

The COVID-19 Pandemic and the Relevance of Ayurveda's Whole Systems Approach to Health and Disease Management

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The Current Pandemic, the Indian Health System, and the Role of Ayurveda

THE COVID-19 PANDEMIC has fuelled global initiatives to develop vaccines and identify pharmacotherapies. The National Institute of Health Clinical Trials website currently lists 3489 clinical trials as of September 30, 2020. According to the World Health Organization (WHO) International Clinical Trials Registry Platform (ICTRP)¹ website, “there is a need to ensure that all inform decisions about the health care of the available evidence.” Many drug candidates are being repurposed to manage COVID-19 by expedited observational studies and clinical trials across different populations worldwide, even as the search for vaccines is gathering momentum.² The urgency of the current pandemic demands immediate and pragmatic clinical responses. A surprising dissonance between conventional medical research and clinical practice can be observed during this pandemic, challenging fundamental assumptions of evidence-based medicine and conventional biomedical practice.³ Might this development lead us to a pier of practice-based evidence (PBE) focusing on patient-centered care on compassionate grounds? Or does the global medical community need to strike a better balance between those two approaches to optimizing therapeutic responses to this pan-

demetic? A recent editorial in *PLOS Medicine* reads, “It is surely time to turn to a more fit-for-purpose scientific paradigm. Complex adaptive systems theory proposes that precise quantification of particular cause–effect relationships is both impossible (because such relationships are not constant and cannot be meaningfully isolated) and unnecessary (because what matters is what emerges in a particular real-world situation).”⁴

Harnessing medical resources effectively and other safety measures is particularly critical for emerging countries, which are ill-equipped to meet the multifaceted challenges of an escalating pandemic. India is now the second most affected country globally after the United States⁵ and faces a challenging situation of inadequate medical infrastructures, insufficient health care investments, and social structures.⁶ The mainstream public health care machinery in India is already overwhelmed in major cities across the country. It has led to various pandemic response guidelines based on local realities in different Indian federal states.⁷ In such a scenario, it is essential to mobilize all available resources, including traditional medicine systems in India and in all countries with pluralistic health care systems.

According to the WHO traditional medicine strategy (2014–2023) midterm review report⁸ (based on the inputs from 179 countries), 88% of the 194 WHO member states

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have acknowledged the use of traditional and complementary medicine (which corresponds to 170 member states). However, there appear to be no systematic efforts globally or nationally—except in China⁹—to explore the potential of traditional and integrative health care practices during the pandemic.^{10,11} In a recent development, the “Regional Expert Committee on Traditional Medicine for COVID-19” formed by the World Health Organization (WHO), the Africa Centre for Disease Control and Prevention and the African Union Commission for Social Affairs has endorsed a protocol for phase III clinical trials of herbal medicine for COVID-19 as well as a charter and terms of reference for the establishment of a data and safety monitoring board for herbal medicine clinical trials.¹²

The PBE building exercise that has been evoked by the COVID-19 pandemic puts all medical systems—conventional medicine and traditional medicine systems—on more or less level ground. An unprecedented opportunity is emerging for a constructive dialogue between the systems and coevolution and systematic collaboration within a synergistic framework. The PBE and the complexity research approaches, which are primary methods of Ayurveda and other traditional medical systems, need to complement the conventional research.

Traditional medicine systems such as Ayurveda have a highly developed theoretical and methodological framework to study new diseases and develop treatment guidelines based on rationale derived from clinical medicine principles and therapeutic experience since millennia. Epidemics have been described at large even in the classic canonical texts of Ayurveda¹³ and have provided a substantial repertoire of treatment strategies that not only have a long history of safe use but also have proved efficacious in similar pathologies.^{14,15} The application of systematic protocols to formulate clinical practice guidelines from Ayurveda and their integration into COVID-19 patients’ treatment could fill gaps and unmet needs in the official health response systems. The WHO sanctions and lays down the criteria for using interventions not based on robust evidence, described as a “Monitored Emergency Use of Unregistered and Experimental Interventions (MEURI).”¹⁶ MEURI has been endorsed by the Indian Council of Medical Research (ICMR) as per the National Guidelines for Ethical Committees for Reviewing Biomedical and Research During the COVID Pandemic,¹⁷ which could, in principle, approve such Ayurveda studies with appropriate ethical reviews.

Ayurveda-Related Initiatives in India

The National Interdisciplinary Research and Development Task Force for AYUSH research in COVID-19 was constituted in India on April 2020¹⁸ to streamline AYUSH’s COVID-19 response (Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homoeopathy). The primary rationale was that all AYUSH interventions for COVID-19 should be rigorously built on robust research for which systematic cooperation between AYUSH and biomedical physicians and scientists is necessary. Clinical trials have been initiated to evaluate the efficacy of *Asvagandha* (*Withania somnifera* (L.) Dunal) and AYUSH 64 in prophylaxis, *Guduci/Pippali* (*Tinospora cordifolia* (Thunb.) Miers/*Piper longum* L.), and

Yashtimadhu (*Glycyrrhiza glabra* L.) for the management of COVID-19.¹⁹ Clinical Trials Registry India lists 107 studies (as on August 20, 2020) on Ayurveda initiated by various institutions using the guidelines issued by the Ministry of AYUSH.²⁰ General clinical practice guidelines have also been formulated.

Ayurvedic treatment is generally multimodal in its approach, and treatments are decided based on varying clinical presentations, stages of disease progression, and customized according to the patient’s characteristics. An exclusive focus on modern pharmacologic approaches based on evaluating a single molecule’s activity on a specific biological mechanism of a disease overlooks such a person-centric multifactorial approach. The whole systems approach and complexity research suited for evaluating Ayurvedic interventions’ therapeutic efficacy are currently not well represented in the research protocols recommended to generate evidence for Ayurvedic interventions in COVID-19.

A clinical study that had earlier assessed complex Ayurvedic interventions in rheumatoid arthritis had demonstrated that rigorous studies are possible with the classical Ayurvedic approach to treatment.²¹ Publications that emerged from this study had shown unambiguously that the outcomes of a whole systems intervention show a trend of better efficacy compared with administering single herbs or formulations for management of rheumatoid arthritis.²² Other studies, for example, on osteoarthritis or obesity, have also shown the importance of whole system trials.^{23,24}

The flurry of knee jerk claims of efficacy and product-based marketing efforts from various Ayurveda institutions and physicians on popular media has rightly led the Ministry of AYUSH to prohibit anyone from making claims regarding the efficacy without systematic evidence.²⁵ The Ministry of AYUSH released the “Guidelines for Ayurveda Practitioners for COVID-19” with detailed protocols for managing different target groups. However, its implementation has been varied at the state level. Different states in India have taken divergent standpoints regarding Ayurveda practitioners’ engagement in providing care for COVID-19 patients. In the absence of unified legislation regarding Ayurveda practitioners’ empowerment to offer clinical care to COVID-19 patients, clinicians and patients find it challenging to make the right choices in demanding situations.

In some Indian states and specific sublocalities, there are reports of Ayurveda protocol-based interventions being administered for prophylaxis and care of COVID-19.²⁶ The informal reports of these preventative approaches are promising. Such reports point to the importance of Ayurveda’s salutogenic vision and its positive contributions to the health and well-being of the population through conscious self-management, leading to healthier families and societies.²⁷ Nevertheless, in the absence of proper documentation and research, one is left with a paucity of rigorous data to draw substantial conclusions.

Need for a Whole Medical Systems Approach for Ayurveda

As a primary step, new diseases such as COVID-19 need to be also studied from within Ayurveda’s theoretical framework. It has been demonstrated that clinical profiling of COVID-19 from an Ayurvedic perspective is possible.¹³

Pragmatic treatment protocols have already been suggested,¹⁵ and Ayurvedic treatment outcomes in a COVID-19 patient have been published as a case report,²⁸ pointing out the need to consider Ayurveda's holistic approach to offer care for COVID-19 patients. However, clinical exposure to COVID-19 patients is essential for Ayurveda physicians to study and understand the disease. The absence of official access to COVID-19 patients makes it difficult for Ayurvedic physicians to develop a comprehensive treatment strategy based on Ayurvedic principles.

With the surge in COVID-19 patients in India, there are increasing number of reports of patients turning to Ayurveda physicians for care. Systematic data relating to the Ayurvedic clinical management of COVID are still in process and not yet available in a format to be presented in a research journal. Longer time is required to generate replicable PBE. Ayurveda researchers and clinicians must publish practice-based data and learn from clinical experiences as case reports and case series. Meanwhile, there is a need for consensus-based flexible best rationale approaches in collaborative clinical care and systematic documentation and publication. The treatment guidelines should be developed based on the disease's clinical profiling from the Ayurvedic perspective and structured on Ayurveda treatment principles (cikitsasutra of Ayurveda).¹³ A rigorous documentation system for capturing data from the point of care will be of paramount importance in generating PBE regarding the relevance, effectiveness, and safety. As treatment outcome data emerge from the realm of clinical care, research studies based on Ayurveda's whole system approaches could be developed to generate more rigorous evidence.

Conclusion

In the wake of an escalating pandemic such as COVID-19, a populous country like India, with >1.3 billion people, cannot afford to wait for lengthy clinical trials to produce evidence to sanction clinical care of patients. In the case of conventional medicine, this inevitable dilemma between medical research and clinical medicine has been resolved by the parallel development of the pragmatic standard of care guidelines for clinical practice while at the same time pursuing rigorous research protocols to generate higher levels of evidence. A similar approach should also be adopted in Ayurveda's case to enable the practitioners to meet challenges when the need arises. This calls for the empowerment of Ayurveda practitioners to offer clinical care for COVID-19 patients to support well-formulated official advisories. The clinical practice guideline should be based on the clinical profile understanding based on the Ayurvedic approach to study a new disease. This guideline should be appraised in the light of the outcomes reported from the point of care that preserves the individualized multimodal approach in Ayurvedic therapeutic interventions. Simultaneously, efforts should be taken to bring the whole systems approach into research methodologies to effectively generate evidence supporting Ayurveda interventions for COVID-19.

Author Disclosure Statement

No competing financial interests exist.

Funding Information

No funding was received for this article.

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