

DISCUSSION

Deluded confession: Response to Kishor Patwardhan

KARTHIK KP, SHAJIN KJ

Abstract

“Confessions of an Ayurveda Professor”, by Kishor Patwardhan, published in IJME, has set the stage for heated discussions within and outside the medical circles. It uses primitive philosophical criteria to argue that Ayurvedic principles relating to anatomy and physiology are obsolete, and that they need to be removed from the syllabus. As Ayurveda students, we explore the counterview to this, pointing out the fallacies behind each point raised, and suggest solutions that we find suitable for effective, competency-based Ayurveda education.

Keywords: Ayurveda curriculum, physiology, defining science, selective scepticism, tridosha

Introduction

The recent reflective article by Kishor Patwardhan, titled “Confessions of an Ayurveda professor” [1], in this journal, raises critical questions on the current relevance of Ayurvedic anatomy and physiology, as taught in the Ayurveda curriculum. The author’s concerns are genuine, intriguing and demand detailed discussion. As Ayurveda students, we find many of our concerns reflected in the manuscript. But the author’s reasons for the concerns, and their solutions seem biased, illogical, and detrimental to Ayurveda, hence this counter-perspective. Based on our training under preceptors who practised and preached Ayurveda as it is, we review the ideas raised in Dr Patwardhan’s article, and suggest solutions from a different perspective.

The correlation conundrum

Attempts to correlate structures of Ayurveda with those of western medicine have rightly been pointed out as being in a state of crisis by Patwardhan. Though such half-baked

attempts may sound convincing, they ultimately provide distorted images. The aim behind such strained interpretations seems to be the “superimposition of modern science over classical references” and the reason for their rejection, the absence of unanimity between them. But why should there be unanimity at all? Of course, western medicine is both state of the art, as well as the primary system of healthcare endorsed by the state. But this does not mean that any other stream of knowledge that is not compatible with it is ‘pseudoscience’.

Science and other knowledge systems

Defining science has been a complicated affair. Philosophers like Paul Feyerabend and Ludwig Wittgenstein highlight the lack of uniformity among definitions of science [2]. Efforts have been made to demarcate science, traditional knowledge, and pseudoscience in terms of their origins, objectives, and systematicity [3]. The Science Council gives it a relatively comprehensive definition. Scientific methods include induction, objective observation (not mandatorily mathematical), experiments, resultant evidence, repeatability, and critical analysis [4]. Another defining characteristic of science is systematicity in claiming and establishing knowledge [3]. The definition does not mention a single science, but rather puts forward criteria that can be fulfilled by validating and systematising any knowledge, not necessarily dismantling its methods, or replacing it with modern scientific logic. Despite these facts, efforts to declare them invalid are the result of a predisposition, a selective scepticism [5].

Selective scepticism

Selective scepticism denotes the tendency to sceptically analyse one view while blindly following the other [6]. It originates from and leads to notions that only one view regarding a particular topic is valid. It is a phenomenon common to all domains, but its presence with regard to Ayurveda is disproportionately high. This scepticism has its roots in the formative phases of Ayurveda students. They start learning Ayurveda with underlying insecurities. They have been given elementary training in modern biology, physics, and chemistry, but are introduced to completely new, abstract concepts. Simultaneously, they learn evidence-based, easily perceivable western anatomy and physiology. These setbacks are coupled with the language barrier (*Sanskrit*), curricular handicaps, preceptor attitudes, and inter-preceptor contradictions. Altogether, these make the learning of the Ayurvedic body knowledge obscure and less

Authors: **Karthik KP** (corresponding author — kpkarthik131@gmail.com, <https://orcid.org/0000-0002-5540-7794>), Post-graduate Scholar, Department of Ayurvedic Paediatrics, All India Institute of Ayurveda, Sarita Vihar, New Delhi, INDIA; **Shajin KJ** (shajin18@gmail.com), Post-graduate Scholar, Department of Basic Principles, All India Institute of Ayurveda, Sarita Vihar, New Delhi, INDIA.

To cite: Karthik KP, Shajin KJ. Deluded confession: Response to Kishor Patwardhan. *Indian J Med Ethics*. 2023 Oct-Dec; 8(4) NS: 323-326. DOI: 10.20529/IJME.2023.057

Manuscript Editor: Sandhya Srinivasan.

Peer Reviewer: An anonymous reviewer.

Copyright and license

© *Indian Journal of Medical Ethics* 2023: Open Access and Distributed under the Creative Commons license (CC BY-NC-ND 4.0), which permits only non-commercial and non-modified sharing in any medium, provided the original author(s) and source are credited.

interesting. Meanwhile, modern anatomy and physiology are privileged in all these aspects. Hence, they easily penetrate these cognitive layers of an Ayurveda student; so, it is no wonder they become followers of the same.

Obsolete anatomy and physiology

It is known that efforts to understand the human body have started from the same point in Western medicine and Ayurveda, ie, dissection of the human body (Herophilus and Erasistratus, *Sushruta*) [7]. Then how is one of them considered a state-of-the-art form, and the other obsolete? The difference in methods starts right from the process of dissection. The former followed the scalpel dissection method where the body was naturally or artificially embalmed and dissected using sharp instruments. In Ayurveda, a different method was followed, which some scholars term 'hydro-dissection' [8]. At this point, there are two constituents of knowledge: the object and the observer. Both the health systems have mentioned these components. In the former, the object was preferred for detailed study and decision-making, whereas in Ayurveda, the observer and his perceptions were the bases of inferences and algorithms (for diagnosis and management). Efforts are in progress to recreate the method of Sushruta and document its findings [8,9].

Rescuing *tridosha* theory

Ayurveda preferred the identification of commonalities between structures and functions and utilised them to understand physiology, harmonious functioning of the body and mind, illnesses, and their treatment. This led to a convergence; the properties and functions that coexisted most frequently were grouped together (to reduce complexity and facilitate expression) and were named depending on the agents in nature resembling these functions. The *tridosha* concept is its culmination. In most Indian theistic philosophical schools, such variables are said to be "inferred" and they are considered existent (as they are felt through their effect on the manifest forms in the body). Such variables are termed "latent variables" in statistics. Reduction of complexity of data in statistics is also done using similar methods as in factor analysis [10]. In short, refuting the *tridosha* theory as it fails to coincide with any of the western anatomical structures is like refuting the earth's axis as it could not be found even after excavation at both the poles!

Even in recent years, *tridosha*-based treatment strategies have helped Ayurveda effectively manage public health crises and novel diseases, and not western pharmacological actions. Chikungunya [11] and Covid-19 [12,13,14,15] are documented examples. Any intervention requires an Ayurveda-based logic of selection and not just a western pharmacological substantiation of its action. Hence, these tools are indispensable in Ayurvedic education. Their being shunned and replaced with exclusively western physiological concepts will render Ayurveda's practice redundant due to a logical mismatch.

In Ayurveda, there is no demarcation between structure and function (they were together called *shaarira*). This bifurcation was made later for academic purposes [16]. In most sciences, this perception of *shaarira* was devised depending on the purpose for which the body was observed. It is different in acupuncture, yoga, and Ayurveda. Hence, the same object — when viewed using different methods, with different objectives, by different individuals — looks different.

Procedures in Ayurveda like *vasti* (a form of medicated enema) and *nasya* (nasal medication) and their medicines depend on the Ayurvedic *shaarira* for understanding their action, drug choices, and repurposing. Knowledge of western medicine can neither substantiate their action and indications, nor their selection of medicines, let alone their further use and repurposing. Systems like acupuncture still use their own system of anatomy and they would become irrelevant if their physiology is replaced.

Conventionalist stratagem

Patwardhan in his article cites a view from another work [17], where its writer states that the *tridosha* theory necessitates the use of cooling therapy in disease characterised by heating, but the argument itself is erroneous. First, heating is a manifestation of fever, not a cause. The reason behind it is the displacement of heat by *doshas* and undigested matter from the stomach (the pathogenesis of fever) [18]. Second, hot water is advised in fever almost universally with specific exceptions that are manifested when the heat principle (*pitta*) is the cause. The writer also forges a story of genesis of *tridoshas* which is a random collection of contexts and lacks any logic of sequence and practicality.

Individualised prescriptions

Individualised prescriptions are an excuse to escape scrutiny, and in practice, represent not only poor scientific spirit, but also poor understanding of Ayurveda. Different prescriptions for the same clinical presentations in different patients are attributed to the common-sense principle that no two individuals are the same [19]. Elicitation of the bases of variation is a part of basic Ayurvedic clinical skill, mostly done through patient interrogation [18]. They are introduced into the syllabus in the early years (in basic principles) and reiterated further in clinical training. Ironically, such skills, not *tridosha* assessment, are considered in "Ayurvedic" surveys assessing the clinical competence of its students [20].

Obsolete Ayurveda and the way forward

Indeed, Ayurveda has several obsolete components. It has kept renewing itself by replacing ideas that did not match observations, incorporating new pathogeneses and their management, new drugs, and deleting outdated, difficult-to-execute procedures (as in surgery and rejuvenation).

The linguistic intricacy of the Ayurvedic terms make them recondite to many. There are several herbs with obscure identity and poor availability. They are being replaced with apt, sustainable substitutes. Many diseases are no longer seen in our current society. Multiple procedures in toxicology, surgery, and neonatology are no longer recognised by the state. Research outcomes and technological advances must be included in the syllabus. The time is ripe for genuine revamping that resolves these crises. Students must be trained to appreciate both the streams of knowledge, while preserving their integrity and individuality. They must be competent in diagnosis and management using Ayurveda as well as western medicine.

The scientific way of abandoning redundant theories

Falsifiability is considered a crude, primitive tool to assess a theory due to its inability to incorporate probabilities, explain models (which replaced theories), and its poor applicability in most domains except physics [21]. Testing a theory for its validity and reliability is not linear, rather it includes the following sequence:

- i. Testing it multiple times.
- ii. Cross-checking it with the observations.
- iii. If mismatch exists, confounders are looked for.

If there is a mismatch but no confounders, then the theory is rejected. If a confounder exists, they are excluded, and both are studied separately. Otherwise, the theory stands valid. For instance, the observed orbit of Uranus was not compatible with that predicted by Newton's gravitational theory. This did not lead to abandonment of the theory, but confounders were searched for, which suggested the presence of another planet, (an *ad hoc* conjecture was added!) the motion of which exerted influence on the former (Adam and Le Verrier) [22]. This resulted in the discovery of Neptune, which would have been impossible otherwise.

Ad hoc conjectures

Popper was either reluctant to admit or unclear about the difference between *ad hoc* and auxiliary hypotheses [23]. This has probably caused Patwardhan and his motivators to misconstrue the same. (Some scholars consider them as different grades of *ad hoc* hypotheses) [24]. They differ in the sense that an *ad hoc* conjecture does not have independent verifiability or logical consequences, whereas the latter has. In the author's example, if individuals of *pitta prakriti* express hypertension contrary to the hypothesis that *kapha prakriti* individuals will have it, it can be subjected to further independent testing. The auxiliary conjecture proposed by the author in no way rescues the actual hypothesis, rather it suggests an alternative, independently verifiable mechanism that could have led to this observation.

Conclusion

Principles, especially those relating to anatomy and

physiology are the identities of many systems of traditional, complementary, and alternative medicine including Ayurveda. While international bodies acknowledge their contribution to science and call for the preservation of their integrity [25], the aforementioned views warrant transplanting their practices from their original backgrounds to that of western science. The long-term outcome of these studies would be these knowledge systems ending up as suppliers of certain semi-effective, add-on, complementary biomolecules. 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.

References

1. Patwardhan K. Confessions of an Ayurveda professor. *Indian J Med Ethics*. 2023 Jan-Mar;8(1)NS: 61-64. <https://doi.org/10.20529/IJME.2022.049>
2. Okasha S. *Philosophy of science: A very short introduction*. London, England: Oxford University Press; 2002. pp 2.
3. Føllesdal D, Friedman M, Weisberg M. *Science, Pseudo-Science and Traditional Knowledge.. ALLEA Biennial Yearbook*. Amsterdam: 2002 [Cited 2023 Sep 9]. pp.27-38. Available from: http://www.allea.org/wp-content/uploads/2016/02/Follesdal_Science_Pseudo_Tradition.pdf
4. The Science Council. Our definition of science. 2009 [Cited 2022 Jul 18]. Available from: <https://sciencecouncil.org/about-science/our-definition-of-science/>.
5. DiNubile MJ. Skepticism: A lost clinical art. *Clin Infect Dis*. 2000;31:513-518. <https://doi.org/10.1086/313945>
6. Mazer B. The Importance of Selective Skepticism. 2021 Jan 13 [Cited 2022 Jul 18]. Available from: <https://thepathologist.com/outside-the-lab/the-importance-of-selective-skepticism>.
7. Brenna CTA. Bygone theatres of events: A history of human anatomy and dissection. *Anat Rec [Internet]*. 2022 [cited 2023 Sep 18];305:788-802. doi: 10.1002/AR.24764. Cited in: PMID: 34551186.
8. Kumar M, Devi S. Teaching palmar anatomy: A comparative case study of conventional scalpel dissection with an innovative hydro-dissection method. *FASEB Journal*. 2018 Apr 1 [cited 2022 Jul 18]; 32:507.24-507.24. https://doi.org/10.1096/fasebj.2018.32.1_supplement.507.24
9. Kumar M. The impact of hydro-dissection method in fascial plane delineation of dorsum of human hand. *FASEB Journal*. 2022 May 13 [Cited 2022 Jul 18];36. doi: <https://doi.org/10.1096/fasebj.2022.36.S1.L7413>
10. Balasundaram N. Factor Analysis: Nature, Mechanism and Uses in Social and Management Science Research. *Journal of Cost and Management Accountant Bangladesh*. 2009; 37(2): 15-25. [cited 2022 Jul 18]. Available from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2117233.
11. Central Council for Research in Ayurveda and Siddha, Ministry of Ayush. Management of Chikungunya through Ayurveda and Siddha - A Technical Report. New Delhi; 2009 [Cited 2022 Jul 18]. Available from: https://www.academia.edu/35698714/MANAGEMENT_OF_CHIKUNGUNYA_THROUGH_AYURVEDA_AND_SIDDHA_CENTRAL_COUNCIL_FOR_RESEARCH_IN_AYURVEDA_AND_SIDDHA_Department_of_AYUSH_Ministry_of_Health_and_Family_Welfare_Government_of_India
12. Puthiyedath R, Kataria S, Payyappallimana U, Mangalath P, Nampoothiri V, Sharma P, et al. Ayurvedic clinical profile of COVID-19 - A preliminary report. *J Ayurveda Integr Med*. 2022 Jan-Mar;13(1): 100326. <https://doi.org/10.1016/j.jaim.2020.05.011>
13. Girija PLT, Sivan N. Ayurvedic treatment of COVID-19/SARS-CoV-2: A case report. *J Ayurveda Integr Med*. 2022 Jan-Mar;13(1):100329. <https://doi.org/10.1016/j.jaim.2020.06.001>
14. Joshi JA, Puthiyedath R. Outcomes of Ayurvedic care in a COVID-19 patient with hypoxia - A case report. *J Ayurveda Integr Med*. 2022 Jan-Mar;13(1):100363. <https://doi.org/10.1016/j.jaim.2020.10.006>
15. NITI Aayog, Ministry of Ayush. Mitigation and Management of COVID-19: Compendium of Ayush-Based Practices from Indian States and Union Territories. New Delhi; 2022. Available from: <https://niti.gov.in/sites/default/files/2023-02/COMPENDIUM-OF-AYUSH->

- BASED-PRACTICES_29-06-2022%281%29.pdf
16. Manohar PR. Ayurvedic education: Where to go from here? *Anc Sci Life*. 2014;33:143–145. <https://doi.org/10.4103/0257-7941.144615>
 17. Krishna GL. The Ayurvedic Doshā Theory: A Deconstruction. *Indian Academy of Sciences - Confluence*. [Cited 2022 Jul 19]. Available from: <http://confluence.ias.ac.in/the-ayurvedic-dosha-theory-a-deconstruction/>.
 18. Vāgbhata Hemādri A. The Aṣṭāngahridaya, A compendium of the Ayurvedic System composed by Vāgbhata, with commentaries (SarvāAngasundarā) of Arunadatta and (Ayurvedarasāyana) of Hemadri. Sixth. Pt. Bhiṣagācārya Hariśāstri Parādkar Vaidya AMK, editor. Mumbai: Nirnaya--Sāgar Press; 1939.
 19. Agnivesa Caraka DA. Caraka Samhita of Agnivesa. Elaborated by Caraka and Drdhabala, with the Ayurvedadipika commentary by Cakrapanidatta and Nirantarapadavyakhya by Jejjata. 2018th ed. RH Singh, editor. Varanasi: Chaukhamba Surbharati Prakashan; 2018.
 20. Patwardhan K, Gehlot S, Singh G, Rathore HCS. The ayurveda education in India: how well are the graduates exposed to basic clinical skills? *Evid Based Complement Alternat Med* 2011 Feb 14. <https://doi.org/10.1093%2Fecam%2Fnep113>
 21. Jogalekar A. Falsification and its discontents. *Scientific American Blog Network*. 2014 Jan 24 [Cited 2022 Jul 19]. Available from: <https://blogs.scientificamerican.com/the-curious-wavefunction/falsification-and-its-discontents/>
 22. This Month in Physics History September 23, 1846: Neptune's Existence Observationally Confirmed. *APS News*. 2020 Sep;29(8); [cited 2022 Jul 18]. Available from: <https://www.aps.org/publications/apsnews/202008/history.cfm>.
 23. Bamford G. What is the Problem of Ad Hoc Hypotheses? *Science & Education* 1999; 8:375–386. <https://doi.org/10.1023/A:1008633808051>
 24. Grünbaum A. Ad Hoc Auxiliary Hypotheses and Falsificationism. *Brit J Phil Sci*. 1976 Dec; 27(4):329-362. <https://doi.org/10.1093/bjps/274329>
 25. World Science Forum. Declaration of the 1999 UNESCO World Conference on Science. 1999 Jul 1 [Cited 2022 Jul 19]. Available from: <https://worldscienceforum.org/contents/declaration-of-the-1999-unesco-world-conference-on-science-110056>.

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

Author: **Kishor Patwardhan** (kpatwardhan@bhu.ac.in), Department of Kriya Sharir, Faculty of Ayurveda, Institute of Medical Sciences, Banaras Hindu University, Varanasi 221 005, Uttar Pradesh, INDIA.

To cite: Patwardhan K. A case for testing and modifying theory in Ayurveda: Author's response. *Indian J Med Ethics*. 2023 Oct-Dec; 8(4) NS: 326-328. DOI: 10.20529/IJME.2023.059

Copyright and license

© *Indian Journal of Medical Ethics* 2023: Open Access and Distributed under the Creative Commons license (CC BY-NC-ND 4.0), which permits only non-commercial and non-modified sharing in any medium, provided the original author(s) and source are credited.