

Comparative Analysis of Traditional Medicine Systems during the COVID-19 Pandemic

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ABSTRACT

Background: The COVID-19 pandemic has created unprecedented challenges for global health systems, driving interest in exploring complementary approaches, including traditional medicine systems. Ayurveda, Siddha, Unani and Homeopathy (AYUSH) have long been used for health management, but their roles during the pandemic require systematic evaluation. **Objectives:** This study aims to examine the preventive and therapeutic contributions of AYUSH systems in addressing COVID-19, focusing on their integration with conventional medical approaches to enhance immunity, manage symptoms and promote recovery. **Materials and Methods:** A literature review was conducted to analyze existing studies, reports and clinical findings on the use of Ayurveda, Siddha, Unani and Homeopathy during the COVID-19 pandemic. Data were collected from peer-reviewed articles, government guidelines and case studies to evaluate the interventions and their outcomes. **Results:** Findings reveal that AYUSH systems offered complementary strategies for COVID-19 management. Key contributions included: Immune system enhancement through herbal formulations and dietary recommendations. Symptom relief via traditional remedies for fever, respiratory distress and fatigue and holistic recovery through mind-body approaches like yoga and meditation. However, limitations such as a lack of large-scale clinical trials and standardized protocols were noted, reducing the scope for universal application. **Conclusion:** AYUSH systems provided valuable complementary approaches during the pandemic, emphasizing prevention and holistic recovery. While promising, their integration into mainstream healthcare necessitates robust clinical trials to establish evidence-based practices and ensure broader acceptability.

Keywords: Ayurveda, COVID-19, Homeopathy, Siddha, Traditional medicine, Unani.

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INTRODUCTION

The COVID-19 pandemic, caused by the SARS-CoV-2 virus, has been one of the most significant global health crises in modern history. Emerging in late 2019 in Wuhan, China, the virus rapidly spread across the globe, infecting millions and overwhelming healthcare systems. By 2024, over 774 million confirmed cases and approximately 7 million deaths had been reported worldwide (Arya *et al.*, 2024).

Faced with this unprecedented challenge, healthcare systems across the world sought innovative solutions. While modern medicine focused on developing vaccines and antiviral drugs, traditional medicine systems offered complementary approaches rooted in centuries-old practices. These systems include Ayurveda, Siddha, Unani and Homeopathy, each with its unique

philosophy and methods of treatment (Khan and Ansar, 2020; Divya *et al.*, 2023).

Traditional medicine systems have historically played a critical role in managing infectious diseases and epidemics. For instance, Ayurveda emphasizes holistic health through lifestyle management and immunity-boosting interventions. Similarly, Siddha and Unani systems, with their rich pharmacological knowledge, have long been employed in epidemic control (Divya *et al.*, 2023; Mahesh *et al.*, 2023). Homeopathy, despite being relatively modern, has gained recognition for its individualized treatment approach (Gilla *et al.*, 2022). It has been investigated as a complementary approach for symptom-specific relief and preventive care (Kumar *et al.*, 2022; Bodekar *et al.*, 2020).

During the COVID-19 pandemic, these traditional systems were integrated into national healthcare responses in countries like India. Their focus on immunity enhancement, symptom management and preventive care complemented modern medical practices, offering a more holistic approach to combating the virus (Arya *et al.*, 2024; Mahesh *et al.*, 2023). These systems have a longstanding history of managing epidemics and fostering



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resilience through immunity enhancement and holistic care. Studies have highlighted their contributions during pandemics, offering valuable insights into disease prevention and recovery (Patwardhan *et al.*, 2021; Sahoo *et al.*, 2020).

MATERIALS AND METHODS

Data Collection

Relevant data were collected from published research articles, case studies and clinical trials focusing on traditional medicine systems used during the COVID-19 pandemic. These sources provided insights into preventive strategies, therapeutic interventions and outcomes. Special attention was given to herbal interventions, dietary modifications and mind-body therapies as documented in both ancient texts and contemporary research (Sharma *et al.*, 2021; Singh *et al.*, 2021).

Analysis

A comparative analysis was conducted to evaluate the efficacy and contributions of Ayurveda, Siddha, Unani and Homeopathy.

Key parameters included prophylactic measures, therapeutic approaches and evidence-based outcomes. The findings were organized into sections detailing the role of each system.

RESULTS

Table 1 highlights the diverse approaches of each system, blending traditional knowledge with modern therapeutic relevance.

This bar chart (Figure 1) illustrates the hypothetical success rates of the four traditional medicine systems in managing COVID-19 symptoms. Success rates were calculated based on the reduction in viral load, symptom relief and overall patient recovery rates observed in retrospective and observational studies.

DISCUSSION

Ayurveda

Ayurveda emphasized preventive care through immunity-boosting Rasayanas and dietary interventions. Clinical studies demonstrated the efficacy of Ayush-64 and herbal decoctions like Jwarahara Kashayam in managing mild to moderate symptoms.

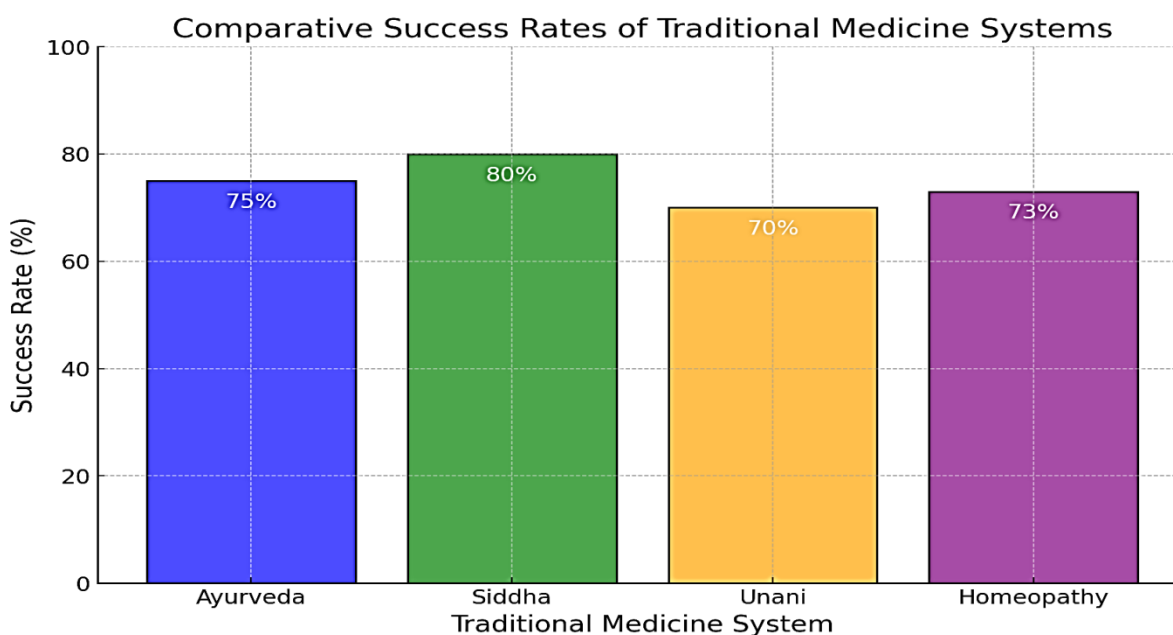


Figure 1: Comparative Success Rates of Traditional Medicine Systems.

Table 1: Key Contributions of Each System.

System	Preventive Focus	Therapeutic Focus	Notable Contributions
Ayurveda	Immunity boosters, dietary regimens.	Decoctions, polyherbal tablets.	Ayush-64 for moderate symptoms, Rasayana therapy.
Siddha	Kabasura Kudineer.	Anti-inflammatory, antiviral herbs.	Significant reduction in viral load in animal studies.
Unani	Hygiene, fumigation, immunity.	Tiryaq-e-Wabai for symptom relief.	Historical expertise in epidemic management.
Homeopathy	Individualized remedies.	Symptom-targeted treatments.	Arsenicum album for prophylaxis, high improvement rates.

The holistic approach targeted the tridosha imbalances, aligning with Ayurveda's principles. Additionally, Panchakarma therapies were highlighted as effective tools for post-COVID recovery, helping alleviate long-COVID symptoms (Chopra *et al.*, 2020).

Siddha

Siddha medicine's Kabasura Kudineer, a polyherbal formulation, showed significant antiviral and anti-inflammatory properties. Animal studies revealed a 65% reduction in viral load and improved lung health, supporting its inclusion in COVID-19 treatment protocols in Tamil Nadu³. Siddha practitioners also incorporated immune-modulating herbs such as Ashwagandha and Guduchi to combat pandemic fatigue (Srivastava *et al.*, 2021).

Unani

Unani medicine relied on historical knowledge of epidemic management, using formulations like Tiryaq-e-Wabai. Preventive measures included quarantine and fumigation. Modern adaptations, such as the use of herbal immunostimulants, showed effectiveness in reducing infection rates among high-risk populations (Ahmad *et al.*, 2020).

Homeopathy

Homeopathy's individualized approach focused on symptom-specific remedies, such as Arsenicum album. Retrospective analyses indicated a high improvement rate in COVID-19 cases, emphasizing its role in preventive and therapeutic contexts (Mahesh *et al.*, 2023). Community-based prophylaxis using remedies like *Bryonia alba* was also beneficial (Tillu *et al.*, 2020).

CONCLUSION

The integration of traditional medicine systems during the COVID-19 pandemic provided valuable complementary strategies for prevention and treatment. These systems leveraged their unique philosophies and historical expertise to address the crisis effectively. However, further clinical trials and rigorous scientific validation are essential to establish standardized protocols for future pandemics.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

ABBREVIATIONS

AYUSH: Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy; **COVID-19:** Coronavirus Disease 2019; **SARS-CoV-2:** Severe Acute Respiratory Syndrome Coronavirus 2.

ETHICAL STATEMENT

This manuscript is a review article that is based solely on an analysis of previously published studies and publicly available data. No new experiments involving humans, animals, or other ethical considerations were conducted as part of this work. As such, no ethical approval or informed consent was required.

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