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## DISCUSSION

### A case for testing and modifying theory in Ayurveda: Author's response

**KISHOR PATWARDHAN**

This is my response to several recent criticisms that have challenged my views expressed in the article 'Confessions of an Ayurveda Professor' in this journal [1]. Some of these criticisms, such as the one by Karthik and Shajin, are directly expressed [2], while others, such as the one by Tubaki and Prasad, are indirect [3]. The criticism by Tubaki and Prasad is particularly significant because it is the only feedback I have received from the Ayush establishment thus far; and lists the President of the Board of Ayurveda, National Commission for Indian System of Medicine (NCISM), as an author. Additionally, there have been many reactions published on IJME's website. I also address them in this response since many of them share a similar line of thinking.

#### **Epistemological dichotomy: a flawed argument**

Many scholars tend to argue that Western science and Ayurveda are two epistemologically different yet equally valid and mutually exclusive systems. Their argument is that all Ayurveda theories in their entirety remain relevant and can be shown to be correct using Ayurvedic logic and Ayurvedic methods. They also suggest that viewing these theories from a Western scientific perspective is wrong.

The argument proposing an epistemic divide suggests that Ayurveda's knowledge originates from *Nyaya-Vaisheshika* schools of philosophy, which is misunderstood as being epistemologically distinct from Western science. This perspective is flawed as the principles in *Nyaya-Vaisheshika* closely resemble those in contemporary science, differing primarily in the tools used—ancient scholars employed basic instruments while we now utilise advanced ones. For example, *pratyaksha* meant using the sense organs to acquire knowledge in ancient times, while we now use instruments such as microscopes for the same purpose.

It is essential to remember that when Ayurveda was documented, the research methods were still in their nascent stage. Ignoring this historical fact, some scholars such as Sandhya Patel and others [1: readers' comments] went to the extent of indirectly proposing the "epistemic superiority" of Ayurveda. They argued that ancient *rishis* were able to obtain special knowledge through their divine powers. However, this logic fails because there are diverse and often mutually contradictory views recorded in Ayurveda on many topics. If such a phenomenon were true, such a situation should not have arisen [4].

In fact, this approach of proposing a 'distinction' has harmed Ayurveda in the name of preserving our tradition. This position essentially questions the universality of the scientific attitude and, more importantly, discredits all evidence-based science documented in Ayurveda textbooks [5]. This argument also overlooks the simple fact that not all methods are equally accurate and effective in drawing valid conclusions. It is akin to asserting that ancient scholars, who lacked microscopes, had hypothesised about ghosts causing

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diseases, and that these ideas are just as valid as modern microbiology.

### Misinterpretation

In the section on *tridosha*, Karthik and Shajin have completely misinterpreted [2] what I wrote about this theory in my original article. They seem to have missed the fact that I have argued for the testing and modification of this theory, not for its total abandonment [1]. Many examples can be given to demonstrate the *tridosha* model's weaknesses. For instance, in the case of obesity-induced osteoarthritis of the knee, the symptoms may indicate increased *vata*, but the treatment needs to be aimed at reducing *kapha*. The *tridosha* model is inadequate in dealing with such cases, and to salvage the theory, scholars often resort to many ad hoc conjectures, including *avarana*. Similarly, the *tridosha* theory cannot explain anaemia of renal disease because the different functions of the kidneys (including urine formation) were not known to the ancient Ayurveda scholars. However, just because a model is weak, it does not mean that it is useless. For making quick clinical decisions, this model remains of heuristic value, but not as an ultimate and flawless law.

### Was clinical utility questioned?

I have nowhere contested the clinical utility of Ayurveda in my article. What I am arguing is that the clinical utility of Ayurveda is currently not backed up by strong theory and there is room for modification of these theories based on current evidence. The reason-based approach has always been a part of Ayurvedic logic and needs to be further strengthened by discarding some redundant assertions and adopting newer insights. Clinical applications backed up by robust theories can elevate Ayurveda to the status of a well-founded science; otherwise, it will continue to be perceived as a "weak science" within the "science-pseudoscience" spectrum.

### Logical fallacies and circular logic.

The arguments presented in the article by Tubaki and Prasad, such as "these theories may be proven to be true in a distant future" and "absence of evidence is not evidence of absence," [3] are based on the logical fallacy known as '*argumentum ad ignorantiam*,' which is also referred to as the 'appeal to ignorance'. Simply put, one cannot use ignorance to justify an incorrect assertion [6]. They have also misunderstood the concept of 'absence of evidence' because the intention behind this statement is contrary to what it may seem [7]. To clarify, an absence of evidence, even after careful investigation, can indeed be evidence of absence. However, an absence of evidence due to a lack of investigation is not evidence of absence. In the case of many Ayurvedic theories, it is the former that applies, not the latter.

Tubaki and Prasad argue, on the one hand, that concepts such as *tridosha* "have already been tested and proven to be irrefutable through traditional experimental methods," and on the other, that, "understanding the *Dosha* concept is still

elusive to both the current Ayurveda community as well as Western medicine scholars." If the second statement is true, how can the authors make the first assertion? This amounts to "circular logic" and demonstrates a lack of clarity in what the authors are trying to communicate.

### Seeking refuge in unscientific thinking

Many of these scholars, in their attempts to refute my arguments, resort to unscientific conjectures. Tubaki and Prasad, for instance, invoke already disproven theories of homeopathy [8,9], while Karthik and Shajin claim that the mechanisms behind interventions such as nasal instillation (*nasya*) and therapeutic enema (*basti*) can only be explained through Ayurveda *sharira* (Ayurveda anatomy and physiology), and not through the current sciences. What these scholars overlook is the fact that evidence-building is an ongoing process, and the mechanisms behind these interventions will eventually need to be explained through our current scientific understanding. They seem to forget that even current anatomy is still evolving [10]. Why don't Karthik and Shajin realise that statements such as "fever is manifested because of the displacement of heat by *doshas* and undigested matter from the stomach" make it necessary for them to explain what they mean by '*doshas*? Why don't they provide that explanation?

Tubaki and Prasad also cite the theory of reincarnation and suggest that it has been proven to be true, citing the work of Dr. Ian Stevenson to justify this claim. It is crucial to note that the theory of reincarnation is faith-based rather than evidence-based, despite *Charaka-Samhita's* fallacious arguments to the contrary. Furthermore, Dr Ian Stevenson's work has been dismissed by the scientific community because it relied on anecdotal evidence, lacking controlled experimentation [11].

### Mild arrogance: reflection of insecurity?

Many of these scholars have made mild personal remarks, asserting that they alone possess a true understanding of Ayurveda due to their specialised training. Some scholars like VG Sharma [1: readers' comments] have argued that, since Ayurveda physiology is my specialisation, I lack sufficient clinical experience and, therefore, should refrain from discussing these issues. They also insist that only individuals well-versed in Sanskrit are eligible to delve into such topics. This mild form of arrogance may reflect a sense of insecurity and could serve as an escape from accountability. Even Karthik and Shajin employ this tactic at the end when they state, "The 'confession' and the sources from which it draws inspiration demand the renouncing of Ayurvedic concepts, despite the experimental and observational evidence regarding their validity and reliability. Please leave that decision to those who have tried them." This is clearly a smokescreen. How can they equate a demand for modification of theory with a demand for renunciation of theory? Furthermore, why don't they simply

provide the “experimental and observational evidence” [2] either to demonstrate the existence of minute tubules connecting the intestines and urinary bladder or to support the idea that a union of semen and menstrual blood leads to the formation of an embryo, as documented in Ayurveda textbooks?

### Attacks on the falsifiability model

Many scholars such as VG Sharma and M Prasad [1: readers' comments] have argued that concepts such as falsification and ad-hoc conjecture are not the appropriate tools for testing Ayurveda theories. They seem to forget that falsification is precisely the model we employ in our postgraduate and doctoral research. Simply put, we reject a hypothesis when it is falsified. However, to address their concerns, it is sufficient to say that my arguments withstand scrutiny even when one invalidates all these concepts, relying instead on a simple test of common sense.

### Refusal to see the plain truth.

I would like to place on record that I have received many personal messages stating that what I have written is the truth, but I need not have stated it publicly. Suresh Kumar, a practitioner from Kerala, openly likened my article to the classic tale of 'the emperor has no clothes' [1: readers' comments]. The plain truth is often uncomfortable, and I have observed a common tendency to avoid facing the plain truth among many of these published responses. Most of these responses come from established academicians and administrators who already have stable careers. They can afford to defend these outdated concepts as they have nothing to lose. However, my intention in publishing my views was to address the frustrations of our student community and to help them better serve humanity in their clinics. Many of our theories need to be demoted from their current position of being considered “unquestionable and ultimate truth” to being viewed as heuristics [12-14]. If we do not take this step now, our physicians may inadvertently harm their patients

due to a distorted understanding of human physiology and anatomy.

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