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## Editorial

# India in COVID-19 times: Modern and wiser

## 1. Integrated protocol

In October 2020, Dr Harsh Vardhan, the Union Minister for Health & Family Welfare, Government of India, released the 'National Clinical Management Protocol based on Ayurveda and Yoga for Management of COVID-19'. This protocol advocated the integration of Ayurveda and Yoga along with modern medical treatment. This was a historical moment for Integrative Medicine. It is important to note that the inclusion of AYUSH management in the protocol was based on critical analysis of available scientific literature, empirical research and learning from practice.

The Journal of Ayurveda and Integrative Medicine (J-AIM) advocating rational integrative medicine for a decade, sees this as a much-awaited step towards 'Swastha and Atma Nirbhar Bharat' (healthy and self-reliant India). The Minister affirmed this saying "this protocol dealing with preventive and prophylactic measures is a significant step, not only in the management of COVID-19, but also in making traditional knowledge relevant to solving problems of the modern time".

This decision is extremely important as it has policy implications towards addressing the neglect of, and dual standards towards, AYUSH contributions for the current pandemic's health crisis. While it is justified, and sometimes necessary, that Indian health system may borrow the best practices from biomedicine, it is serious that we neglect the health practices available in the AYUSH systems. The prejudice against AYUSH rests on the fallacious evidence model that values repetitive observations in controlled settings as the sole basis for evidence and ignores large-scale real-life human experiences. Several of the preventive practices based on Ayurveda and Yoga are embedded in the Indian culture, often making it difficult to isolate and evaluate these as stand-alone medical interventions. Their assessment needs advanced statistics, because analysis of such data is not as straight forward as in randomized controlled trials (RCTs). Today, statistical approaches to appraise real life evidence, should be oriented towards studying evidence and efficacy of AYUSH systems that do not always fit conventional reductionist analytical approaches.

Evidence generation, particularly for health interventions is a complex exercise. Competent statisticians are aware of the limitations of Evidence-based Medicine (EBM) mainly due to designs based on inadequate capture of variability and meta-analysis based on samples sizes that are both small and insufficiently representative. Hence, extrapolation from such data sets has limitations. In addition to the RCTs, there is an urgent need to develop protocols for evidence-based practice pathways. Moving to practice-based

evidence for public policy may necessitate turning the evidence-based paradigm on its head [1].

The case for inclusion of Ayurveda and Yoga in the national COVID-19 management protocol is an example of evidence from real life experiences. However, this inclusion is often wrongly perceived as eroding standards of evidence merely to accommodate traditional knowledge-derived practice. Experts are also raising questions as to whether COVID-19 pandemic marks the nemesis of EBM [2]. Though the immediate public good is possible with the integrated protocol, a deeper understanding of the limitations of the currently dominant evidence theory and practice that guides the medical profession is needed.

Medical education in India as it currently stands, sows the seeds for this myopic view of evidence and unfortunate disregard for evaluation of living experiences. This is in stark contrast with neighboring countries like China where traditional medicine practice is respected and enjoys a level playing field alongside modern medicine. Doctors graduating from Indian medical schools are not well informed about AYUSH systems and its theoretical foundations. The politics of medicine provokes an unhealthy competition and tendency to mix practices from AYUSH and modern systems. Although plurality is embraced by people, and supported by policy-makers and scientists at the frontiers, average practitioners remain ignorant and continue to function from within *silos*. This results in sub-optimal quality healthcare, commercialization and turf wars, where it is patients who eventually suffer.

## 2. Learning from COVID research

Health research in India suffers from the overall apathy compounded by inadequate originality. The status of research on COVID-19 in India may show us a mirror. A systematic search for COVID-19 publications in PubMed for the period Jan–Oct 9, 2020 focusing on research papers (excluding opinion pieces, viewpoints, non-systematic reviews or letters) yielded 1754 papers globally. Out of these, only 84 papers have emerged from Indian institutes and only 10 papers were original articles related to basic sciences and clinical studies. These figures are dynamic and ought to change with more publications being added in the near future. For instance, the COVID-19 trial tracker developed by Centre for Evidence based Medicine at the University of Oxford has 711 (<http://covid19.trialstracker.net/figures/>) trials registered in India. It is encouraging to note that studies on AYUSH interventions have substantially increased as per the data of Clinical Trials Registry of India [3]. However, the overall contribution of the Indian scientific community to global research on COVID-19 remains marginal.

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### 3. Fixing it right

Indian institutions have hardly produced any major breakthroughs in medical and health research. One of the possible reasons may be in the training and attitude of researchers. Our education does not sufficiently encourage constructive criticism, creativity and curiosity. The Indian scientific and medical community has turned a blind eye to our own knowledge systems, and continues research based mostly on Western theories, ideas and methodologies. In doing so, we have not been able to demonstrate original research or create a significant impact that might help the people and nation. Our health researchers have so far ignored the potential of therapies from AYUSH systems that are likely to benefit viral and flu like diseases such as COVID-19 [4]. There is often a criticism that AYUSH professionals are not involved in high quality research. However, it is a reality that they are not sufficiently trained in modern science methodology and often lack funding, resources and infrastructure for research. On the other hand, barring few examples, mainstream Indian scientists are not much keen to appropriately explore AYUSH systems. In our opinion, scientific research on AYUSH should be a fiduciary responsibility of scientific community and should not be perceived as a sole responsibility of practitioners of AYUSH. It is imperative that every Indian government funded research institution contributes to research on AYUSH systems.

Transdisciplinary research on AYUSH systems is the need of the hour for a better future. There must be mutual respect for science and *Shastra* in a transdisciplinary research culture. We are concerned about the current acute shortage of physician-scientists. We are losing a unique cadre of medical scientists who bring a fine blend of *Shastra* and Science. The legacy of physician-scientists who developed deep insights to ancient wisdom, such as Gururaj Mutalik, R.D. Lele, G.V. Satyavati, M.S. Valiathan, B.M. Hegde, and Ashok Vaidya must be continued. Most of these are nonagenarians or octogenarians who bring a very precious combination of clinical and laboratory sciences, with profound knowledge of Ayurveda and modern medicine.

We feel that many innovations may emerge if systematic research on *Shastras* can be undertaken by mainstream scientists

and physicians. There is an urgent need to build research capacity and encourage young generations from AYUSH and modern medicine to become physician-scientists. The pandemic challenge is also an opportunity to strengthen integrative medicine by embracing advances in both modern science and respecting traditional wisdom from our inherited systems. Research dialogues across medical systems are needed. The National Clinical Management Protocol for COVID-19, integrating modern and AYUSH systems, is certainly an important step in this direction. We applaud these forward-looking decisions jointly taken by the Ministry of AYUSH and Ministry of Health and Family Welfare, Government of India. We hope the protocol will set the trend for integrative management of other diseases.

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