

DISCUSSION

“Confessions of an Ayurveda professor” — A wake up call

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Kishor Patwardhan's "confession" in this journal [1] has initiated the expected debate, which I hope leads to some good developments for the teaching and practice of Ayurveda. Before, commenting on this issue, I should myself confess that I am neither formally trained in Ayurveda nor practising it. A basic research interest in Ayurvedic biology [2] led me to learn about the "fundamental principles" of Ayurveda and to experimentally examine effects of some Ayurvedic formulations using animal models like *Drosophila* and mouse at organismic, cellular, and molecular levels. During the past 16 to 17 years of my active engagement with Ayurvedic Biology, I had multiple opportunities to discuss the principles and philosophies of Ayurveda with formally trained Ayurvedacharyas and others who have an interest in this classical healthcare system. These experiences enhanced my appreciation of the wisdom of ancient scholars that led them to methodically compile the elaborate details of treatment for various health conditions in the classical *Samhitas* and, as noted earlier [3], gave me a "ring-side" view of Ayurveda. Despite the above limitations, an advantage of the "ring-side" view is the possibility of comprehending the philosophies and practices prevalent in Ayurveda in an unbiased manner and weighing them against contemporary practices in other disciplines.

Ayurveda has been a continuously practised healthcare system in India for several millennia. Yet, this system is shrouded in controversies, with extreme stances taken from unquestioning belief to complete disbelief in its philosophies and practices. Here, I discuss my take on the genesis of such controversies and the possible way forward that could help Ayurveda become a truly holistic healthcare system.

Why is Ayurveda at the centre of controversy?

The classical *Samhitas* like the *Sushruta Samhita* and the *Charaka Samhita*, compiled a few thousand years ago and

largely transmitted through the oral route across generations, are at the core of the philosophy and practice of Ayurveda. The long intervening period leaves the possibility that there may have been random as well as *designed* modifications in the original compilations, of which no formal record seems to be available. Neither can we ascertain the basis on which the details in the *Samhitas* were originally compiled. Consequently, the current practice of Ayurveda is essentially based on the faith in its long usage. In recent decades, some of its practices and formulations have been subjected to experimental testing and verification. It is to be noted, however, that most of these experimental ethnopharmacological studies, claiming to be inspired by Ayurveda, have used extracts of individual herbs or individual components like curcumin as "active principle", rather than complete formulations as described in the classical Ayurvedic literature. This leaves many questions about the real efficacy of traditional formulations unanswered, since in biological systems the sum of the parts is not equal to the whole. Thus, experience vs evidence-based validation of the philosophy and practices of Ayurveda remains a major issue in the debate.

The Ayurveda philosophy and treatment modalities rely primarily on the concepts of *Panchamahabhoota* and *Tridosha*. Nearly all contemporary Ayurveda practitioners accept these concepts without question, and claim that these make Ayurveda a uniquely holistic as well as personalised system of healthcare. Staunch supporters of Ayurveda question the authority of experimental researchers trained in contemporary scientific practices with the counter argument that since "modern" science cannot explain many phenomena, the experimentalists should not insist on explanation of beliefs that have persisted for thousands of years. They further claim that unlike the many theories of "modern" science that were at one time considered "fundamental" but were subsequently discarded or modified, the concepts of *Panchamahabhoota* and *Tridosha* have remained unmodified over thousands of years, and, therefore, they need not be questioned. Unfortunately, such arguments fail to appreciate that if a concept is accepted without any question, its validity remains unverified and unestablished. Although dogmatically believed and followed by most contemporary Ayurvedic practitioners, there is no unanimity in interpreting these concepts in terms of the contemporarily known components and properties of the biological and material world [3-7]. A wide variety of belaboured and often circular arguments have been advanced to claim similarities between the

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concepts of *Panchamahabhoota* and quantum physics [8-10]. As with the varying interpretations of *Panchamahabhoota* advanced by different Ayurvedic experts, the assignment of an individual to a given *Prakriti* type by different experts is also not unanimous [7]. Some correlations found between the concepts of *Tridosha*-based classification of human *Prakriti* types and physiological, immunological and/or genomic attributes of individuals have been claimed to establish the “scientific” validity of the *Tridosha* concept. However, such claims ignore the fact that “some similarities” and “complete concordance” are vastly different. Such unfounded or inadequately verified claims have unfortunately been very damaging [3-6,11].

The general unwillingness of contemporary practitioners of Ayurveda to question the wisdom enunciated in the classical *Samhitas* is contrary to the teachings of the sages in ancient India who preferred *Pratyaksha* (direct evidence), *Anumana* (inferential evidence), and *Yukti* (logic) over *Shabda Pramana* (textual narrations). The unquestioning adherence to the narrations in classical texts is both a cause and consequence of the vicious circle, with most contemporary practitioners of Ayurveda taking a self-serving stand. The unwavering faith in the principle of *Panchamahabhoota* prompts the believers to claim verification through biased “experimental” studies and thus “establish” what they believe [8-10]. Such biased and faulty theoretical or experimental attempts to arrive at the desired conclusion are typical examples of “pseudoscience” [11]. This is also reflected in an advisory (F. No. Z.25023-/09/2018-DCC (AYUSH) dated April 2, 2019) issued by the Ministry of Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homoeopathy (AYUSH), Government of India, which, inter-alia, claimed that publications by non-AYUSH scientists/researchers with unfounded statements and conclusions damage the credibility and sanctity of the whole system. Believing that such a defensive approach was more damaging than the biased and inadequately planned and executed research that supported or opposed Ayurvedic practices, we had stated “An unopposed faith in ancient knowledge and practices on account of their being traditional, without revalidation in the contemporary context, is indeed ominous.”[12]

The tendency to claim and establish parallels between the “fundamental principles of Ayurveda” and currently understood properties of energy, matter and living beings seems also to be driven by the desire to establish that seers in ancient India “knew it all” so that “modern” scientific research is only “rediscovering” what was known and practised in ancient India. The claims that our great ancestors “knew it all” often fail to differentiate between empirical inferences based on common sense interpretations and formal laws/theories propounded after intense analysis. To give a simple example, even before Newton discovered and defined the laws of motion, everyone knew that if something is thrown up, it will come down. However, such common knowledge does not and must not imply that the physics and mathematics of the laws of motion, as formally propounded by Newton, were already

understood. The descriptions of the material world and of human body systems and their functions as described in the available classical Ayurveda treatises clearly reflect that the understanding of human body organisation at that time was limited and was intertwined with abstract unverifiable philosophical/mythological attributes. In some cases descriptions are even incorrect [13], as also noted by Patwardhan [1]. Therefore, even if the great ancestors “knew it all”, the ancient wisdom needs to be critically examined and validated since the generations between the “ancient” and the present were apparently oblivious of the underlying mechanisms and explanations.

Another contentious issue is the lack of uniformity in various Ayurvedic practices followed by different experts and a near absence of quality control of formulations available in market. Since these are available off the shelf, their beneficial or adverse effects remain largely unrecorded.

Kaviraj Gananath Sen’s observations in 1916 on the state of Ayurveda are worth noting in this context: “Whatever may have been the past glory of Ayurveda, it would be self-deception on our part to think that we still sit on a high pedestal. The fact is unfortunately just the other way. The number of Ayurvedic physicians in India is legion but soundly educated exponents of the ancient system are not yet numerous. Besides this, there is yet a good deal of conservatism which is contrary to the liberal spirit of Ayurveda and which must be overcome” [14]. Unfortunately, these concerns remain relevant even today.

Way forward

I view Patwardhan’s “confession” [1] in light of the above. While I greatly appreciate the detailed treatment modalities described in the classical *Samhitas*, I also appreciate the conviction and courage reflected in the “confession” [1].

The dogmatic teaching in contemporary under-graduate and post-graduate Ayurveda courses do not encourage or even permit young students to question the traditional philosophies and beliefs. This ensures the continuation of old beliefs without any attempt to verify their validity or utility. It is well-established that knowledge and civilisations progress by asking questions based on current understanding and modifying/refreshing the prevailing understanding in light of the newly obtained answers/information. Only after learning something new, do we know what we still do not know? Consequently, in the absence of new learning, we would not even know what we still do not know! Teaching must encourage questions rather than quell the innate human curiosity.

To revitalise Ayurveda and to effectively utilise its healthcare modalities, Ayurveda students must learn the basics of contemporary understanding of living and non-living systems; at the same time, researchers and experts in different basic and healthcare domains must collaborate to assess the effectiveness and mechanisms of the actions of

different Ayurvedic practices and formulations in an unbiased manner, as envisioned in Ayurvedic Biology [2,3]. As an admirer of aspects of Ayurveda, I firmly believe [3,4,15,16] that unbiased experimental validation of the various Ayurvedic treatment modalities and understanding of the underlying biological mechanisms are essential. Patwardhan's "confession" [1], instead of initiating a tug-of-war, should wake up the community and promote deep introspection and active research to sift the facts from myths [4].

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