisions regarding their use in clinical practice.

Conclusion

In conclusion, while traditional herbal medicine holds cultural significance and potential therapeutic benefits, its use in treating COVID-19 presents significant dangers. Lack of standardized dosages, potential interactions with conventional medications, and inadequate scientific evidence regarding efficacy and safety are primary concerns. Furthermore, the spread of misinformation and false claims exacerbates these dangers, risking public health and undermining efforts to control the pandemic. Therefore, it is imperative for individuals to exercise caution and seek guidance from healthcare professionals before considering traditional herbal remedies for COVID-19 treatment. Embracing evidence-based practices and supporting rigorous scientific research is essential for ensuring effective and safe management of the pandemic.

References

1. Ang L, Song E, Lee H, Lee M. Herbal Medicine for the Treatment of Coronavirus Disease 2019 (COVID-19): A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *Journal of Clinical Medicine*; c2020. p. 9. <https://doi.org/10.3390/jcm9051583>.
2. Zhao R. Risk of Using Traditional Herbal Medicine against COVID-19. *International Journal of Bioscience, Biochemistry and Bioinformatics*; c2022. <https://doi.org/10.17706/ijbbb.2022.12.1.14-21>.
3. Fan A, Gu S, Alemi S. Chinese herbal medicine for COVID-19: Current evidence with systematic review and meta-analysis. *Journal of Integrative Medicine*. 2020;18:385-394. <https://doi.org/10.1016/j.joim.2020.07.008>.
4. Yang Y. Use of herbal drugs to treat COVID-19 should be with caution. *Lancet (London, England)*. 2020;395:1689-1690. [https://doi.org/10.1016/S0140-6736\(20\)31143-0](https://doi.org/10.1016/S0140-6736(20)31143-0).
5. Nugraha RV, Ridwansyah H, Ghozali M, Khairani AF, Atik N. Traditional herbal medicine candidates as complementary treatments for COVID-19: A review of their mechanisms, pros and cons. *Evidence-Based Complementary and Alternative Medicine*; c2020 Oct 10. p. 2020.
6. Yan B, Jiang Z, Yuan J, Li M, Zeng J, Tang J, *et al*. Effects and safety of herbal medicines among community-dwelling residents during COVID-19 pandemic: A large prospective, randomized controlled trial (RCT). *Phytomedicine*. 2021 May 1;85:153403.
7. Al-Doori A, Ahmed D, Kadhom M, Yousif E. Herbal medicine as an alternative method to treat and prevent COVID-19. *Baghdad Journal of Biochemistry and Applied Biological Sciences*. 2021 Feb 20;2(01):1-20.
8. Ifeoma O, Oluwakanyinsola S. Screening of herbal medicines for potential toxicities. *New insights into toxicity and drug testing*. 2013 Jan 23;244:63-88.
9. Woo CS, Lau JS, El-Nezami H. Herbal medicine: toxicity and recent trends in assessing their potential toxic effects. In *Advances in botanical research*. 2012 Jan 1;62:365-384). Academic Press.
10. Dunnick JK, Nyska A. The toxicity and pathology of selected dietary herbal medicines. *Toxicologic pathology*. 2013 Feb;41(2):374-386.