

# ĀRYAVĀIDYAN

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**DR. P.K. WARRIER**  
Commemorative Issue  
on  
**TRIDOSHA THEORY**

लाभानां श्रेय आरोग्यम्  
*Of all the gains,  
the most precious is health*



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VAIDYARATNAM P.S. VARIER'S  
ARYA VAIDYA SALA, KOTTAKKAL

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**सतताध्ययनं वादः परतन्त्रावलोकनम् ।**

**तद्विद्याचार्यसेवा च बुद्धिमेधाकरो गणः ॥**

Constant study, mutual discussion,  
learning other disciplines and close  
association with the preceptor - these factors  
endow one with intelligence and memory

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#### Cover image

Front: Symbolic presentation of the three *doshas*.

Back: *Gymnostachyum warrieranum* K.M. Prabhu. Indu. & V.B. Sreek.



Wisdom personified - that defines Dr. P.K. Warriar, who led Arya Vaidya Sala with his fervent spirit and firm commitment for seven decades in the past one hundred and twenty years of existence of the institution. A major share of his lifetime and energy was bestowed upon the organisation, which is the reason behind its present position. His zest for knowledge was ceaseless and so was his exemplary receptivity for various disciplines of science. The sensitivity that he had shown to react to what mattered was extraordinary too.

Dr. P.K. Warriar stood as the true descendent of Vaidyaratnam P.S. Varier, the Founder, and Dr. P. Madhava Varier, the first Managing Trustee of Arya Vaidya Sala. His interests and actions reflected the steadfast adherence he had to the will and vision of his predecessors.

The popularisation of *aayurveda* and dissemination of the knowledge of this science was one of the prime focuses of Vaidyaratnam P.S. Varier. Publication of '*Dhanvantari*', the first one of its kind as a medical journal of the then times, authoring *Brhacchaareeram* and many other texts illuminate the literary passion of Vaidyaratnam P.S. Varier. Dr. P.K. Warriar also chose the same direction, to promote *aayurveda* and make it contemporary to suit the needs of the time.

It was in this line that Arya Vaidya Sala set up a separate division for the publication of authentic scholarly works.

The release of the *Aryavaidyam* quarterly journal started in the year 1987, under the managing editorship of Dr. P.K. Warriar. The support which he extended to the editors of the magazine was unique, retaining the editorial autonomy and reassuring the quality of publications both at the same time. This peer-reviewed journal has been keen to bring out articles and research works of high standards ever since its inception. The e-journal version works of the quarterly are also on the way.

The theme for this issue of *Aryavaidyam* is '*Tridosha theory*'. I believe the contents would help the readers to expand their thought process in novel and creative ways to give better interpretations and practical implications for the subject.

Being an ardent seeker of learning and letters, the first death anniversary of Dr. P.K. Warriar falls as an instance for us to re-dedicate ourselves to the path shown by him towards widening our insights, for the cause of taking *aayurveda* to greater heights.

It humbles me to devote this issue of *Aryavaidyam* as a tribute to Dr. P.K. Warriar, the ever revered icon of *aayurveda*.

Dr. P.M. Varier  
Managing Trustee &  
Chief Physician



This issue of *Aryavaidyan* is dedicated to Late Dr. P.K. Warriar who left for the heavenly abode on 10<sup>th</sup> of July 2021. As the Managing Trustee of Arya Vaidya Sala, Kottakkal, for more than sixty years he could bring sweeping changes in all spheres of *aayurveda*. Research, drug production, therapeutics, publications and other academic activities- all were revamped to be tuned to the times.

As a materialization of his vision, a department for publications was established in Arya Vaidya Sala in 1987. Actually, it is to ensure the uninterrupted publication of *Aryavaidyan* quarterly research journal, the concerned department was established. It must be remembered that *Dhanvantari*, the monthly, published by Vaidyaratnam P.S. Varier during 1903-1926 was the first science magazine in Malayalam. To perpetuate its memory and also to form a systematic platform for scientific communication *Aryavaidyan* was instituted.

Dr. P.K. Warriar was the founder Managing Editor. His long cherished friend and scholar-physician Dr. N.V. Krishnankutty Varier was the founder Chief Editor. With this issue, *Aryavaidyan* completes thirty four years of uninterrupted publication. During these years, it could serve as a platform for the communication of validated knowledge on *aayurveda* and allied sciences. We could also be almost regular in releasing the issues.

The first article in this issue written by Dr. T.S. Muraleedharan, unveils the versatile personality of Dr. P.K. Warriar.

The theme of this commemorative volume is '*Tridosha* theory'. This fundamental principle of *aayurveda* could explain body and its function; also food/drug and its action. This thesis evolved probably after *Vedic* era was further systematized in later periods to be documented in *aayurvedic samhitas*. We experience *tridoshas*, efficient enough to interpret the well and ill beings of the body. Also, felicitousness of the *dosha* theory is evident in clinical practice. Recently, this is further emphasised by several authentic articles published on the eliciting Covid-19 in *doshic* terms. The potency of *dosha* theory is slowly getting quite convinced even by the scientific world also.

*Tridosha* theory was actually derived from the observation of both physiological and pathological changes of the body. The exact premises with which the theory was established are missing due to the discontinuity of the classical teaching-learning. This has to be compensated by research.

There is an apparent lack of research to fill gaps in understanding *tridoshas*. A quick search through the archives of reputed journals will reveal the fact. Most of the papers just summarise and review the theory only. *Dosha-prakṛti* is an area where there several works were done. Lack is especially felt in studies on *doshas* in diagnostics and therapeutics.

Our effort in the issue is to invite the attention of *aayurvedic* fraternity to enrich the theory with more conceptual and clinical researches. Development of standardised tools for assessment *doshas* is another area of exploration. For everything, the beginners of *aayurveda* have to be convinced with the theory and that essentially depends upon the teaching.

We could not ensure that all the perspectives of the *tridoshas* reflected in this issue due to many reasons. Yet articles are expected to be representative in nature.

Dr. P.K. Warriar always welcomed innovations and was a source of inspiration to all who were associated with him. He was also keen in further modifications to the journal to make it more efficient in the dissemination of the validated knowledge. We will surely move forward through the path he has shown us with his accomplished life.

With *pranams* to the departed soul,

Prof. K. Murali  
Chief Editor





## Dr. P.K. Warriier - the torch bearer of *aayurvedic* renaissance of modern times

Muraleedharan T.S.

### Introduction

Aryavaidyan P.K. Warriier, the long reigning Managing Trustee of Kottakkal Arya Vaidya Sala, breathed his last at Kottakkal on the 10<sup>th</sup> of July, 2021. Just the previous month, his 100<sup>th</sup> birthday was celebrated in a sober manner with focus on academic events in the restraining COVID situation. In his death, the Indian health care domain in general and the world of *aayurveda* in particular have lost not only the eminently regarded senior most Physician of the country but also a highly honoured torch bearer of *aayurvedic* resurgence of modern times. His death marks the end of an eventful era which saw the revitalisation of classical *aayurveda* as an iconic symbol of national heritage. It was largely due to the yeoman services rendered by Dr. Warriier and other stalwarts of his generation that the various core components of *aayurveda* got an impetus for its growth in the past more than five decades. It was during this period that the contemporary domain of *aayurveda* came of age, attained maturity, and acquired confidence and ability to spread its wings of expansion globally. Dr. Warriier was the doyen among several leaders of the *aayurvedic* renaissance which happened in that period.



Aryavaidyan P.K. Warriier (1921- 2021)

### The modern face of tradition

During the more than six decades that he was at the helm of Arya Vaidya Sala (AVS) as its Managing Trustee, Dr. Warriier initiated several important measures which established its status as an authentic representative of traditional and classical *aayurveda* with a pan-Indian standing. At the same time, he also took special care to ensure that the practice of *aayurveda*, in all its comprehensive elements, was updated and upgraded appropriately to equip itself to match with the aspirations and preferences of modern times. Striving simultaneously for these apparently incompatible dual objectives and reaping remarkable results were no small matter when viewed in the larger context of *aayurvedic* evolution. The manner in which he accomplished this extraordinary feat will, in itself, demonstrate the arduous and complex way in which the *aayurvedic* system of traditional health care has survived a rather hostile social environment during the post-independence period of India and how it has now won for itself a semblance of respect and acceptance from among the health policy managers of the country.

Dr. Warriier has left an indelible personal mark in some very important domains of *aayurvedic* growth. They include the areas of clinical service, pharmaceuticals, research, education, knowledge enhancement, medicinal plant cultivation, documentation/publication, generating public awareness, and building alliances between professional groups of *aayurvedic* fraternity. He made several important initiatives in these areas, which influenced the long term growth of *aayurveda* as a vibrant, reliable, user-compliant, affordable and viable system of health care. In all these fronts, his approach was marked by two core aspects. His feet were firmly rooted in the robustness of the traditional wisdom of

*aayurveda*. At the same time, his eyes were sharply focused at the prospect of modernising its benign capabilities for the benefit of future generations. The courage of his conviction about the capabilities of traditional *aayurveda* enabled him to remain unfalteringly faithful to its *dicta*. And his fervour and enthusiasm towards modern developments in science and technology enabled him to take bold steps aimed at invigorating the future destiny of *aayurveda*. For many, these two apparently dichotomous perceptions would have created dilemmas of conflict and contradiction. For Dr. Warriar, however, tradition and modernity were not two confronting extremes. Modernity, as he perceived it, was a natural sequel to the dynamic spirit of tradition.<sup>1</sup> Both represented the two faces of the same coin of social evolution. It was this refreshingly optimistic disposition that enabled Dr. Warriar to realise many important accomplishments in bridging the originality of *aayurveda* with modernity.

#### **A clinician *par excellence***

Dr. Warriar was a clinician *par excellence* and his fame reached beyond the borders of the country. He was known for his exceptionally efficacious healing touch as also for his caring compassion and empathy. He approached diseases objectively. But he primarily treated the patient before him as a frail and suffering human being. Countless chronic patients from every *stratum* of the Society and from every corner of the country and from abroad used to visit Kottakkal seeking solace with the aid of his exceptional therapeutic skills. He made every possible effort to give them palliation armed with his total faith and confidence in the healing power of classical *aayurveda*. He made it a point to read a few pages from the *Ashtaangahrdaya* every morning.<sup>2</sup> He gained rare insights into its vast storehouse of clinical wisdom. And, as a real preceptor, he shared them with his young colleagues. With his extraordinary grasp of the essentials of *aayurveda*, he was willing and equipped to deal with even the typically baffling diseases of the modern age. Even when the condition of the patient presented an extremely poor prognostic outlook, Dr. Warriar had the ethical and moral courage not to shy away from his professional responsibility and, instead, to

extend his benign hand of care and compassion.<sup>3</sup> His philosophy was that it was not for a physician, under any circumstance, to throw up hands in despair and jettison the fate of a patient seeking help to uncertain destiny. The case of a young boy afflicted with an extremely rare congenital condition termed as “hyper mobility of the joints” is a typical example. The condition was so uniquely distressing that even a seasoned physician of any system would have become unnerved with trepidation. Dr. Warriar took it up in right earnest and after prolonged therapy, the boy was later able to manage his debilitating condition and lead a successful professional life.<sup>4</sup> In yet another instance, a young lady diagnosed with cancer of the pancreas sought his medical advice. After the very classical treatment of Dr. Warriar, she got cured of her illness and could later lead a very normal life bearing two babies in due course of time.<sup>5</sup> Cancer was an ailment which Dr. Warriar had a special verve and determination to confront. As a youngster, he had seen how his mother suffered the pain of cancer and also how she had to carry on with the physical trauma of radiotherapy for the rest of her life. This made him take up treatment of cancer as a life mission and developed a unique *aayurvedic* approach.<sup>6</sup> Just in the last April, during an informal interaction, he was as enthusiastic and vehement as ever while talking about his ardent yearning to see that *aayurvedic* drugs are developed to conquer this untamed disease. Thousands of cancer patients who visit the Special Clinic at the Charitable Hospital of AVS every year bear testimony to the societal usefulness of the therapeutic modality that he has developed to deal with different types of cancer.

The NABH accredited Hospital of AVS, functionally, has acquired the status of a tertiary referral hospital because patients mostly come there after undergoing other treatments. This had necessitated Dr. Warriar and his young colleagues to become adept at reading and understanding a variety of complex clinical reports which the patients presented before them. As a result, a certain kind of translational and interpretational process evolved, which succeeded in establishing links with *aayurvedic* parlance. The therapy has always been exclusively *aayurvedic*. Such



Meticulous in his study

pioneering efforts have enabled the Kottakkal Hospital to devise and establish Standard Operating Procedures (SOPs) for effective functioning of Ayurvedic Hospitals under modern conditions.

### Contributions to drug sector

Apart from being an exceptional clinician, Dr. Warriar had also made significant contributions to other domains which constituted the core competence of *aayurveda*. The philosophical ethos of *aayurveda* is well recognised. And yet, it is now perceived essentially as a health care system. A vast array of poly-herbal formulations represents its public face. Dr. Warriar had prompted important innovative steps in the areas of drug development, drug presentation and drug processing. Several are the new formulations he designed and standardised, particularly for treating his patients with cancer and other unusual disorders. *Sahadevyaaadi leham*, *Sanjeevani tailam* and *Abhayanaayaki leham* are just three examples. For such efforts, he took cues from classical *ganās* and *yogas*, and also from other textual references in an innovative style.

The universal acceptance of classical formulations is seriously impacted due to issues of user-

compliance in terms of their unsavoury taste, cumbersome dose factor and unwieldy handling requirements. Dr. Warriar recognised very early that unless unorthodox methods were adapted to render them more amenable to modern life-style and preferences, a time will, indeed, come when the *aayurvedic* armamentarium of classical formulations would go totally out of use. In a typically far-sighted fashion, he courageously initiated modernisation steps. In 1992, he started by converting the bitter tasting *Pravaahi kvaatha* to the more acceptable form of tablet by identifying and installing technology adapted from modern pharma sector. Care was, of course, taken not to deviate from the basic *kashaayam* preparation procedure. The innovative next step was to solidify the liquid *kashaayam* under controlled condition and then to granulate and compress to standard tablet form after incorporating Pharmacopoeia approved excipients and by avoiding the need for a preservative.<sup>7</sup> The crucial requirements were to ascertain efficaciousness and to establish dose equivalence between the liquid and tablet forms. Based on scientific data, the form change was approved by the Licensing Authority. After prolonged scientific interactions with the Regulators in Delhi, the tablet version of *kvaatha* has now been incorporated into the Ayurvedic Pharmacopoeia of India.<sup>8</sup> It was, however, a fact that the practising physicians and the general public of Kerala were, initially, quite apprehensive about accepting this form change, which, in fact, impacted the sales. That did not deter Dr. Warriar from proceeding with his mission, because he was quite convinced about the historical need for such modifications. Thus, more such *kashaayams* were taken up for conversion. It stands to the credit of his courage of conviction and open mindedness that, within a period of two decades, this pioneering modernisation step was accepted as a standard practice by other manufacturers. Similarly, greasy *tailas* were converted to the form of gel, cream or balm, the sticky *lehas* were converted to granule, and the super-fine *bhasmas* to the form of capsule. The primary objectives of all these efforts were to enhance user-compliance and to improve the accuracy of dose delivery. Keeping these long-term objectives in view, a whole range of “new generation” formulations has been

uniquely designed and brought to the Market by AVS in the last one decade. The golden rules in these exercises were an uncompromising insistence on maintaining fidelity of the basic formula and the emphasis on the exactness of the dosage factor, while adapting modern methods of dosage presentation. In this regard, he had before him the example set by his Uncle, Vaidyaratnam P.S. Varier who had pioneered steps to preserve *kashaayams* and to position them in the market in sealed bottles as early as in 1902.

Drug preparation methods also received his attention. He started his professional career as the Factory Manager at Kottakkal in 1947 and he knew the intricacies of classical processing steps. He recognised the challenges in striking a balance between the stipulations of *bhaishajyakalpana* as prescribed in the texts and the needs of scaled up bulk level production of universalised batches of medicines. Confronting such challenges necessitated a transition from conventional “cooking steps” to the methods of industrial technology. There was, indeed, a paradigm shift in the basic approach, which called for infrastructural upgradation.<sup>9</sup> He was open to adopting modern industrial technology for the purpose. He took forward in a big way the mechanisation steps which his immediate predecessor, Dr. P.M. Varier, had set in motion in the late 1940s. Replacing the use of enormous quantities of fossil fuel by the utilisation of boiler generated steam as the source of energy for drug processing was a major forward step taken in 1967. From then on it was a continuous chain of upgradation steps. Dedicated plants were set up at Kanjikode in 1987 and at Najangud in Karnataka in 2009 focusing at specific medicine categories, where modern processing equipments like Vacuum concentrator, Centrifugal separator, Fluidised Bed Processor, etc. were installed. The working philosophy of Dr. Warriar had always been not to deviate from the essentialities of *aayurveda* and yet to accept appropriate inputs from industrial technology for the purpose of improving the efficiency and enhancing the capacity of operations. When issues were reported, he would always put forth his well considered advice based on his instinctive wisdom

and practical outlook. Once, while addressing the remote probability of wire mesh breakage in a granulating machine, a proposal came up from the floor for its frequent replacement. He vetoed the idea outright, because even a rare possibility of material contamination was not acceptable to him, and instead instructed to look around for an advanced, even if expensive, equipment for the purpose. That is how a modern Comminuting Machine was identified and installed in the Tableting Plant after taking trials at the Manufacture’s plant at Ahmedabad. It was his insistence on adopting modern methods of quality assurance that led to the establishment of a QC Laboratory at Kottakkal in the 1970s, staffed with trained chemists. He saw to it that this Laboratory was equipped with modern instruments like Atomic Absorption Spectrophotometer, High Performance Thin Layer Chromatograph, Lyophiliser, etc. and it was one of the first Laboratories to receive approval from the Department of AYUSH, from the Department of Scientific and Industrial Research, and also from the State Pollution Control Board.



Always keen on modernity

### Passion for research

Dr. Warriar was passionately interested in activities of research and development and his broad vision gave shape to the various research schemes of AVS. They were conceived in three main areas, *viz.* clinical related, medicinal plant related, and product and process related. He was personally leading the cancer related studies as a long term project. The huge volume of data

generated from thousands of patients is under analysis. It was largely on account of his professional standing that the Central Council for Research in Ayurvedic Sciences (CCRAS) decided to operate a Clinical Research Unit dedicated to the study of *parinaamaṣoola* from AVS premises under his guidance some four decades ago. Still later, he decided to set up a formal Clinical Research Division at AVS to study unique ailments.

The importance of medicinal plants and their science were recognised by Dr. Warriar in the context of their crucial role in the sustainable growth of *aayurveda*. A Demonstration Herb Garden was set up at Kottakkal in 1984. His close association with the world renowned geneticist, Dr. M.S. Swaminathan, led to the establishment of the Centre for Medicinal Plants Research at Kottakkal, which was inaugurated in 2003 by the

then President, Dr. A.P.J. Abdul Kalam. It was later recognised as a Centre of Excellence in Drug Standardisation by the Ministry of AYUSH. It possesses state-of-the-art equipments and has expert Scientists. The advanced research undertaken there in the domains of phytochemistry, tissue culture, taxonomy, plant propagation, genetic resources, etc has generated commendable results which have a direct bearing on pivotal areas like drug development, drug standardisation, plant resource strengthening, quality assurance, etc. The Centre also takes up projects for national and state bodies like ICMR, NMPB, DBT and KSCSTE and several Monographs and other publications have been brought out.<sup>10</sup> Dr. Warriar had made it a point to sit in the review meetings along with top Scientists in order to closely follow the progress of the Centre.



Dr. Abdul Kalam inaugurates C.M.P.R. in the presence of Shri A.K. Antony, Dr. M.S. Swaminathan, and others (2003)

As times advanced, a need was felt for developing new formulations. Yet another issue of concern was the need for optimising and rationalising the drug processing methods. Dr. Warriar was keenly aware of the importance of both these issues in the context of future growth of *aayurveda*. The R&D and the Product Development Departments were entrusted with these studies and he personally monitored the outcome. An entirely new

array of medicaments, which came out of the Nanjangud Unit of AVS, was the result of these efforts.<sup>11</sup> He was extremely concerned that the classical drug processing methods were highly material intensive, water intensive and man-power intensive, as he had known from his hands-on experience. Often did he express his deep anguish that, unless appropriate new methods were devised to frugalise the use of raw herbs, the ever

expanding drug sector would ultimately prove to be detrimental to the precious herbal resource base. He wanted to see that more efficient methods of drug processing and more efficient techniques of extracting the active components of the herbs were put in position. For such studies, a Pilot Plant with a Solid Liquid Extraction System was set up as part of R&D Department with the support of the Indian Institute of Chemical Technology of Hyderabad. He had also thought of solvent extraction technology as a scientifically feasible alternative for preserving the severely threatened raw material resource base. Studies to explore this possibility, particularly in view of the differential extractability of multiple bioactive molecules, were initiated two decades ago.<sup>12</sup> It would be interesting to note here that it was still a decade later that the Drugs & Cosmetics Act of India incorporated this scientific intervention as a part of the official drug definition. Similar is the issue of optimising the temperature of processing. Whatever be the innovation in technology, the classical *dictum* on *mr̥dvagni* and *samyak agni* (moderate heat) was never allowed to be compromised, and the boiling point of water was always set as the bench mark of processing temperature. Thus, processing under lowered pressure was acceptable but not elevated pressure, so as to avoid spike in boiling point and consequent molecular degradation.<sup>13</sup> Many are such examples of his firmness in adopting appropriate technology without losing sight of the core essence of textual stipulations.

Dr. Warrier had a long professional relationship with the reputed academician and researcher, Dr. M.S. Valiathan. Dr. Warrier asked R&D Department to participate in the mega Project, A Scientific Initiative in Ayurveda (ASIIA), which was launched by Dr. Valiathan and was later taken up as the Task Force on Ayurvedic Biology by the Science and Engineering Research Board (SERB) of GoI.<sup>14</sup> AVS had an opportunity to partner with research groups of the Genetics Department of BHU, BARC, IIT-Kgp, MAHE, and Rajiv Gandhi Centre for Biotechnology, in two important projects. Findings from one of these studies scientifically established the veracity of the *aayurvedic* concept and application of *rasaayana*,<sup>15,16</sup> and another study on humans

established its ability to aid DNA stability.<sup>17</sup> Yet another study proved the benign use of processed mercury as prescribed in *aayurveda*.<sup>18,19</sup> These significant results were published in reputed International Journals and, along with the findings from the other ASIIA projects, helped in bringing some of the fundamental concepts of *aayurveda* to the forefront of scientific attention globally. In this context, a reference must also be made to the earlier CSIR-AVS project on Bioactives, which was a multi-centric programme mooted by CSIR. Dr. R.A. Mashelkar, the then DG of CSIR, visited Kottakkal to meet Dr. Warrier for discussions in this regard. This national project, which commenced in the late 1990s, opened the doors for AVS to start engaging with leading national laboratories in collaborative research programmes. In all these scientific efforts, Dr. Warrier's policy was very clearly defined. He was quite enthusiastic about receiving appropriate inputs from parallel streams of knowledge in order to strengthen the inherent capabilities of *aayurveda*. His motto was the same as declared in the famous hymn of *R̥gveda*, *aano bhadraaḥ kratavo yantu visvataḥ* (let noble thoughts enter from all directions).



With Dr. M.S. Valiathan (2005)

### Efforts in propagation of knowledge

Documentation and publication of knowledge and information were considered an important part of Dr. Warrier's endeavour to propagate *aayurvedic* wisdom. The Publication Wing of AVS was set up in 1987 for organising and disseminating knowledge in the forms of reference texts, periodicals, seminar proceedings, public information texts, etc. He co-authored the five volume *magnum-opus*, "Indian Medicinal Plants - A Compendium of 500 Species" which is

recognised as a standard reference manual.<sup>20</sup> He started conducting annual Ayurveda Seminars at Kottakkal in 1964, which came to be seen as useful venues for academic interactions and knowledge enhancement. He used to take personal care of every aspect of holding these academic events and was keen to interact with the visiting experts and exchange views. He had great regard and respect for senior physicians and scholars. The Proceedings of these annual

Seminars of the past close to six decades have become standard reference texts for professionals and students alike.<sup>21</sup> The World Congress on Holistic Life and Medicine<sup>22</sup> held by AVS at Kozhikode in 1996 and the National Seminar conducted in 2002 as part of the Centenary of AVS, were also major academic events. AVS had also hosted two Plenary Sessions of the All India Ayurvedic Congress.



Pandit Shiv Sharma and other seniors at AVS in 1954

Dr. Warrier was a widely travelled person. He carried the message of *aayurveda* to both the western and eastern hemispheres of the Globe and attended meetings, interacted with experts and spoke at professional fora. He had also authored several books and his autobiography, “*Smrtiparvam*”, won the Award of the State Academy.<sup>23</sup> The VPSV Ayurveda College at Kottakkal, which was his *alma mater* and which is one of the top ranking *aayurveda* teaching centres of the State, receives financial and administrative support from AVS. Dr. Warrier always used to insist on the importance of rigorous and formal modalities of teaching classical *aayurveda* and he strongly believed in the crucial role of a knowledge of Sanskrit in *aayurvedic* tutelage.

### **An able Administrator**

As the Managing Trustee of AVS for close to seven decades, he set an example for a model Administrator by being a man of clear vision and

determined mission. The Organisational Vision of AVS has already been stated in the provisions of the reputed Will executed by his uncle, Vaidyaratnam P.S. Varier. And this Will is the Constitution of AVS. What Dr. P.K. Warrier did was to give shape to his own vision by meticulously staying faithful to the spirit and the essence of that great document, while at the same time remaining sensitive and alert to the altered socio-economic realities of the times he lived in. And



During a visit abroad

he had firmed up his mission to realise the broader vision of his uncle by setting tangible milestones for the growth of the Organisation which he had the brief to head at the young age of 32. These milestones represented the growth of AVS in the different segments of its operations. The three Hospitals at Kottakkal, Kochi and Delhi, the three Factories at Kottakkal, Kanjikode and Nanjangud, the 26 Branch Clinics located at major cities of the country, close to 2000 Dealerships spread across the country, a wide network of materials management system, the research activities, the medicinal plant estates, and the huge amount of good-will the people have reposed in AVS, are all testimony to the far-sighted and prudent planning of Dr. Warriar and his ability to effectively manage its implementation.<sup>24</sup> His fellow members of the Trust Board always stood with him in matters of policy decisions. He had the practical mind to have a professional positioned as a General Manager as early as in 1956, just two years after he took over as the Managing Trustee, to support him in administrative matters. He also had the support of experienced physicians as colleagues. His fair and unbiased approach to issues was reciprocated by the dedication and commitment of more than 2500 strong employees including executives, staff and workmen. At the age of 32, he had inherited a conventional system of management. During his subsequent tenure, he took measures to modernise the core domains of finance management, materials management, human resources management, marketing, engineering department, etc by introducing contemporary practices of Organisational management. A Microsoft powered ERP system was implemented as an advanced tool for integrated management of resources. AVS was honoured by NASSCOM for this major digitisation venture. And still recently, digital modes of providing clinical services and for medicinal supply were also introduced. While the whole organisational structure and its functional modality were thus getting modernised, he never abandoned his characteristic disposition to adopt a personalised and principled approach to issues related to men and matters. He reinforced the status of AVS as a Charitable Trust as envisaged in the Will of his uncle and ensured that 45% of its financial accruals was spent on charity by continuously expanding the scope of

the Charitable Hospital as an abode of free *aayurvedic* care and therapy for the less privileged segments of the Society. The strength of the Modern Medicine wing of the hospital was also accordingly enhanced. And he took meticulous care to continue to protect and nurture PSV Natyasangham - the Kathakali Academy, and the Vishvambhara temple, both of which were particularly favoured and looked after by his uncle.



A young Dr. Warriar in the 1950s

### **A dedicated successor to an illustrious Founder**

Building lasting Institutions of social relevance is a typical attribute of renaissance personalities. Vaidyaratnam P.S. Varier did just that in a meritorious manner.<sup>25</sup> Several are the establishments he created in his stride to achieve his vision. They were : the Arya Vaidya Sala (1902), the Arya Vaidya Samajam (1903), the Dhanwantari journal (1903), the PSV Natyasangham (1909/1939), two Branch clinics (1916/1932), the Ayurveda College (1917), the Charitable hospital (1924), the Vishwambhara temple (1932), and the Herb garden (1934). All



of them flourished during his time, except the journal which was discontinued after 27 years. Being an able and dedicated successor, Dr. P.K. Warriar expanded the scope and reach of all these establishments, including the journal which he recommenced in 1987, with a new name, "Aryavaidyan". More importantly, he set up other new institutions like research centres, publication department, IP hospitals, many more Branch clinics, etc. Institution building is, indeed, an accomplishment of historical significance. Institution maintenance and sustenance are no less significant, particularly in changed times when there are drastic shifts in the socio-economic and cultural value systems. The status of AVS as a Charitable Trust was always kept in mind by Dr. Warriar while confronting issues. And his decisions emanated from his innate senses of natural justice and fair-play.

#### **An accomplished life elegantly lived**

Dr. P.K. Warriar was a professional in every sense of the word. He was logical in his thoughts and he was straight forward in his actions. Being thoroughly objective in his concepts, he was clearly focused in his approach and did not get lost in frivolous details. He held high the principles of humanistic values and remained committed to deeds of social responsibility. He was greatly admired as a man of philosophical outlook, as a

man of objective action, as a man of touching empathy, and as a man of wise justice, all combined together. His life epitomised the essence of what *Caraka* envisaged in his famous discription of healthy living:

*Nityam hitaahaaravihaarasevee  
sameekshyakaaree vishayeshvasaktaḥ |  
daataa samah satyaparah kshamaavaan  
aaptopasevee ca bhavatyarogah ||*

He lived a full life; a life dedicated to the well being of the people around him, to the expansion and growth of the Institution which he headed, and also to the development and strengthening of the national heritage of *aayurveda*. He contributed substantially to augment the inherent capabilities of *aayurveda* and thus to enhance its credibility and acceptability, thereby accelerating the pace of its future growth. He had a comprehensive perspective on what *aayurveda* is and what it should become in the future. Several are the accolades that he received in recognition of his significant achievements in life, which include the Padmabhushan and Padmashri from the President of India, Ashtaangaratnam Award from the State Government, Doctorates from three Universities, the Dhanwantari Award from Mumbai, and many others. He sat in several Official and Academic Committees like the Ayurvedic Pharmacopoeia



Receiving Padmabhushan Award from the President Smt. Pratibha Patil (2010)

Committee, Central Council for Indian Medicine, Academic Council of Calicut University, etc. He took a leadership role in efforts to build alliances between *ayurveda* professionals, and thus was the President of All India Ayurvedic Congress of Delhi on two occasions, and was also the President of Kerala Ayurveda Mandalam for several years, apart from having initiated extensive professional interactions with peers.

Dr. Warrier's departure from our midst has left a void which will be difficult to be filled in the near future. History will mark him as a renaissance personality who, equipped with his strong base in the traditional knowledge which he learnt and practised with great acumen, and endowed with a receptive mind towards appropriate inputs from parallel streams of knowledge, contributed immensely to the overall growth of classical *ayurveda*.<sup>26</sup> People who knew him will keep remembering his exemplary healing touch, his compassionate demeanour, his endearing humility, and above all his noble dignity.

## References

1. Muraleedharan T.S., In *Sarathyam – P.K. Warrier Navati Smaranika* (in Malayalam), Department of Publications, Arya Vaidya Sala, Kottakkal, pp. 171-175, 2011.
2. Muraleedharan K., *P.K. Warrier – ever with love*, p. 50, Department of Publications, Arya Vaidya Sala, Kottakkal, 2012.
3. *Ibidem.*, p. 103.
4. Warrier, P.K., *The Canto of Memories*, p. 332, Department of Publications, Arya Vaidya Sala, Kottakkal, 2013.
5. Warrier P.K., *Sareeram Dharmasadhanam* (in Malayalam), p. 32, SPCS Ltd., Kottayam, 2012.
6. Warrier P.K., *Padamudrakal* (in Malayalam), p. 286, Department of Publications, Arya Vaidya Sala, Kottakkal, 2002.
7. Murali T.S. and Warrier P.K., Development of herbal drugs and the Ayurvedic medicinal system, *Aryavaidyan*, Volume XIII, Issue 3, pp. 147-153, Department of Publications, Arya Vaidya Sala, Kottakkal, 2000.
8. *Ayurvedic Pharmacopoeia of India – Part-II – Vol. IV*, p. 106, Min. AYUSH, GOI, New Delhi, 2017.
9. Muraleedharan T.S., Classical ayurvedic drug industry – a segmental view, in *Ayurveda in Transition*, pp. 107-122, Department of Publications, Arya Vaidya Sala, Kottakkal, 2010.
10. Gupta, A.K., et al. (Ed.), *Quality Standards of Indian Medicinal Plants*, ICMR, GOI, New Delhi, Vol. 6-17, 2008-2021.
11. *Therapeutic Index- New Generation Formulations*, pp. 1-28, Department of Publications, Arya Vaidya Sala, Kottakkal, 2016.
12. Muraleedharan, T.S., Ayur drugs at cross roads, *Chronicle Pharmabiz*, IPC Spl. Suppl., pp. 56-57, 2008.
13. Muraleedharan, T.S., The technological base of traditional Ayurvedic drug sector- a need for its strengthening, *The Pharma Review*, 7, 37, pp. 111-113, 2008.
14. Valiathan M.S., Ayurvedic Biology – Guest Editorial, *Current Science*, 110, 11, pp. 2043-2044, 2016.
15. Dwivedi V., et. al., In-vivo effects of traditional Ayurvedic formulations in *Drosophila melanogaster* model relate with therapeutic applications, *PLoS ONE*, 7(5), e37113, 2012.
16. Kumar V., et. al., Amalaki rasayana, a traditional Indian drug enhances cardiac mitochondrial and contractile functions and improves cardiac function in rats with hypertrophy, *Scientific Reports*, (Nature), 7, 1, 8588, 2017.
17. Guruprasad, K.P., et al., Influence of Amalakirasayana on telomerase activity and telomere length in human blood mononuclear cells, *Journal of Ayurveda and Integrative Medicine*, 8, 2, pp. 105-112, 2017.
18. Nitya Ramanan, et. al., *Investigating structural aspects to understand the putative / claimed non-toxicity of the Hg-based Ayurvedic drug Rasasindura using XAFS*, *Journal of Synchrotron Radiation*, 22, pp. 1233-1241, 2015.
19. Mukhi P., et. al., Mercury based drug in ancient India, the red sulfide of mercury in nanoscale, *Journal of Ayurveda and Integrative Medicine*, 8, 2, pp. 93-98 (2017).
20. Warrier P.K., et. al., *Indian Medicinal Plants – A Compendium of 500 Species* (in 5 volumes), Universities Press (India) Pvt. Ltd., Hyderabad, 9<sup>th</sup> Reprint, 2019.
21. *Prabandhavalī* – Seminar Proceedings series, Department of Publications, Arya Vaidya Sala, Kottakkal (since 1964).
22. Murali T.S., et. al. (Ed.), *Holistic Life and Medicine – Proc. VI World Cong. on Holistic Life & Medicine*, Calicut, Arya Vaidya Sala, Kottakkal, 1998.
23. Warrier P.K., *Smritiparvam* (Autobiography in Malayalam), 4<sup>th</sup> Edition, Department of Publications, Arya Vaidya Sala, Kottakkal, 2021.
24. Narayanan K.C., et. al. (Ed.), *A Legacy of Healing – Kottakkal Arya Vaidya Sala*, Malayala Manorama Co. Ltd., Kottayam, 2016.
25. Gita Krishnankutty, *A Life of Healing – a Biography of P.S. Varier*, Viking-Penguin Books, N. Delhi, 2001.
26. Muraleedharan T.S., *P.K. Warrier*, Bhavan's Journal, 59, 1, pp. 209-214, 2012.

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## Basic principles of *aayurveda*\*

Vaidyabhooshanam K. Raghavan Thirumulpad

Caraka explains "*Siddhaanta*" as the conclusion which is established by various reasons, based on experiments conducted in different ways, '*ante siddhah*' So a theory, according to *aayurveda*, is the conclusion arrived by the experiences gained with various practical experiments assisted by reasoning. Any experience will have its particular reason and rationale behind it, and by understanding it we can adapt the circumstances which cause it and have the experience changed suitably. *Aayurveda* is conceived as a practical science and the word "*saastra*" denotes knowledge as well as its application. Health and disease are experiences caused by conditions, circumstances and life-style. By understanding the rationale behind them, changes can be effected and the disease can be prevented, or cured if it occurs. Atleast, an effort can be made and a little effort in the right direction will be of great benefit. As *Geeta* says,

*Svalpamapyasya dharmasya traayate mahato bhayaat |*

In *Caraka*, *aayurveda* is defined as the science which imparts knowledge as to what is good to maintain health or to cure disease.

*Aayushyaani anaayushyaani ca dravya - gunakarmaani vedayateetyaayurvedah |*

*Dravya* means articles around us, used as food and medicine. *Guna* means qualities and properties of the *dravya*. *Karma* means application and action of the *dravya-guna* and *karma* differentiate the utility of the *dravya*. By understanding what is beneficial to life, we can manage our life to attain a state of health. By realizing what is harmful we can avoid these factors. Mere knowledge is not enough and action is required. *Saastra* makes you understand things, though method of application may differ according to the circumstances. It cannot be *kaaraka*,

forcing us to do something or not (*vidhi* or *nishedha*). *Saastra* gives examples for the intelligent (*udaaharanamaatram tu buddhi-mataam*) *saastra* is not to be followed to the letter or word ? *na saastramaatra $\underline{s}$ aranah*. It is the spirit of the dictums that are to be followed. *saastrasadbhaavajnaanam*. Circumstances, conditions and life-style change with time (*kaala*), Place (*desa*) and unexpected events (*adrsh $\underline{t}$ a*). Forms of diseases may change. Old diseases may become rare and new ones may become common.

*Adrsh $\underline{t}$ adesakaalaadiparin $\underline{a}$ amaadanekathaa | pura $\underline{a}$ naah pravileeyante naveenaah praaduraasyate ||*

All these cannot be foreseen or recorded for all times, or individuals. Hence, eternal prescriptions cannot be given. The texts refer to the given period and that too of the then common diseases. (*aavishk $\underline{r}$ tatama*). Hence, they have to be revised often to up-date them. This is termed *pratisamskara $\underline{n}$ a*.

*Samskartaa kurute tantram pura $\underline{a}$ nam ca punarnavam |*

The present texts of *Caraka* and *Susruta* are said to be revised editions. So generalisation is necessary and this is effected in the form of theories.

*Naanaaroopairasamkhyeyairvikaarah kupitaah malaah | taapayanti tanum tasmaattaddhetvaak $\underline{r}$ ti-saadhanam ||*

*Sakyam naikaika $\underline{s}$ o vaktumatah saamaanyamucyante |*

To arrive at the theories, the methodology used is *pratyaksha*, *anumaana* and *aagama*. *Pratyaksha* is observation through the five senses. Any knowledge has to begin with this. But many things are not comprehensible by the

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senses alone. Besides, this comprehension may be incorrect because of limitations or defects. People with jaundice see things yellow. We feel that the earth is stationary and the sun is moving, whereas the fact is quite the contrary. So we have to depend on inference also. That is *anumaana*. Knowledge ascertained by *pratyaksha* has to be verified by *anumaana* to make it acceptable and *anumaana* has to be verified by *anubhava* or experience. The observations and inferences of the *aacaaryas*, the validity of which is vouched by experiences from the earliest times are systematically codified and made available for seekers and this is a *aaptavaakya* or *aagama*. *Aaptas* are those who have sharpened their faculties, comprehension and thinking with discipline and penance (*saadhana* and *tapas*). They are endowed with *pratibha* (intuition) and can at times glimpse solutions in their meditations. Their words can be relied upon, because they are impartial, dedicated and without any vested interests. Even then, it has to be verified by actual experience

*Drshṭasrutāabhyaam sandehamavaapo  
hyapravartayet |*

as *Suśruta* pointed out. *Sruta* is *aagama* and *drshṭa* is experience. *Aagama* becomes totally acceptable only when it is proved by experience.

*Idamaagamasiddhatvaat pratyaksha-  
phaladarsanaat |  
mantravatsamprayoktavyam ..... ||*

*Pratyaksha*, *anumaana* and *aagama* are termed *pramaanas* or sources of valid knowledge. A fourth *pramaana*, *yukti* is accepted by *Caraka*. It is an individual's independent reasoning at the time of application.

*Tasmaatsatyapi nirdeṣe kuryaadoohya  
svayam dhiyaa |  
vinaa tarkena yaa siddhiḥ yadrchaa-  
siddhireva saa ||*

The idea is that nothing should be taken for granted and that rethinking and taking into consideration of all relevant aspects of the case is essential upto the final moment.

*Na śaastramaatrasaranah na  
caanaalocitaagamah |  
ajnaataśaastrasadbhaavaan śaastra-*

*maatraparaayaṇaan ||  
Tyajeddooraadbhishak paasaan paasaan  
vaivastāniva |*

The basic theories of *aayurveda* are the *pancabhoota* and *tridosha siddhaantas*. They are basic in the sense that all other theories pertaining to the explanations and practices of *aayurveda* are based on these two. Each of our senses understands a specific quality (*viśeshaguna*), namely, sound (*śabda*) touch (*sparsa*) form (*roopa*) taste (*rasa*) and smell (*gandha*) These qualities have no independent existence, and inherently belongs to a particular matter. The prime matter with the particular quality perceived by a specific sense is called a *bhoota*. As there are other qualities also in each *bhoota*, the unique quality of the *bhoota* is called its specific quality.

*(viśeshaguna)  
Baahyendriyagraahyaviśeshagunavatvam  
bhootatvam ||*

Ear is the organ which perceives the sense of sound and its particular *bhoota* is *aakaṣa*. The five senses, their qualities and *bhootas* are as follows:

Organ	Specific quality	Bhoota
Ear	Sound	<i>Aakaṣa</i>
Skin	Touch	<i>Vaayu</i>
Eye	Form	<i>Agni</i>
Tongue	Taste	<i>Jala</i>
Nose	Smell	<i>Bhoomi</i>

*Bhoota* is matter in its prime condition. All the five qualities are found in all things, though some are latent and become perceptible only when appropriate conditions exist. We cannot see things even if we have eyes if there is no light. The sound is manifest only when there is some friction. Because everything possesses the five qualities, they are constructed by five *bhootas-pancabhautika*. The *bhootas* are manifestations in the course of creation. The basic matter out of which the *bhootas* are evolved is named *avyakta*. Out of *avyakta*, comes *aakaṣa* with its quality of touch, retaining the quality of sound also. From *vaayu* evolves *agni*, with its specific

quality of form, retaining the touch and sound of the previous two bhutas. From *agni*, *jala* is evolved with its specific quality of taste, along with the qualities of the previous *bhootas*. Lastly *bhoomibhoota* with its specific quality of smell is evolved from *jala* retaining all the four qualities of the former *bhootas*. This is explained in *aayurveda* as *ekagunavrdhyanvayah* (increase of the *gunas* one by one. Thus *bhoomibhoota* has five sensory qualities making it the heaviest of the *bhootas* and *aakaasa* with only one quality the lightest. This is a *svatantra siddhaanta* of *aayurveda* and is an example of how *aayurveda* has adapted the *darsanas* for the enunciation of its principles. These five *bhootas* become *mahaabhootas* by a process known as *panceekarana* or intermingling. Each *mahaabhoota* is made up of four parts of the *bhootas* the name of which is given to that *mahaabhoota* also and one part of each of the other four *bhootas*. For example, the *aakaasa mahaabhoota* contains four parts of *aakaasa bhoota* and one part of each of *vaayu*, *agni*, *jala* and *bhoomi*. These *mahaabhootas* are not perceptible by the senses. For its creation intermingling (*parasparaanupraveśah*) in various proportions to manifest as the many things perceptible to the sense is required. These are the *kaaryadravyas*, used for the purpose of food, medicine etc. The *bhootas* in their finer forms are called *kaaranadravyas*. Usually *kaarya dravyas* are mentioned merely as *dravyas*.

The qualities of the *bhootas* are inherent (*svatah siddhah*) in them by the very nature of their existence (*svabhaavah*). Five properties are ascribed to the *dravyas*. They are *rasa* (taste), *guna* (quality), *veerya* (potency), *vipaaka* (digestibility) and *prabhaava* (active principle). Some accept *karma* (action) in the place of *prabhaava*. Some consider *vipaaka* as the particular change occurring during the course of digestion. The difference in the *rasa*, etc. of different *dravyas* is the result of differences in the arrangement and proportion of the *bhootas* in the concerned *dravya*. These properties manifest one by one in the course of creation of the *dravyas*. *Bhoomibhoota* forms the base (*adishthaana*). *Jalabhoota* mixes the materials together (*yojana*). *Agnibhoota* “cooks”

(*paacana*). *Vaayubhoota* arranges (*vyuhana*) and the *aakaasabhoota* provides the form (*aakrtidaana*). *Pancata* is a word for death or disintegration because then the five *bhootas* separate themselves and join their stock to be used for the making of a new *dravya*. *Aatma* is the principle of cohesion by which the *bhootas* join together. *Aatma* with the five *bhootas* are the six *dhaatus* are basic substances. The *jagat* (all inclusive world) is comprised of individuals and things made up of six *dhaatus*. *Aatma* is *sareeri* or the possessor of the *sareera* and *sareera* is made of *pancabhootas*. The feeling of *sukha* and *duhkha* belong to the *aatma*. Health and disease are conditions of the body. There is no detailed discussion on the *aatma* in *aayurveda*. *Susruta* thinks that each individual has its separate *aatma*, while. *Caraka*'s opinion is that *aatma* is common and all pervading. For the study of *aayurveda* nothing deeper than the *bhootas* has to be considered.

*Bhootebhyo hi varam yasmaat naasti  
cintaa cikitsite |*

The body is made of the *bhootas* and of the *dravyas* used as food and medicine. In essence, *aayurveda* is a *bhautika sastra*, though it accepts *aatma*. In the modern sense of the term, *bhoota* is not one of the hundred and odd elements. The theory of elements is an objective assessment whereas the *pancabhoota* theory is subjective in the sense that perception is through the senses. The world can be analysed from various aspects. From the point of view of *aayurveda* the six *dhaatus* are enough to explain matter of health and disease. For other studies, there are other kinds of division, ranging from one to ninety-six. These are called *tatvas*. Every view is logical from its stand point (*sarvam nyaayam yuktitatvaat*). Thus, the allegation that *aayurveda* with its primitive conceptions knew only five elements and that modern science knows hundred elements is the result of ignorance about the concept of *bhootas*. Students can be divided into various groups depending on say, age, religion, caste or intelligence. Each division is correct from its stand point. The same is true about the *bhootas* and the elements. *Dravya* is that in which five things exist.

*Yasmin rasaadayo yacca bhautikeem  
moortimaasritam |  
taddravyam rasakalpaadikalpanaa-  
siddhamaushadham ||*

That which has the five properties of *rasa*, *guna*, *veerya*, *vipaaka* and *prabhaava* and that which is constituted by the five *bhootas* and preparations of medicines *rasa*, *kalka*, *sruta*, *seeta* and *phaanta*, five in number are made is *dravya*. In *Tarkasastra*, *dravya*, *guna*, *karma*, *saamaanya*, *visesha* and *samavaaya* are called *bhaavapadaarthas*. Other five *bhaavapadaarthas* exist in *dravya*. The particular five qualities of the *bhootas*, exist in *dravya*.

Thus we find that the study of *dravya* is a very extensive one. *Dravya* is useful as *aushadha*. *Aushadha* means medicine and food, as *aushadhi* (herb) forms the primary source of medicine and food.

The theory of *pancabhootas* explains the structure of all bodies including the human, their qualities and properties. The *tridoshasiddhaanta* explains their functional aspects. The body has three kinds of constituents, *doshas*, *dhatu*s and *malas* (*doshadhaatumalaamoolo deha*). *Doshas* are the active constituents influencing the other two. *Dhatu*s are the basic tissues of the body. *Malas* are the waste products generated during the process of digestion and metabolism. During the time they are present in the body, they have some uses. The environment is properly maintained by wind, sun and rain in the proper proportion and at the proper time. Where there is deficiency or excess or variation of any one of these life becomes difficult as vegetation and animal life are upset. When the three *doshas* maintain their balance (*saamya*) in the body, there is health. When any of the *doshas* are deranged (*vaishamya*), the body is diseased. All the biological functions are maintained by the *doshas*, each *dosha* having a particular function. In health all the biological functions are in order. When the *doshas* are deranged, metabolism *dhaatu*s, *malas* and the various biological systems are deranged. There is a feeling of unpleasantness and pain due to physical or mental upset. This is disease.

*Samadoshaḥ samaagniṣca samadhaatu-  
malakriyaḥ |*

*prasannaatmendriyamanaaḥ svastha  
ityabhidheeyate ||*

Here the fourth line can be changed to *svasthaḥ syaat samayaagataḥ* mean that it is the result of *samayoga*. *Samayoga* means proper habits and conditions of life, style and circumstances of life and the maintenance of a healthy environment and the balancing of *malas*, *doshas* and *dhaatu*s. The external conditions affect the body because everything is *pancabhautika* in this universe. All biological functions can be broadly divided into three kinds, constructive, destructive and regulative. The body constituents are simultaneously destructed and constructed. Growth is maintaining the balance (*saamya*). The word *sareera* means that which is being destroyed. *Deha* means that which is being constructed. *Kaaya* denotes metabolism, assimilation and elimination. All these functions have to be regulated to maintain an equilibrium. As denoted by the root meaning of the words, *pitta* consumes, *kapha* constructs and *vaata* regulates. All the three in equilibrium maintains the body in health. The term *dosha* means that which is liable to vitiate *dhatu*s and *malas* are called *dooshyas*, meaning liable to be vitiated by the *doshas*. Vitiating is the condition in disease. Climatic conditions, sensory appreciation mental, vocal and physical actions, if they are proper and even maintain *doshasaamya* (the balance of the *doshas*) and ensure health. Otherwise, it is *dosha vaishamya* derangement of the *doshas*- resulting in disease. Certain names are given to diseases for the sake of convenience, but treatment has to be strictly on the basis of the circumstances and conditions of the body and has to vary from person to person. Diseases caused by mismanagement of way of life are called 'nijaarogas' or personal diseases. There are diseases caused by other factors, such as accidents, weapons, poisons, fire etc., and they are called 'aaganturogas', guest diseases so to say. *Kaama* (lust), *krodha* (anger), *bhaya* (fear), etc., are also termed *aaganturogas* because they are caused by external factors. Contagious diseases caused by close association with diseased persons mater (*saamkramika*). They become persistent when the *doshas* are vitiated. There are 'manorogas' which affect proper functions of the mind and the intellect. They

too cause repurcussions in the body with the *doshas* getting vitiated. *Satva*, *rajas* and *tamas* are called the *mahaagunas*, explain the condition of the mind and character of the individual. These three *mahaagunas* are inherent in the mind. The predominance of *rajas* or *tamas* causes conditions of disease. *Satva*, controlling the other two, denotes a healthy state of mind. Mind is considered *bhautika* in *aayurveda* being the finest essence of food, the dross of which is the malas and the *sara* (assimilable part) becomes *dhaatus* in the course of metabolism. So healthy habits of diet and life are required for a healthy mind. Mind is the instrument of emotion and thought. By controlling it we can control emotions, and thoughts, and *vice versa*. All diseases start from an indulgent mind (*raaga*). We can control our habits only by controlling our mind. Hence, the causes of all the diseases are compressed in one word, *prajnaaparaadha* or indiscrimination. The *doshas* are also *panchabhautika dravyas* with predominance of one or more *bhootas*. There is another kind of *doshaavastha* called *prakṛti*. It is an inherited constitutional condition. It is caused by *beejadosha* defect of the *sukla* (sperm) and *aartava* (ova) which join to form the embryo. *Beejadosha* is caused by the diseased condition of the bodies of the parents (either or both) or bad habits of the mother during pregnancy. If there is no *beejadosha* and the conditions of pregnancy are ideal the *prakṛti* is *samadosh*, with no inherent defects and the best qualities of head, heart and body. In *prakṛti* with predominance of the *kaphadosha*, *samaprakṛti* with good qualities are seen more or less. The *prakṛti* with the predominance of the other *doshas* are defective. A person with the *prakṛti* of a particular *dosha* is liable to get derangement of that particular *dosha* with the slightest provocation. Hence, particular care has to be taken in habits, food etc to maintain health consistent with that *prakṛti*. The *prakṛti* is considered irremediable as it is congenital.

*Susruta* condenses the views prevalent in his time about the universe.

*Svabhaavameeṣvaram kaalam  
yadr̥cchaam niyatim tathaa |  
parinaamam ca manyante prakṛtim  
pr̥thudarsinah ||*

*Prakṛti* here means the manifestation of the universe. Some say it is *svabhaava* (inherent nature), which is behind all manifestations. Others say it is the dispensation of God (*eeṣvara*). Another opinion is that it is *kaala* (time) and there is no way to overcome it. Yet others think that it is *yaadr̥ccha* (coincidence) and that no particular reason can be attributed. Another opinion is that it is *niyati* (fate) the fruit of one's previous actions. It is evolution (*parinaama*) in the opinion of others that has shaped the Universe. All these postulates are advanced with appropriate reasons. Perhaps, they cannot be satisfactorily explained by one postulate alone.

Basically theories of *aayurveda* are established on the postulate of *svabhaava*. According to *Caraka*, *aayurveda* is eternal, ie the principles and practice of *aayurveda* can be adopted and adapted to suit any situation at any time or anywhere.

*Anaaditvaat bhaavasvabhaavanityatvaat  
svabhaavasamsiddhalakshanatvaat  
ṣaasvato f yamaayurvedah |*

*Anaadi* means that nobody actually knows when *aayurveda* came into existence. But it has been working from that time and will continue to do so. The earliest book now available is *Caraka*, which itself is a revised version of an earlier text, and medicines prescribed therein are in common use even now (*Dhaanvantara tailam*, *Tiktaka ghr̥ta*, etc.). The Sun has always risen from the east and set in the west. So it can be presumed that it will continue to do so. Same is the case with *aayurveda*. The *svabhaava* of the *dravyas* is unchanging. Air dries, fire burns and water flows. If we plant the seed of a mango tree, it is only the mango sapling that sprouts from its seed. The properties and actions of *bala* (*Sida rhombifolia* Linn.), *vaasa* (*Justicia beddomei* (Clarke) Bannet) etc. have been the same for thousands of years. Exercise produces the same effect in the body as it has produced in the past. It is only logical to assume that in the future also, the same will be the case. Of course, every generation of students has to verify everything by experience (*anubhava*). That is why the same time-honoured texts are still in use in *aayurveda*. This is *bhaavasvabhaavanityatah*. The biological

aspect of the human body has also remained the same always. The third reason attributed is *svabhaava samsiddha lakshanatva*. *Lakshana* means symptom. The characteristics of the drugs are inherent in them. For example, *bala* when used produces a specific effect on the body according to the inherent natures of the drug and human body. The same drug may not produce the same affect in an animal as its *svabhaava* is different. Even certain poisons are not harmful to certain species of animals because of their *svabhaava*. *Svabhaava samsiddha lakshanatva* has another meaning. The theories are the *lakshana* of a *śastra*. The theories of *aayurveda* are based on the inherent nature of things. The *panchabhoota siddhanta* tries to explain the *svabhaava* of the drugs, etc. The *tridosha siddhaanta* tries to explain the nature of the human body. It is also said that one can get disease even if *pathya* (good habits of life) are followed. This idea is expressed as *svabhaavoparama* natural transformation.

*Jaayante hetuvaishamyat vishamaah  
dehadhaatavah |  
dhaatusaamyatsamaasteshaam  
svabhaavoparamah sadaa ||*

Perhaps the progress of the disease may be delayed due to some obstruction. But it is

inevitable that the result of the misdeeds has to be endured sooner or later. when we go deeper and deeper into the causes of various phenomena, we will reach a stage, beyond which we can not go, having to accept that it is its *svabhaava*. The qualities of the *bhootas*, *śabda*, etc., are natural to them. It is natural that only the appropriate sense (*indriya*) alone gets the particular quality (*guna*) of the *bhoota*. We can find out how things takes shape. But we may not be able find out always why it is so. While accepting *svabhaava*, *aayurveda* does not deny exigencies when other views may have to be accepted. So *adr̥sh̥ta* (*niyati*), *daiva* (*karmaphala*) are all sought. But these can be overcome by strenuous effort (*paurusha*). *Aayurveda aacaaryas* were not obstinate that there cannot be other views for understanding and curing diseases. But they were satisfied that their conclusions were good enough to problems of health and diseases.

Theories of *aayurveda* based on the principles of *svabhaava* appeals even the most modern mind. All advices are only guidelines. Discretion and discrimination is allowed full freedom. Customs and beliefs may change from time to time but the principles of *aayurveda* will persist eternally for the benefit of the ailing humanity.

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## Evolution of basic principles of *aayurveda*\*

Varier P.M. and Raghunath A.

**ABSTRACT:** The perception that *aayurveda* is a system of knowledge dealing with health care is only a partial truth. It is actually a philosophy of life and it comprehensively deals with human and animal life in all its multifarious aspects. The original seers of the *aayurveda* knowledge could view the explicit and implicit realities of life and the world around it in their comprehensive totality. The fundamental *aayurveda* principles such as *tridosha* categorization of the human body and the *triguna* distinction of the human mind were extrapolated from the *paancabhautika* understanding of the cosmos and its components based on the philosophical approach that man is a micro cosmic representation of the great macrocosm. This paper attempts to trace the conceptual roots of the important *aayurveda* principles in the earlier knowledge bases.

*Key words:* *Aayurveda, Tridosha, Paancabhautika*

### Introduction

The *aayurveda* system of health care is said to have its origins in time immemorial. But at the same time the *aayurveda* that we understand and practise today is strongly built on a foundation consisting of axiomatic premises, logical development and documented records. It has a rigorous framework of principles and practices. Some of the major documents of *aayurveda* principles were written in the last centuries of BC and in the beginning of AD, and they have their roots in the *Atharvaveda* and even in the *Rgveda*, which is recognized as the earliest form of written knowledge. The ancient Indian knowledge has developed as a result of interactions between opposing view points and theories on the world and its inhabitants. Such thoughts gave birth to schemes of human functions and subsequent development of specialized sciences. *Aayurveda* is one such knowledge scheme. As a living system of knowledge, it has its fundamental axioms deeply rooted in one or two branches of ancient Indian philosophy. An attempt is made here to trace some such roots.

### *Aayurveda* view of life

*Aayurveda* perceives man as an integral part of nature.<sup>1</sup> They both have fundamental commonalities. Every anguish and distress of man

is caused by his ignorance of the body and the mind.<sup>1a</sup> It is this anguish, which manifests as a disease. Appropriate and perfect knowledge retrieves man from his anguishes.

*Aayurveda* attempts to understand and explain the human life in its entirety. It may not be completely true to characterise *aayurveda* just as a science dealing with the human body and its life. Because, more than a health care system, it happens to be a philosophy of life.

### The origins

The Indian sages, who had tried to trace the origins of *aayurveda*, have come up with the idea that it has been in existence in one form or the other ever since the human race came on the world. Because, it is found to continuously retain its close and comprehensive relation with man and his predicament. The knowledge about man's civilization is as old as the civilization itself. This knowledge base is what is universally known as the *veda*. It is but true that the very same *veda* developed into specialised treatises dealing with specific subjects. These generic and specific *veda* are a veritable collection of knowledge. In latter periods, when the study and interpretations progressed in different directions based on specific modes and traditions of application, the *veda* were got divided into four distinct entities. The four

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entities are the well known *Rg, Yajus, Saama* and *Atharva*. Among them, the *Atharvaveda* contains more frequent references to matters concerning human health. *Aayurveda*, in fact, is often treated as a sub text of *Atharvaveda*.<sup>2</sup>

A major component of *aayurveda* treatises deal with the use of materia medica. The prototypes of several of the *aayurveda* methodologies of drug application are seen in *Atharvaveda*. But the *aayurveda* methods are advanced considerably from their prototypes both in their scientific frame work as well as in their conceptual foundation. Many of the modalities propounded by the *Atharvaveda* are transcendental in nature and akin to faith healing. They are mostly steeped in concepts of supernatural forces and other worldliness. They passed through various stages of evolution before the logic-based and rationalised approach of systematised *aayurveda* took shape.

### **The hepta-substance theory**

#### **(*Shadpadaartha vaada*)**

While considering the all pervading fundamental concepts which form the major axiomatic base for a large section of the Indian thought, one of the important concepts that demands attention is the hepta-substance theory. It is mentioned that the great sages who took up the study of the material world thought it fit to categorise the whole set of substances into six groups. Here the term substance refers to material and its characteristic attributes. These six substances are called the similarity, the dissimilarity, the property, the matter, the function and the non-separableness.<sup>1b</sup> These are collectively known as the hepta-substance group. The matter is the one which possesses property and function. Matter can give birth to new matter. That is not the case with property and function. They are dependent on the matter and they have existence only as the attributes of matter and they do not themselves give rise to new property and new function. The first two substances indicate that the properties and functions of matter can be similar or dissimilar to other properties and functions. These opposing attributes have great role in the *aayurveda* methodologies. They are expanded and applied

in *aayurveda* while developing the therapeutic groupings of drugs. The last substance, that is, the inseparableness, describes the close association of property and function with matter. The application of Ayurvedic Materia Medica is extensively based on this hepta-substance theory. A material has its properties. Taking into account the similarities and dissimilarities of the material properties in comparison to the constitutional and conditional characteristics of the patient, a material proves useful or not for dealing with a condition of ailment. The factor which is responsible for causing an effect on the disease is the functional attribute of the material. Thus, it is the properties and functions of a material which decide its utility as a medicament.

**Similar and dissimilar aspects of matter:** One basic aspect of the *aayurveda* method of treatment involves identifying characteristics of materials, which are similar and dissimilar to the characteristics of both the constitutional and ailment conditions. There are characteristics or properties which are similar with the ailment character. The application of such a material will act in an additive fashion on the ailment condition. That condition will, thus, aggravate. It is but natural that interaction between materials possessing characteristics which are similar to each other will result in its enhancement. Conversely, dissimilar characteristics will inhibit its growth.<sup>1c</sup> The *aayurveda* method makes use of this simple theory with remarkable efficacy for supplementing those human attributes which are deficient and also for trimming the abundant attributes in such a manner that the constitutional characteristic is maintained at a state of dynamic equilibrium.

Removal of morbidity and building up health are achieved largely by the appropriate application of this principle. The recommended in take of blood for dealing with severe conditions of anaemia is a rather simplistic example for this approach. Similarly, disease causing excesses in the body are corrected by the administration of materials possessing properties of depletion. The application of additive and reductive functions of similar and dissimilar properties of matter is an integral component of ayurvedic therapeutic approach.

### The universe and the man

For achieving effective use of this principle, there needs to establish clear definitions of the properties and functions of every component of the human body as well as that of the external universe. Human being is an appropriate blend of the body, the mind, the sensory organs and the soul, as per the *aayurveda* philosophy. It is stressed that an intelligent man is the one who can recognize the aspects of the cosmos in man and vice versa. Several of the attributes of universe are perceived in man. That is why the human being is often described as the microcosm of the macrocosm. There are six distinct seasons which result in apparent changes in the environment. Sage Suśruta says that there are similar six changes taking place in man on each day.<sup>2a</sup> Every change occurring in the universe is reflected in man. The rain, the wind, the lightning, the mist and every other manifestation of environmental changes have their miniature parallels in human body. And this is taken to indicate that there are commonalities in the constitutional aspects of the universe and the man. The *triguna* theory, that is the tri-character theory, which is a universally accepted view of man and his surroundings in Indian thought, is a natural offshoot of this understanding.

### The three basic characters

The Indian concept of the universe attributes two aspects to it. One is manifest and clear and the other un-manifest, diffused and unclear. Day-time represents the former and night-time the latter.<sup>3</sup> The manifest world gets perceived and understood and becomes clearer and more defined in three forms. They are the three basic characters. These three basic characters refer to (a) *Rajas* which is responsible for creation, (b) *Tamas* which is responsible for annihilation and (c) *Satva* which maintains a balance between the two. These three fundamental characters can be termed as the vigorous, the base and the sublime respectively. The whole world is the manifestation of the combination of these three characters in different proportions. Their respective roles manifest in two major segments. The one segment contains eleven components which have their base in the sensory related attributes of man. They comprise five motor organs, five sensory organs and one motor

cum sensory organ, which is identified as the mind. All these eleven components are related to the sublime and the vigorous characters. Whereas, the second segment having ten components have their origin from the vigorous and the base characters. There are five molecular forms of these two characters and their corresponding five *bhoota*, that is their elementary manifests. These five elements are the macroscopic manifestations of the five microscopic molecules. Man is the combination of these two segments which, as seen above, are the compositional result of the three basic characters. Similarly, every aspect of the universe is also the result of unique blending of these three characters. All the twenty-one constituents of man can be conceptualized. But what can be perceived as material realities are the five elements (*pancabhoota*). *Suśruta* insists that the five elements are nothing but the manifestation of the three characters, just as every other aspect of the living and the inanimate constituents of the universe.<sup>2b</sup> In the case of the Universe, the sublime character is identified with the element of space, the vigorous character with the element of wind, the sublime and vigorous jointly with the fire element, the sublime and base together with the element of water and the base character alone is identified with the element of earth.<sup>2c</sup> Thus, it is seen that not only man but his environment is also associated with the three basic characters in different proportions. It should be mentioned here that the practical aspects of therapy, unlike the foregoing theoretical considerations, take into account the formal manifestations of the five elements rather than their original attributes of the three characters.

**The influence of Saangkhya philosophy:** The development of Indian philosophy subsequent to the *veda* is exemplified in six *darsana* viz. *Saangkhya*, *Vaiśeshika*, *Yoga*, *Nyaaya*, *Poorvameemaamsa* and *Vedaanta*. Among them, *Saangkhya* and *Vaiśeshika* have contributed extensively to *aayurveda* theories and *Yoga darsana* to a lesser extent.

The five primordial element approach is extensively propounded in *Saangkhya* philosophy. It talks about a 24-doctrine system. It starts with the indistinct and nebulous original nature which leads to the expansive and lofty principle from

which arises the egotism. This egotism is a manifestation of the three basic characters. Subsequently come the eleven sensory and motor organs and finally the five molecular forms and their five elements. All these together form the famous 24 doctrine philosophy of *Saangkhya*. When the soul enters this conglomeration of 24 entities, the inanimate body gets energized and becomes a living human being. The first indistinct and unmanifest form is the original point of source. And this original un-manifest form and the remaining 23 manifest forms are seen separate from the soul. Because, man has the power of life and he has consciousness. Whereas, the other 24 principles are inanimate attributes of the nature. The amalgamation of the inanimate nature on the one hand and consciousness on the other results in the existence of man. It is this individual having a life of consciousness, who is the target of *aayurveda* approach.

**The role of *Vaisheshika* philosophy:** The *Vaisheshika* philosophy perceives an individual primarily as a manifestation of a unique individual soul. This soul is accompanied by the mind and its supporting structure of the five elements. The temporal and spatial changes influence the human being. The soul, the mind and the five elements of the individual along with the temporal and spatial components are together treated as the nine-matter group by the *Vaisheshika* philosophy. Among them the five elements are the only ones which can be perceived by sensory organs. And they constitute the human body which falls sick and also the *materia medica* which help to treat sickness. The development of the five-element theory of *aayurveda* is partly indebted to the *Vaisheshika* philosophy.

### **Yoga philosophy**

Another important branch of Indian thought is the *Yoga* philosophy. But this branch has much less to do with the five-element theory. It talks more about the ways and means of dealing with the human mind. The part of *aayurveda* which deals with the health and ill health of mind might have received some inputs from the *Yoga* philosophy.

**The human body and the five elements:** The bodily organs and attributes are categorized as per their correlation with each constituent of the

five elements. The five elements are the space, the wind, the fire, the water and the earth. Each one of them wields an influence on a certain part of the human constitution. Every opening in the body, the ears and the voids and internal sounds of the body are all belonging to the element of space. The touch and the skin, and the vibrations, the movements and the activities of the body are dependent on the element of wind. The element of fire influences the human form and its glow, the eyes, the bodily heat, the digestive activity and also the feelings of anger and valour. The element of water causes the taste and the tongue, the bodily fluids, the body cooling, the unctuousness and the semen. Earth, the last element, influences the smell, the nose, the corporeality and heaviness.<sup>2d</sup>

**Materia Medica and the five elements:** It has been seen earlier that both the *Saangkhya* and *Vaisheshika* philosophies have an important commonality in their concept of the five elements and their critical influence on the human body as well as on the external world. The natural extrapolation from this stand is the observation that every medicament, which is originating from the world around, will be under the domain of the theory of five primordial elements. Every organ, aspect and activity of the human body is controlled by a dominating element. When this natural presence is upset due to whatever reason, then complications arise and they manifest as diseases. The objective of therapy will be to replenish whatever element has depleted and to frugalise whatever element has enhanced in such a way to achieve back the original dynamic equilibrium. The application of the additive and reductive functions of the similar and dissimilar qualities for achieving this purpose has been mentioned earlier. The important modality is to identify the particular drug or combination of drugs which possesses the necessary balance of the five elements or properties and to apply them in an appropriate manner. The deciding factor for selecting the right combination of drugs is their elemental constitution.

**The property based application of drug:** There is nothing in the universe which is devoid of the five elements. And the natural corollary is that there is nothing in the universe which cannot act as a therapeutic agent.<sup>1d</sup> It is mentioned that there

are a total of 41 items of properties which are commonly found in the matter. This number is obtained from the five elements and their various manifestations. Every drug belongs to specific grouping of property. In addition to that, the drugs are categorized as per their attributes which are more extensively employed in their therapeutic application. There are five common attributes *viz.* the taste, the property, the potency, the *vipaaka* (post digestive state) and the synergy. Polyherbal medicines are formulated by the appropriate mixing of these five attributes.

**The tridosha theory:** The five-element basis of the human body is the starting point. A condition of ailment caused by erratic alterations of the natural composition of the five elements is set right by the optimum use of materials obtained from the universe which are also composed of the five elements. The sages also observed the changes occurring in the surroundings and found that the three major influencing factors for such changes are the moon, the sun and the wind. And it was postulated that the moon was a moistening agent, the sun was an emaciating agent and that the wind was an agent causing motion. They were respectively conceived as indicating the *kapha* (aggregative factor), the *pitta* (vital heat) and the *vaata* (motive force), respectively.<sup>2e</sup> This is the well-known *tridosha* theory. This theory is unique to the *aayurveda* texts. They don't find any possible origin in the earlier Indian thoughts, but for some very vague allusions in the *veda*.

These three factors are closely related to the five elements. The *vaata* represents a combination of the elements of the space and the wind. The *pitta* represents the fire element, and the *kapha* represents the elements of the water and the earth. The human body and its activities are maintained by retaining an appropriate and optimum balance between these three factors. This balance is unique to each individual and unique even to each and every organ and function of the individual. These three factors are conceived as the three fundamental functional units of the body. Then

there are seven structural units known as the *dhaatu* and excretory matter for each *dhaatu* known as the *mala*. These units together decide the condition of health or ill health of an individual. All these attributes are related to the five primordial elements. At the same time, the major factor of the mind is not necessarily decided by them. It is the domain of the basic *triguna*, that is the sublime, the vigorous and the base characteristics.

### Conclusion

An attempt has been made here to take an overview of some of the fundamental principles which have critical influence on the theoretical and practical aspects of the *aayurveda* system of health care. The effort has not been an exhaustive one. It is observed that the theories of five elements, three characters and *tridosha* have their origins in the later philosophies of *Saangkhya* and *Vaisheshika*, whereas some of their primordial indications are present in the *Atharvaveda* and even in the *Rgveda*.

### References

1. Agnivesa, *Carakasamhita*, Elaborated by Caraka and Drdhabala, Ayurvedadipika commentary of Cakrapanidatta, Edited by Jadavji Trikamji Acharya, Sareerasthanam V- 3, p. 325, Chaukhamba Sanskrit Sansthan, Varanasi, 1941.
  - 1a. Ibidem., Sutrasthanam XXX- 84, p. 195.
  - 1b. Ibidem., Sutrasthanam I- 28-29, p. 7.
  - 1c. Ibidem., Sutrasthanam I- 44, p. 8.
  - 1d. Ibidem., Sutrasthanam, I- 49, p. 8.
2. Susruta, *Susruthasamhita*, with Nibandhasangraha commentary of Dalhana and Nyayachandrika Panjika of Gayadasa on Sutrasthanam I-6, p. 2, 2<sup>nd</sup> Ed., Pandurang Jawaji, Nirnayasar Press, Bombay, 1931.
  - 2a. Ibidem., Sutrasthanam, VI- 15, p. 26.
  - 2b. Ibidem., Sarirasthanam, I- 12- 13, p. 286.
  - 2c. Ibidem., Sarirasthanam, I - 20, p. 288.
  - 2d. Ibidem., Sarirasthanam, I - 19, p. 287.
  - 2e. Ibidem., Sutrasthanam, VI- 8, p. 25.
3. Vedavyasa, *Bhagavadgita*, (a collection from *Mahabharatam*), VII- 18, p. 210, 9<sup>th</sup> Edition, H & C Publishing House, Trissur, 1996.

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## Viewing the gross body (*sthoolasareera*) through the lens of the *Susrutasamhita*

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**ABSTRACT:** *Ayurveda* do have its own conceptualization of the gross body or *sthoolasareera*. This plane is more important clinically as the abode of three *doshas* with their respective *gunas*. But in current education the body is taught primarily from the view point of biomedicine. Lack of tools for teaching may be reason. This article is an attempt fill the lacunae. In part I of the study, a laboratory re-creation of hydro-dissection as mentioned in *Susrutasamhita* was done. Interestingly many of structures as mentioned in *Susruta* were observed. *Gunas* of the concerned body parts also could be identified. Based on these observations, a framework for qualitative *aayurveda* analysis of visceral organs was also developed. Interpretation of organs and tissues in terms of *gunas* will help in the application of *saamaanya-vishesha-siddhaanta*.

**Key words:** *Sthoolasareera*, Hydro-dissection

### Introduction

A healthy world is a world that is well-integrated. Today, anatomy is usually taught to students of *aayurveda* primarily from a biomedical perspective. Two methods for teaching students of *aayurveda*, gross anatomy based on the *Susrutasamhita Saareerasthaana* (*Su.Sa. Saa.*) is presented here. These tools will be useful for teachers of *aayurveda* anatomy trying to create an integrative approach that prioritizes *aayurveda* ie. perspective derived from the classical treatises. In Part 1, a laboratory study and simulation of *Susruta*'s method of hydro-dissection, a technique using water and blunt brushes to study the body is presented. This technique facilitates viewing the structures of the body by *pratyaksha* (observation). Part 2, presents a *guna*-centered analysis of the structures of the body, based on *Susruta*'s discussion of the *pramaana* (valid means of knowledge): *pratyaksha* (sensory perception), *anumaana* (inference), *upamaana* (inference), *upamaana* (analogy), and *aagama* (authoritative doctrine).

### Part 1 : Hydro-dissection

Although students of *aayurveda* usually do not have an opportunity for an indepth study of the body through dissection, the observations presented in this study can be used as general

tools for anatomical study and analysis. In *Susrutasamhita Saareerasthaana* 5.49, we find a description of how to study the human body through *pratyaksha* using a technique involving immersion in running water and brushing of the tissues: Figure 1.

“Therefore, after having removed the feces from the entrails, one should let decay a body with all its limbs intact ... (The corpse) wrapped in any of the coverings of *munja* grass, tree bark, *kuṣa* grass *shana*, and so on (should be) placed in a cage (or a net) (and) bound in a driving stream, in a concealed spot; then after seven nights, the completely putrid body should be removed (and laid out). Thereupon, one should very gradually scrape off the layers of skin, and so on, by means of any of the bunches of vetiver grass (*uṣeera*), coarse animal hair, bamboo, or balvaja grass and should identify with the eye all of the various major and minor parts (of the body), both external and internal (ones), which have been mentioned previously...” (Translation of *Su.Sa. Saa.* 5.49 from Zyak 2000, 36).

This technique referred here is hydro-dissection, enables the observation of anatomical structures that are not visible through conventional dissection, for example the 7 layers of skin mentioned by *Susruta*. Although this passage in the text has been studied in detail, no attempt is made to replicate the technique.

Figure 1



Representation of the description of the herbal preservation and hydro-dissection method described in *Suśrutasaṃhita Śaareerasthaanam* 5.49. Observe the key features: flowing stream in a secluded area, cages holding the corpse, teacher dissector with brushes and scholars and disciples observing. We have a historical account of a similar practice being observed in India by the Chinese Buddhist pilgrim Hsuan-Tsang in the early 7<sup>th</sup> Century C.E.(Zysk.36)

**Method:** At Government Ayurveda Medical College in Thiruvananthapuram, Department of Rachana Shareera (Anatomy), a modified simulation of hydro dissection on a human hand was done. This study was performed with limitations including;

- i. using a tank of distilled water circulated with a pump
- ii. using a hand preserved in formalin.

To dilute the formalin the hand was submerged in distilled water for one month. Then it was kept in a glass tank of 3000 cm<sup>3</sup> (30cm/45cm/20cm) filled with 15L of distilled water circulated by a water pump with sponge filter, creating a current of 500 L/hour. The distilled water was replaced every

48hours for the study period of 15days. The hand was taken out and scrubbed and combed uniformly with blunt metal and plastic brushes for an average of 1-2hours per day. The length of each scrubbing was subjectively determined by the visibility of new structures. After each scrubbing, the hand was washed and immersed in distilled water, creating magnification to enhance the differentiation and visibility of structures. Figure 2.

### Results

The process of scrubbing itself revealed information about both structures and *guna* mentioned by *Suśruta*. We found that scrubbing enabled not only the seeing of gross and subtle

Figure 2  
Images from simulated hydro-dissection



structures in the hand, but also the differentiation of structures and *guṇa* through feeling. For example, the plexus of veins in the hand can easily break, it is very *rooksha* and must be scrubbed very gently, whereas nerves are more *snigdha* and will not break. So, a greater range of *guṇa* can be perceived through the hydro-dissection and scrubbing, then through a conventional “cut-open” dissection method. As shown in the Figure 2 below, structures including *kala* (fascia), *snaayu* (tendons and ligaments), and *sira* (veins) are visible in the hand with great clarity. We suggest that in a futures study without these limitations it may be possible to observe the 7 layers of skin mentioned by *Suśruta*, as well. Figure 3.

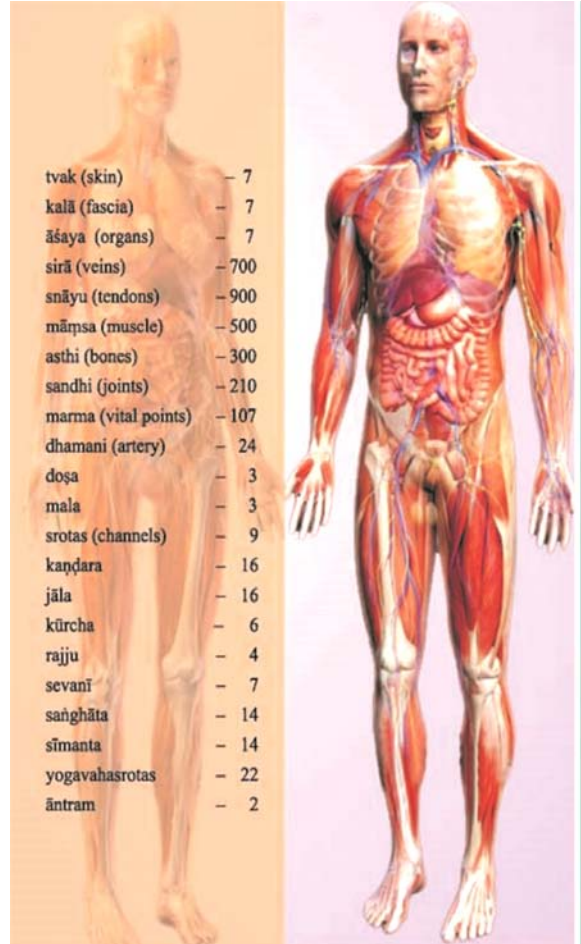
### Part 2 : *Guṇa*-based anatomy

**Method:** Building on the observations of anatomy using hydro-dissection, a framework for qualitative *aayurveda* analysis of the visceral organs based on the *guṇa* using *anumaana*, *upamaana* and *aagama*. It is also based on the author’s observation that there is a correlation between the *guṇa* or qualities of different tissues in the body and the location of the *doshas* in the body. Assessment of the *guṇa* is also key for treatment.

### Discussion

In the *Suśrutasaṃhita* the gross body is explained as composed of the *pancabhootas*. Although many structures are identified and named, the treatise emphasizes the functional aspect of the *pancabhoota* and related *tridosha* principles for *aayurveda* diagnosis and treatment. As a foundation for a functional *guṇa* based assessment, here, the qualities of body parts and organs described in the *Suśrutasaṃhita* are

Figure 3  
*Suśruta* enumeration of body parts juxtaposed with conventional anatomy



identified. The basic data for *tridoshic* principles is drawn from the *Sootrasthaanam* and the correlation of *dosha* and *dhaatu* with the body parts from the *Śareerasthaanam*. Our assessment of the *guṇa* in Table 1 and Table 2 is based on *anumaana*, *upamaana* and *aagama*.

Table 1 <i>Dosha</i> anatomy based on <i>Guṇa</i>				
Sl. No.	<i>Dhaatu</i>	<i>Dosha</i>	<i>Guṇa</i> (s)	
01.	<i>Rasa</i> - Plasma	<i>Kapha</i>	<i>Snigdha</i> , <i>Manda</i>	<i>Seeta</i> (Cold)
02.	<i>Rakta</i> - Blood	<i>Pitta</i>	<i>Sara</i> , <i>Drava</i>	<i>Ushṇa</i> (Hot)
03.	<i>Maamsa</i> - Muscle	<i>Kapha</i>	<i>Mrdu</i> , <i>Guru</i>	<i>Seeta</i> (Cold)
04.	<i>Medas</i> - Fat	<i>Kapha</i>	<i>Guru</i> , <i>Snigdha</i>	<i>Ushṇa</i> (Hot)
05.	<i>Asthi</i> - Bone	<i>Vaata</i>	<i>Kāṭhina</i> , <i>Sthira</i>	<i>Seeta</i> (Cold)
06.	<i>Majja</i> - Marrow	<i>Kapha</i> , <i>Pitta</i>	<i>Snigdha</i> , <i>Guru</i>	<i>Ushṇa</i> (Hot)
07.	<i>Sukra</i> - Semen	<i>Kapha</i>	<i>Snigdha</i> , <i>Guru</i>	<i>Seeta</i> (Cold)



Table 2  
Dosha anatomy based on *Guṇa*

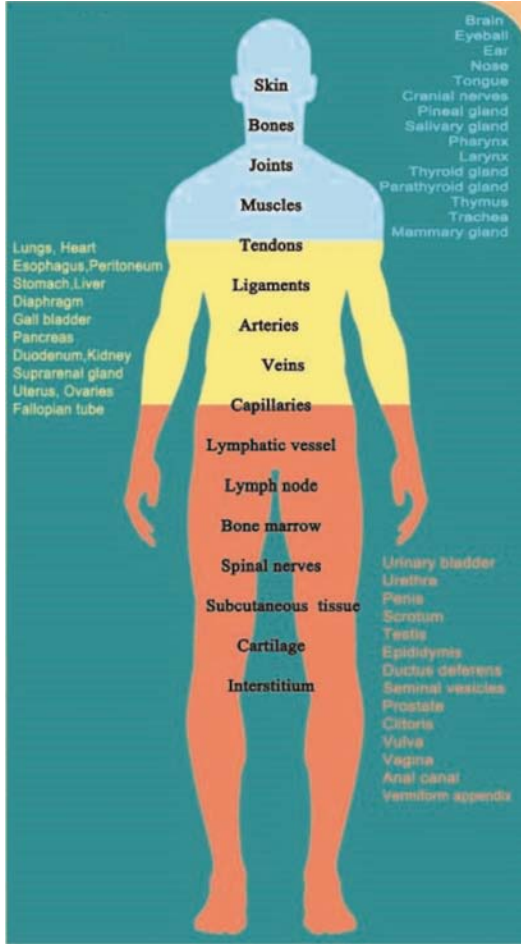
Sanskrit Anatomical Terms	English Translation	Predominant <i>Dosha</i> (*inferred)	Core <i>Dhaatu</i>	Inferred primary <i>Guṇa</i> (s)	Citations (where applicable)
<i>Akshi</i>	Eye	<i>Pitta</i>	<i>Majja</i>	<i>Ushṇa</i>	
<i>Karṇa</i>	Ear	<i>Vaata</i>	<i>Asthi</i>	<i>Rooksha</i>	<i>Su.Sa.Ṣaa.5.27</i>
<i>Naasa</i>	Nose	<i>Pr̥thvi</i>	<i>Asthi</i>	<i>Snigdha</i>	<i>Su.Sa.Ṣaa.5.20</i>
<i>Jihva</i>	Tongue	<i>Kapha</i>	<i>Rakta+Maamsa</i>	<i>Snigdha</i>	<i>Su.Sa.Ṣaa.4.28</i>
<i>Tvak</i>	Skin	<i>Vaata</i>	<i>Rasa</i>	<i>Rooksha</i>	<i>Su.Sa.Ṣaa.4.5</i>
<i>Mastuḷunga</i>	Brain	<i>Vaata</i>	<i>Medas</i>	<i>Snigdha</i>	<i>Su.Sa.Ṣaa.23.13</i> <i>Ṣa.14.42</i>
<i>Phuphusa</i>	Lungs	<i>Vaata</i>	<i>Rakta</i>	<i>Snigdha</i>	<i>Su.Sa.Ṣaa.4.25</i>
<i>Hṛdaya</i>	Heart	<i>Kapha</i>	<i>Rakta</i>	<i>Snigdha</i>	<i>Su.Sa.Ṣaa.4.41</i>
<i>Vapaavahana</i>	Mesentery	<i>Kapha</i>	<i>Medas</i>	<i>Snigdha</i>	<i>Ca.Sa.Vi.5.8</i>
<i>Aamaasaya</i>	Stomach	<i>Pitta</i>	<i>Maamsa</i>	<i>Snigdha</i>	<i>Su.Sa.Ṣaa.5.8</i>
<i>Yakṛt</i>	Liver	<i>Pitta</i>	<i>Rakta</i>	<i>Ushṇa, Snigdha</i>	<i>Su.Sa.Ṣaa.4.25</i>
<i>Pittaasaya</i>	Gallbladder	<i>Pitta</i>	<i>Mamsa</i>	<i>Ushṇa</i>	<i>Su.Sa.Ṣaa.5.8</i>
<i>Asthi</i>	Bones	<i>Vaata</i>	<i>Medas+Vaayu</i>	<i>Sthira, Khara</i>	<i>Su.Sa.Ṣaa.14.10</i>
<i>Sandhi</i>	Joints	<i>Vaata + Kapha</i>	<i>Majja</i>	<i>Cala, Mr̥du</i>	<i>Su.Sa.Ṣaa.5.27</i>
<i>Pesi</i>	Muscles	<i>Pitta + Kapha</i>	<i>Maamsa</i>	<i>Mr̥du, Ushṇa</i>	<i>Su.Sa.Ṣaa.5.39</i>
<i>Medodhara-kala</i>	Subcutaneous tissue	<i>Kapha</i>	<i>Medas</i>	<i>snigdha, Ushṇa</i>	<i>Su.Sa.Ṣaa.4.12</i>
<i>Anvasthi/Tarūnaasthi</i>	Cartilage	<i>Pitta</i>	<i>Medas</i>	<i>Mr̥du</i>	<i>Su.Sa.Ṣaa.4.12/5.20</i>
<i>Stana</i>	Breast	<i>Kapha</i>	<i>Rasa</i>	<i>Snigdha</i>	<i>Su.Sa.Ṣaa.4.24</i>
<i>Aantra</i>	Intestines	<i>Vaata, Pitta, Kapha</i>	<i>Rakta</i>	<i>Rooksha</i>	<i>Su.Sa.Ṣaa.4.26</i>
<i>Basti</i>	Urinary bladder	<i>Vaata, Pitta, Kapha</i>	<i>Rakta</i>	<i>Rooksha</i>	<i>Su.Sa.Ṣaa.4.26</i>
<i>Guda</i>	Anus	<i>Vaata, Pitta, Kapha</i>	<i>Rakta</i>	<i>Rooksha</i>	<i>Su.Sa.Ṣaa.4.26</i>
<i>Vṛkka</i>	Kidney	<i>Vaata</i>	<i>Rakta+Medas</i>	<i>Rooksha</i>	<i>Su.Sa.Ṣaa.4.31</i>

### Case study: *Medodhaatu*

According to our analysis, the primary *guṇa* of *medas* is *snigdha* associated with *mr̥du* and *ushṇa*. The *medas* distribution on the body is based on *vaatadosha*. The *vaatasthaana* (Figure 4, Table 1) has an abundance of *medas* in order to counter balance the *guṇa* present due to the

predominance of *vaata*. Further, we can understand the presence of subcutaneous *medas*, termed *vasaa*, as a counter balance to *tvak* as the abode of *sparsa* in association with the element *vaayu*. *Sparsa* vitiates *vaata dosha* through the quality of *rooksha* and in the *vaatasthaana* this *vaata* vitiation (*rooksha*,

Figure 4  
Dosha anatomy based on *Sthaana* (location)



*seeta* and *laghu*) is offset by the *snigdha*, *ushna*, and *guru* qualities of *medas*.

Understanding of the *guna* into practice should also be discussed. A person who is overweight as a result of *medas* increase experiences an increase

in *kapha dosha*. This leads to an increase in the *kleda guna* which leads to pathologic progression of obesity. The opposite quality of *kleda*, which is *rooksha*, can check the growth of *kapha*. On a basic level, we can manage obesity by *rookshana karma* using *dravya* (food/medicines) having the qualities of *ushna* and *rooksha*. For example, the *rasa* (savours) *kashaaya*, *tikta* and *katu* always provide *rookshana* in the body. Exercise is a *rookshanakarma* is so avised in obesity related illnesses.

## Conclusions

The clinical *ayurveda* approach is based upon the *guna*. Study of gross anatomy, using *ayurveda* techniques and principles is necessary to understand, innovate, and implement efficacious *ayurveda* treatments.

## References

1. Kandekar Shubha and Ram Waerkar, *Fa Hien: The Fearless Monk*, Amar Chitra Katha Pvt. Ltd, Mumbai, (1987) 2014.
2. Susruta, *Suśrutasaṃhita* with the Nibandhasangraha Commentary of Dalhana, Edited by Jadavji Trikamji Acarya and Narayan Ram Acarya Kavyatirtha, In Jaikrishnadas Ayurveda Series, Krishnadas Academy, Varanasi, 1998.
3. Susruta, *Suśrutasaṃhita*, with the Nibandhasangraha Commentary of Dalhana, with English Translation of Text and Dalhana's Commentary Along with Critical Notes (in English and Sanskrit) by Sharma P.V., 1<sup>st</sup> Edition, 3 Volumes, Haridas Ayurveda Series, Chaukhambha Visvabharati, Varanasi, 1999.
4. Zysk, Kenneth G., *Asceticism and Healing in Ancient India: Medicine in the Buddhist Monastery*, Oxford University Press, New York, (1991) 2000.

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## Eliciting *tridosha* in children

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**ABSTRACT:** Different aspects of *dosha* and *dhaatu* can be explained with special respect to children. The maturation of *dosha* from a very vague form to its full functional capacity can also be interpreted based on different milestones that the child attains during growth and development. Framing a treatment with careful understanding of the *doshas* and the state of child can easily revert the pathogenesis and bring back the *svaasthya* in the child.

*Key words:* *Tridosha* in children, *Dhaatu*

### Introduction

The time of birth denotes the point where the journey of transition of *doshas* from immaturity towards maturity begins. The word immaturity implies the immaturity of *dosha*, *dhaatu*, *mala*, *srotas* and *agni*. The first cry at the time of birth marks the effort made by the child, which in turn determines the fate of the child's entire life. This effort is so significant that any minute pathology in this process leaves the child a burden for the family and society. Each and every milestone that the child acquires right from this cry gives a clear picture of stages of maturation of *dosha*, *dhaatu*, *agni*, *mala* and *srotas*. Hence, understanding these entities demands a keen observation of the child with the help of various tools.

### Materials and Methods

Classical literature of *aayurveda* along with clinical experience were used to get a better understanding of the concept.

### Nuances of *dosha* assessment in children

Children have the same *dosha* as that of a completely developed adult. But the status of these *dosha* in a neonate is a matter of concern.<sup>1</sup> A proper quantitative analysis of these *dosha* and prediction of their probable status is often not possible for a neonate. A *Kaumaarabhrtya* physician infact tries to find out the present status of these *dosha* amidst all these immaturities. Doing this on the basis of a general idea about *dosha* has got many limitations and hence, analysis should be done with a better understanding about all aspects of *doshas* along with the help of *pramaana*.

Inference about *dosha* is usually made based on the signs and symptoms that the person exhibits. This is done with *pratyakshapramaana*. But in a child, the presenting symptom may only be a cry. Starting from a small common cold to a life threatening disease all may be hidden in just a cry.<sup>1a</sup> When easily identifiable signs are not presented by the child, we might need to enter into a conclusion using *yukti* with the help of *anumaanapramaana*.

*Baalya* is a period of *daurbalya*. Immaturity of *dosha*, *dhaatu* and *srotas* is the actual cause of reduced *bala*. A physician observes the transformation of these immature entities into a functionally mature entity along with the influence of a number of factors acting on it.

A *dosha* exhibits its full spectrum of functions only when it attains functional maturity. For example, the age when an infant could perceive different types of pain produced by *vaata* is only in the later part of the childhood. Upto the period a physician could only infer the severity of pain. The period of this immaturity is the most difficult time for a physician to understand the state of *dosha*.

Childhood is a period where the symptoms that the child manifests is too minute and felt only as pain. So here *aacaarya* have followed the principle of '*rogaanaam rogatvamekam vidham ruk saamaanyaat*'.<sup>2</sup> But for treatment, this generalised approach is not enough and a further understanding of *dosha* is needed.

Regarding the dose of medicines in children, *aacaarya Vaagbhata* explains three reasons for the reduced dose:- *saukumaaryam*, *alpakaayatva*, *sarvaannaanupasevanam*.<sup>1</sup> The reason for *saukumaarya* lies in the immaturity of *dosha*, *dhaatu* and *srotas*. *Alpakaayatva* of the body is also due to immaturity of *srotas*. *Sarvaannaanupasevanam* i.e. inability to assimilate all types of food. *Shadrasapradhaana aahaara* (*shadrasa* balanced food) is not indicated for a child, instead the *rasapradhaana-stanya* (breast milk predominant of *rasadhaatu*) which is derived from the *shadrasaahaara* which the mother consumes is the only food of a neonate.

The prognosis of diseases in a neonate is also a matter of discussion here. The *saukumaryatva*, *alpakaayatva* and *sarvaannaanupasevana* contributes in making the management of the disease complicated. The basic criteria for a disease to become *saadhya* is “*sarvaoushadhakshame dehe yoona*”- *Yoovatva* is the time when *dosha* become mature and this is one of the criteria for a disease to become *sukhasaadhya*.<sup>1b</sup> Also *aushadha* is *veeryapradhaana*. The basic necessity for a person to withstand this *veeryapradhaana aushadha* is *bala*. Only if a person has *bala*, he can withstand all different types of *kalpana* (formulation).

Also it is said “*Goodha linggam vyaadhim upasaya anupasaya abhyaam pareeksheta*”. i.e. when the disease is not fully manifested or when the entire pathogenesis of the disease is not known, it should be treated by evaluating *upasaya* and *anupasaya*.<sup>2a</sup> This *goodhalinga* nature is one of the main crisis in paediatrics due to the immaturity of *dosha*. Also the search for *upasaya* and *anupasaya* is made even worse due to the incapability of the body to withstand *aushadha*.

### Assessment of *dosha* from birth

The assessment of a child just after birth is based on the first cry. The cry can be strong, feeble or there may be no cry at all. This in a way measures the ability of the child which is denoted by the APGAR score. Here the functions of *praana-vaayu* can be assessed. If this cry is not strong enough then *praana-pratyagaamana-vidhi*

(neonatal resuscitation) is advocated. These are the methods to make the obstructed *praanavaha srotas* functional and this itself is attained through suction and resuscitation in newborn care. *Praanavaayu* and *udaanavaayu* are given importance as far as a neonate is considered.<sup>1c</sup>

The first and foremost criteria that we assess in a new born is the functional ability of *praana* and *udaanavaayu*. All congenital anomalies are examined only after *praana* attains its full functional capacity. The *udaanavaayu* attains its full functional maturity only some time later. One of the functions of *udaana* is *vaakpravrtti* and is attained only after few more months. The same way each of the *dosha* attains its full functionality at its respective time.

The activities of the newborn, posture and tone, all shows the functional ability of *vyaanavaayu*.<sup>1d</sup> But complete maturity of this *vyaanavaayu* is attained only when the child starts to walk, jump and do other motor activities. The complete functionality of *vyaana* is indicated by the development of cognitive domains. Similarly, functions of *pancakapha* and *pancapitta* can be interpreted.

After *praanapratyaagamana*, *aayupareeksha* is mentioned. The examination of *angga-pratyangga* helps to understand whether each of the body part has attained functional and structural maturity appropriate to the age. The maturation of *pancavaayu* at the time of birth is also examined by the passage of urine and meconium.

Every stage and growth and development reflects different levels of maturity of *tridosha* and *saptadhaatu*. Regarding the functions of *rasa dhaatu* it is clearly mentioned as *tushiti* and *preenana* (physical and mental contentment). For a new born, *stanya* is the source of *rasadhaatu*. As the child grows, other types of *aahaara* contribute to *rasadhaatu*.<sup>3</sup>

Neck holding shows the ability of the *dhaatu* to hold the neck against the gravitational force. This is one of the levels of maturity of *asthidhaatu*.<sup>1e</sup> Walking is another indication of the same. Thus, each and every activity of the neonate right from birth hints the different levels of *dosha* development in child.

### **Doshagati in children**

There are certain fevers which may cause developmental regression in a child. This regression is also caused due to the imbalance of *dosha* and *dhaatu*. Just like a *vishavega* spreads from one *dhaatu* to another, disease in a child also spreads quickly. A disease which might remain in the *koshtha* itself in an adult might move to the *saakha* quickly in a child. The rapidity of *doshagati* is greater in a child than in an adult owing to the fragility of the *srotas*. Due to the same reason, the principle pinpointing the minute aspects of scrutiny of both *dosha* picture of morbidity and treatment protocol (*sookshma sookshma sameekshyashaam doshaushadha niroopane*) has got high relevance in paediatrics. The symptoms of *dosha* vitiation in a child has many limitations, the knowledge one gets from examining a child is also limited and formulating a treatment based on *upasaya* and *anupasaya* has also got many constraints. Physicians has to overcome such limitations.

So the treatment in a child should begin only after considering all possible means for reverting the *sampraapti*. As the *sampraapti* progresses, the prognosis becomes worse and this becomes even more difficult as the child is not capable of withstanding all medicines.

### **Evaluation of doshadooshya sammoorachana in children**

Evaluating the *doshadooshya sammoorachana* in a child is very difficult as the signs and symptoms are either not clear or immature. When *doshalakshana* itself is not fully manifested, tracing each step in the *sampraapti* and framing a treatment to revert this *sampraapti* becomes a very tedious task.

Here is where the *vedanaadhyaya* mentioned by *aacaarya Kasyapa* attains relevance. *Vedana* is not just pain. It is derived from 'vid' - to know. This chapter mentions the *viseshapoorvaroopa* and *roopa* in children. The *poorvaroopa* which manifest in the state of latent morbidity of *dosha* and *dhaatu* are mentioned. For example, among the *jvarapoorvaroopa* mentioned by *Vaagbhata*, only a few may be seen in a child. But almost all *Jvarapoorvaroopa* mentioned by *Kasyapa* can be easily identified in a child. The probable *sampraapti* can easily be traced using these

*poorvaroopa*. But the *poorvaroopa* and *lakshana* are manifested in the *sthaana-samsraya* stage only. The *sampraapti* can take any route from this stage. Eg: *teekshna guna*, *katu-amla rasas* can cause *raktapitta*, *kushtha* or *vaatasonita*. i.e. the road that the *sampraapti* can take is different. The probability of this diversion of *sampraapti* is more in children as they have highly immature *dhaatu*. So treatment should be based on the existing *doshadushhti* and the different routes the *sampraapti* can divert. The *lakshana* that we see may be a *poorvaroopa*, or can be an *upadrava-vyaadhi* of a pre-existing disease or it can either be an *udarka*.

Eg:- Appearance of rash after fever in a child can be due to the influence of *rtu*, *aahaara* or even the medicine. It can also be the *upadrava* of the disease. This *upadrava* or *udarka* in the child is an indicator of persisting *doshadushhti*. This is an indicator that child has not attained normalcy after the disease. It is very difficult to measure the *svaasthya* of a child using parameters for measurement of *svaasthya* in an adult.

### **Basic concepts in treatment**

The elucidation of *doshasaamyas* when *dosha* are immature is another difficult task. *Dosha-saamyakriya* or *dhaatusaamyakriya* is possible only after measuring the amount of *doshadushhti*. The first measurement here is that the child is *kaphapradhaana* and the *agni* attains its normalcy only gradually. That is why *annapraasana* is mentioned only in the 6<sup>th</sup> month considering the status of *agni*.

*Annapraasa* is another context where one gets a hint of *dhaatu* maturation.<sup>16</sup> Eruption of teeth denotes the time for *annapraasa*. Dentition is the sign of maturity of *asthidhaatu*. The *annapraasana samskaara* itself is a method to assess the *dosha* status. Also some disease conditions can affect this development. For example, the dentition in a cerebral palsy child may be delayed or of poor quality. This shows how the maturation of *asthidhaatu* is affected in a *vaatavyaadhi*.

*Baalacikitsa* never advocates any form of treatment that leads to *dhaatusaithilya*. *Aarogyakalpadruma* strictly advocates the use

of *hetuvipareeta aushadha* and avoid *vyaadhivipareeta aushadha* in diseases in a child below 14 days.<sup>4</sup> Diseases due to *stanyadushti* and *stanyakshaya* treatment suggests that promote *dhaatusaamyata*. Any medicine mentioned in *baalacikitsa* supports *dhaatu-saamyata* also. This is the reason why medicines mentioned in these *prakaraṇa* never causes any adverse effects.

The medicines mentioned in the context of *stanyaśodhana* has a high relevance here. In its journey towards maturity, identifying the *doshalakshana* and understanding the *kriyaakaala* has been meticulously described in *baalacikitsa*. Eg: The signs that the child shows in case of *vaatadushtastanya* are *varcomootra-vibandha* and this *lakshana* alone is enough to understand the etiology.<sup>1f</sup>

The formulation mentioned in *pitta dushtastanyacikitsa* is applicable in diseases where *pittadushti* is indicated by *lakshana*.<sup>1f</sup> A child with congenital biliary atresia with obstruction of biliary duct showed *pittadushta lakshana* as dominant feature- *peeta-tvak-netra-mootratva*. Here the medicines mentioned in *pittadushtastanya* was given for the child and mother was given *tiktarasa* predominant *aushadha*. The situation was managed effectively and the ducts were made structurally and functionally patent and *svaasthya* was retained. Here, *pitta dushtastanya* was not the cause of disease. But signs of *dosha* vitiation were considered and the treatment for *doshadushti* was given to the child without going to the contexts of *paandu* and *kaamala*.

Hence, it is rightly said naming a disease is not important, what really holds relevance is proper identification of *dosha* and *dooshya* involved in the pathogenesis and planning a treatment accordingly.<sup>1g</sup>

## Discussion and Conclusion

Assessment of *dosha* in children is a task which requires keen observation and precision. Attainment of milestones is a strong indicator which points towards the *dosha* maturity and is

something which a physician can rely upon during the initial phase of growth of the child. Deciding the treatment based on the *dosha* and *bala* of the child only can give the desired effect. Any minor deviation in assessment can drastically change understanding of the *doshagati* leading to serious complications. Analysing the *sampraapti* and deciding a treatment based on the *doshaavastha* with medicines which won't hamper the status of *dhaatu* is one of the crucial step to be followed in *kaumaarabhritya*. A small *stanyadushtijanya vikaara* to serious neurological conditions like intractable epilepsy in children can be dealt with careful assessment of *dosha* of the child and planning a treatment accordingly.

## Acknowledgement

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## References

1. Vagbhata, *Ashtangahrdayam*, with Sarvangasundara Commentary of Arunadatta and Ayurvedarasayana of Hemadri, Edited by Pt. Hari Sadasiva Sastri Navre, Uttarasthanam 2/29, p. 783, Chaukhamba Publications, New Delhi, 2012.
  - 1a. Ibidem., Uttarasthanam 2/5, p. 781.
  - 1b. Ibidem., Sutrasthanam 1/30, p. 18.
  - 1c. Ibidem., Nidanasthanam 16/56, p. 541.
  - 1d. Ibidem., Sutrasthanam 12/6-7, p. 193.
  - 1e. Ibidem., Uttarasthanam 1/37, p. 780
  - 1f. Ibidem., Uttarasthanam 2/2-3, p. 781.
  - 1g. Ibidem., Sutrasthanam 12/64-66, p. 206.
2. Agnivesa, *Carakasamhita*, with the Ayurveda-dipika commentary of Cakrapanidatta revised by Caraka and Dridhabala, Edited by Vaidya Jadavji Trikamji Acharya and Narayan Ram Acharya Kavyatirtha, Sutrasthanam 20/3, p. 112, Chaukhamba Sanskrit Sansthan, New Delhi, 2016.
  - 2a. Ibidem., Vimanasthanam 4/8, p. 248.
3. Vrddha Vagbhata, *Ashtangasangraha*, Edited by Shivaprasad Sharma, p. 156, Chowkambha Sanskrit Series Office, Varanasi.
4. Kaikulangara Rama Varrier, *Arogyakalpadrumam*, Edited by Syamala B., p. 32, Samrat Publishers, Thrisivapperoor, 2018.

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## An observational study on the relation of *prakṛti* with *agni* and *koshṭha*

Sreepriya M., Nikhila Sankar M., Omprakash Narayan and Rajkumar G.

**ABSTRACT:** *Dosha* concept is the foundation stone of *aayurvedic* science. Every functional aspect, pathology and treatment is explained through the medium of *doshas*. Since *doshas* are not gross structures that can be perceived, their existence can only be inferred from the functions. Among such functional aspects of *doshas*; *Prakṛti*, *agni* and *koshṭha* are particularly important as they influence, not only overall health, but the treatment outcome also. These can be clearly assessed in a subject according to their features. In a particular *prakṛti*, presence of its specific *dosha* related *agni* can substantiate the presence of *doshas*. Therefore with the aim of establishing a relation between *prakṛti*, *agni* and *koshṭha* and thereby substantiating the presence of *doshas* in this interrelation, a sample of 124 students were selected in 18-24 age group and their *prakṛti* was assessed through TNMC *prakṛti* scale. *Agni* and *koshṭha* of the same population were assessed through a validated questionnaire. By analysis of the statistical relation between *prakṛti* and *agni* and *prakṛti* and *koshṭha*; the integral role of *dosha* in the expression of these physiological entities was substantiated, since both these relations were found to be statistically significant.

*Key words:* *Prakṛti*, *Agni*, *Koshṭha*

### Introduction

In *aayurveda*, basic concepts like *tridosha* and *agni* are introduced theoretically. These concepts and their values are experiential. There is a need to revalidate such ideas in a digestible manner to the modern scientific community. The “*tridosha*” doctrine is a fundamental one in the principle and practice of *aayurveda*.<sup>1</sup>

Observation, associating the facts observed, generalizing and re-experimenting was the order of scientific approach among the ancients. Observation of a close relation between nature and human body was the stepping stone to the evolution of *tridosha* theory. Body which is a miniature of the world<sup>2</sup> is in a similar dynamic state as the world is and the activities inside human body can be categorized and attributed to certain factors which were named *tridoshas*. All aspects of physiology, pathology and therapeutics were explained on the basis of *tridoshas*.<sup>1a</sup> It is also interesting to note that the states of these *doshas* are influenced by factors influencing the nature as a whole.

“*Agni*” is an important principle whose functionality is wholly dependent on *tridosha*.

*Doshas* provide an atmosphere for the proper functioning of *agni*<sup>1a</sup> and also act as a regulating mechanism. “*Koshṭha*” is the substrate or functional abode for *agni*.<sup>1b</sup> It is the association between this functional stratum and the dependent energy (*agni*) that determines the quality of metabolism and the existence of biological system. These relations must have been a key point of focus while presenting the concept of *tridosha*.

Nature takes all forms and brings variations, a way to impart individuality. Similar variations in humans are observable and are explained to be a virtue of *prakṛti*. *Prakṛti* is an indicator of individual specificities in terms of age, character, mental and physical attributes. It is classified according to *dosha* predominance and therefore the typical features in a *prakṛti* too, are attributed by the *tridosha*.<sup>1c</sup>

It may be concluded that, *tridosha* doctrine is a practical tool to explain the underlying mechanisms or physiology of the human biological system. Therefore with the aim of substantiating the existence and causative role of *tridoshas* in physical and physiological attributes, a study on the interrelation between *prakṛti*, *agni* and *koshṭha* was undertaken.

## Material and Methods

**Methodology:** The study intends to establish relation between *prakṛti* and *agni*, which are both physical expressions of *tridoshas*.

**Study type:** Observational

**Study setting:** Ashtamgam Ayurveda Chikitsalayam & Vidyapeedham Campus, Vavanoor, Palakkad district.

**Study population:** Students in the 18-24 age group (natives of different districts in Kerala). They are therefore a representative sample of the population of the same age group in the state of Kerala.

**Study period:** January to March 2021

**Materials used:** The *prakṛti* of students were assessed through a validated questionnaire (TNMC *prakṛti* 2004 questionnaire) in English language.

*Agni* and *koshṭha* were assessed by questionnaires prepared by the investigators, which was initially reviewed by experts in the field, and was again checked for its validity through a pilot study.

**Study procedure:** Questionnaires were then distributed among the sample and the data was collected. This data was then thoroughly reviewed and tabulated. To establish the relation between *prakṛti* and *agni*, statistical method used here was Chi-square test, since it was categorical data and the sample was large.

### Inclusion criteria

- Individuals in 18-24 age group, from both genders.

### Exclusion criteria

Individuals who;

- have hormonal disorders like pituitary, thyroid, adrenal, pancreatic disorders
- are pregnant
- follow a prescribed diet plan
- take ghee daily
- are under any medications

## Observation and Results

A total of 124 healthy individuals were taken into

study and observed for their *prakṛti*, *agni* and *koshṭha*. The observations made were classified according to the frequency of the above three variables and their sub-types.

Frequency of distribution of different *prakṛti* is given in Table 1.

Table 1 Frequency of distribution of different <i>Prakṛti</i>		
<i>Prakṛti</i>	N	Percentage
<i>Kapha</i>	03	2%
<i>Pitta-kapha</i>	48	39%
<i>Pitta</i>	08	6%
<i>Sama</i>	02	2%
<i>Vaata</i>	01	1%
<i>Vaata-pitta</i>	13	10%
<i>Vaata-kapha</i>	49	40%
Total	124	100%

*Prakṛti* evaluation was done using the TNMC *prakṛti* chart, and *eka prakṛti* was considered when the highest value if one *doshaprakṛti* was above 70%, *sama-prakṛti* was concluded when the values of three *prakṛtis* ranged between 30%-40%.

Frequency of distribution of different *agni* is given in Table 2

Table 2 Frequency of distribution of different <i>Agni</i>		
<i>Agni</i>	Count	Percentage
<i>Manda</i>	02	2%
<i>Sama</i>	62	50%
<i>Teekshṇa</i>	15	12%
<i>Vishama</i>	45	36%
Total	124	100%

Frequency of distribution of different *koshṭha* is given in Table 3.

Table 3 Frequency of distribution of different <i>Koshṭha</i>		
<i>Koshṭha</i>	Count	Percentage
<i>Kroora</i>	29	23%
<i>Madhya</i>	66	53%
<i>Mṛdu</i>	29	23%
Total	124	100%



**Distribution of Agni in different Prakṛti individuals**

Figure 1  
x axis- type of Agni in different Prakṛti, y axis- frequency of each type of Agni

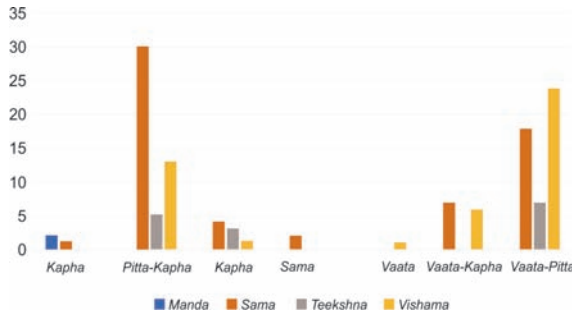


Figure 4  
x- Yes: Koshṭha according to Prakṛti, No: Koshṭha not according to Prakṛti; y- frequency

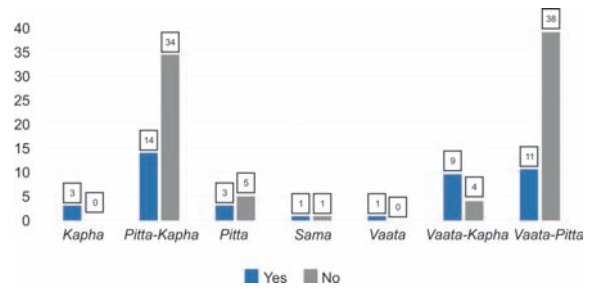


Figure 2  
Agni type according to Prakṛti  
x-yes: Agni according to Prakṛti, no: Agni not according to Prakṛti; y-frequency

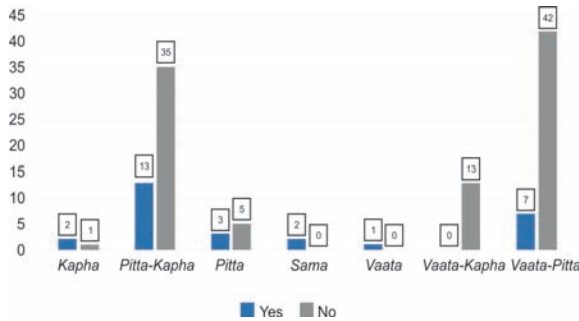


Figure 5  
x- type of Koshṭha in each Agni, y- frequency

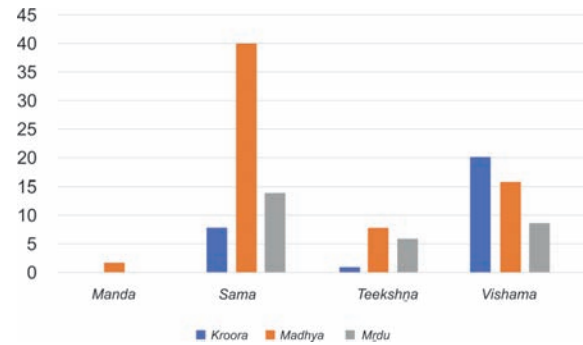


Figure 3  
x axis- type of Koshṭha in different Prakṛti, y axis- frequency of each type of Koshṭha

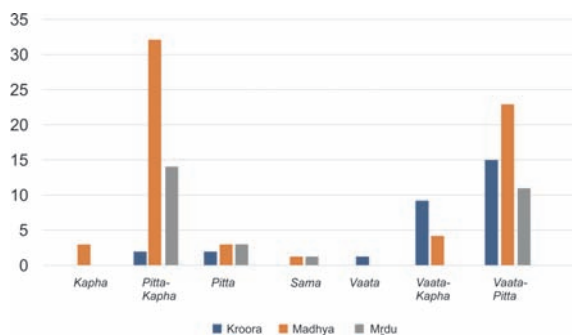
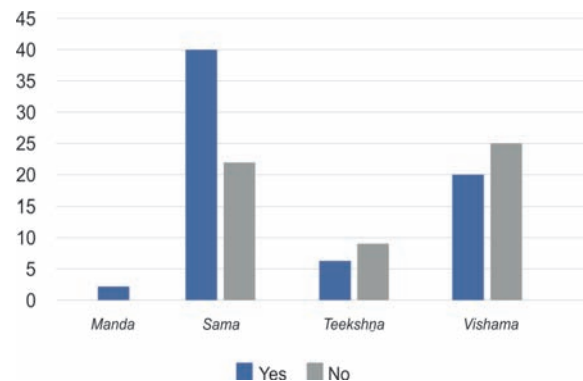


Figure 6  
x-yes: Koshṭha according to Agni, no: Koshṭha not according to Agni, y- frequency



## Results

Chi-square test was used to study the relation. We observed that in the study group of apparently healthy participants (n=124), different types of *agni* was found to be significantly related to different *doshic* types of *prakṛti*. (Chi-square value-20.917, P value- 0.002.) Similarly different types of *koshṭha* too found to be significantly related to *prakṛti*. (Chi-square value-18.674, P-0.005.) *Agni-koshṭha* relation was not found to be statistically significant. (Chi-square value-7.2883, p value > 0.05)

## Discussion

There are different methods of finding proof for a fact- direct observation, deduction, logical reasoning, experimenting, finding a documented pre-recorded proof, etc. Since proof for *doshas* can't be found by direct observation by currently available methods, only deduction method can be used. Here in this study, to find the influence of *doshas* in the formation of *prakṛti*, *agni* and *koshṭha*, the relation between different *doshic* types of *prakṛti* and nature of *agni* and *koshṭha* was assessed and analyzed. Different physical and mental features in different *prakṛtis* are formed by the properties of the component *doshas* constituting them. Likewise *agni* and *koshṭha* undergo variation under the influence of *dosha*. Therefore establishing a relation between these two factors and *dosha*, can therefore discover the role of *doshas* behind the same.

Every person has a definitive structural, physiological and mental make-up called *prakṛti*, which stays constant through-out his life time. Since *prakṛti* classification is based on *doshas*, the *doshic* composition of *prakṛti* of a person, gives a clear picture of his body structure, mental and physiological nature. The *doshaja prakṛtis* are 7 in number namely- *vaata prakṛti*, *pitta prakṛti*, *kapha prakṛti*, *vaata-pitta prakṛti*, *vaata-kapha prakṛti*, *pitta-kapha prakṛti* and *samadoshā prakṛti* by the predominance of *vaata*, *pitta*, *kapha*, *vaata-pitta*, *vaata-kapha*, *pitta-kapha* and *samadoshā* respectively.<sup>1c,3</sup>

*Doshas* are dynamic components of body which performs their functions through their respective

*gunas* and are identified through the *karmas* and their effects by method of inference. Similarly a particular *doshā prakṛti* is such an effect of *dosha*, which is formed by the *gunas* of that particular *doshā*. These *gunas* are active principles which impart different physical and physiological characteristics in that particular person. In a particular *doshā* predominant *prakṛti*, characters of other *doshā* may also be seen, but the features of predominant *doshā* will be most prominent.<sup>3a</sup>

*Agni* is such a physiological feature in a man, like *prakṛti*. It can not simply be understood as the digestive fire. But *agni* is a multifaceted term which incorporates whole of the transformative factor in the body. This digestive fire mentioned here, is only a single expression of the complex concept that *agni* is. But it regulates and fuels the other manifestations of *agni* and therefore becomes representative of the whole unit.

The digestive fire varies under the influence of *doshas*, since the *gunas* of each *doshas* have differential impact on *agni*.<sup>1c</sup> The *gunas* which are similar to *agni* will enhance it while those dissimilar or opposite to it will alter the digestive fire. So according to influence of the *gunas* of each *doshā*, *agni* varies. This variation of *agni* is classified as the “*caturvidhā agni*” or the four types of *agni*. And the classification is based on the capacity to eat and the capacity to digest. The four types are- *sama* by influence of *samadoshā*, *vishama* under influence of *vaata*, *manda* by influence of *kapha* and *teekshṇā* by influence of *pitta*.<sup>4</sup>

I.e.as in the case of *prakṛti*, *doshas* determine the nature of *agni* too. Usually for a particular *doshā prakṛti*, there is a chance that the *agni* of that person also might be influenced by the same *doshā*. So among *vaata-prakṛti* individuals *vishamaagni* may be seen predominantly, *pitta-prakṛti* may have *teekshṇāagni*, *kapha-prakṛti* may have *mandaagni*, *vaata-pitta prakṛti* may have *teekshṇāagni* (*vaayu* is considered as *yogavaahi*), *vaata-kapha prakṛti* may have *mandaagni* (*vaayu* considered as *yogavaahi*), *pitta-kapha prakṛti* may have alternate *manda* and *teekshṇāagni* and *samadoshā prakṛti* may have *samaagni*.

*Agni* is a highly variable physiological entity since it is in continuous interaction with the external environment and also because *doshas* which constitute and regulate the *agni* are constantly fluctuating. Climate, foods taken by the person, exercise, nature of the region, age and even mental state can affect the state of *agni*. Therefore it can't be said that a particular *dosha prakṛti* will have only that specific type of *agni* constantly, which is corresponding to its predominant *dosha*. But despite the dynamic nature of the functional *doshas* and the sensitivity of *agni* to external factors, there is a higher probability that *agni* can be mostly of the nature defined by the *doshas* of *prakṛti*, under normal conditions. And this in turn proves the causative role (*kaaranatva*) of *dosha* behind the formation of *prakṛti* and *agni* through deductive inference.

Similarly *Koshṭha* is another physiological entity which represents the state of *doshas* in the intestinal part of GIT (*paakasthaana*) which is inferred by bowel nature of the person. *Koshṭha* is of three types mainly *kroora*, *mṛdu* and *madhya* by the influence of *vaata*, *pitta* and *kapha* respectively.<sup>1c</sup> If the same principle is applied, as in *agni*, *vaata prakṛti* may have *kroora koshṭha* predominantly, *pitta prakṛti* may have *mṛdu koshṭha*, *kapha prakṛti* may have *madhya koshṭha*, *vaata-pitta prakṛti* may have *kroora* or *mṛdu koshṭha*, *vaata-kapha prakṛti* may have *kroora koshṭha* (*kapha* considered as *yogavaahi*), *pitta-kapha prakṛti* may have *mṛdu koshṭha* (*kapha* considered as *yogavaahi* here) and *samadoshā prakṛti* may have *madhya koshṭha*. Therefore the coincidence of a specific *dosha* predominant-*koshṭha* type with its specific *dosha* predominant *prakṛti* also, helps in the inference of *dosha* behind the picture.

Thus by assessing *prakṛti*, *agni* and *koshṭha* and by studying the statistical relation between *prakṛti* and *agni* and *prakṛti* and *koshṭha*; the direct role of *dosha* can be proven. Here study of both these relations was found to be statistically significant, thereby substantiating the integral role of *dosha* in the same. We observed that in the study group, different types of *agni* were found to be significantly related to different *doshic* types of

*prakṛti*. Similarly different types of *koshṭha* too were found to be significantly related to *prakṛti*. This significance or the relation between the two pairs of entities *agni* and *prakṛti*, and *agni* and *koshṭha*, is through the medium of *dosha* which connects them.

As explained above, this clearly indicates that, if a person shows the features of a particular *dosha prakṛti* signifying the dominance of a particular *dosha* in his body throughout his life, there is a fair chance that the *agni* and *koshṭha* of that person also might be influenced by the same predominant *dosha*. By applying reverse inference here, coincidence of specific features of *dosha prakṛti* and corresponding variant nature of *agni*, indicates the presence of that particular *dosha* behind the development of these physical, mental and physiological features. *Dosha*, thus being a functional principle inferred only through effects caused in the body, stands verified by the visible *dosha lakshanas* of *prakṛti* and the resultant variation in *agni*.

This also helps in *cikitsa*, since the *lakshanas* of a particular *dosha prakṛti* in an individual, predisposes him to particular nature of *agni* and *koshṭha* which is very much important in the administration of medicines and treatment modalities. So understanding the *dosha prakṛti* in a person helps the physician in determining the suitable type of medicines to use.

## Conclusion

In the observational study done on a total of 124 healthy individuals, for their *prakṛti*, *agni* and *koshṭha*, the results obtained were in congruence with the *tridosha* theory. *Doshic* variations of *prakṛti* were found to be significantly related to the corresponding *agni* and *koshṭha* types. *Doshas* being the comprising factor behind *prakṛti* and the defining factor behind *agni* and *koshṭha*, can be clearly inferred from the results and is thereby established.

## References

1. Vagbhata, *Ashtangahrdayam* with commentaries of Arunadatta and Hemadri, Edited by Vaidya Hari Sadasiva Sastri Paradakara, p. 6, 10<sup>th</sup> Edition, Chaukhambha Orientalia, Varanasi, 2014.

1a. Ibidem., p. 7.

1b. Ibidem., p. 193.

1c. Ibidem., p. 8.

2. Agnivesa, *Carakasamhita*, Elaborated by Caraka and Drdhabala, Ayurvedadipika commentary of Cakrapanidatta, Edited by Jadavji Trikamji Acharya, p. 325, 10<sup>th</sup> Edition, Choukhambha Orientalia, Varanasi, 2015.

3. Bhadanta Nagarjuna, *Rasavaisheshikam*, Edited by

Vaidyabhooshanam K. Raghavan Thirumulpad, p. 68, 3<sup>rd</sup> Edition, Department of Publications, Arya Vaidya Sala, Kottakkal, 2014.

3a. Ibidem., p. 65.

4. Susruta, *Susruthasamhita*, with Nibandhasangraha commentary of Dalhana and Nyayachandrika Panjika of Gayadasa on Nidanasthanam, Edited by Vaidya Jadavji Trikamji Acharya, pp. 153- 154, Chaukhamba Krishna Das Academy, Varanasi, 2014.

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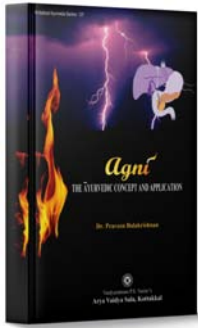
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### *Agni*

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*Agni* is present everywhere in human body, but still there are some prime places. According to *Bhadanta Naagaarjuna*, *Jathara* is the prime place of *agni*. This *agni* present in the *pittadharaakala* is also called as *grahani*. *Agni* is the active force or *veerya* of *pitta*. *Pitta* can be physically collected.

*Agni* can only be understood based on its functions. It is the division of *tejomahaabhoota*. *Tejus* is *teekshna* and *ushna* in nature. Hence, *agni* in *sareera* is also *teekshna* and *ushna*. *Aacaarya Caraka* has described that the *agni* found in this Universe is itself applied into the body. *Agni* in human body performs five different types of activities and are accordingly named as *paacaka*, *ranjaka*, *bhraajaka*, *aalocaka* and *saadhaka*. A thorough knowledge of the basics of *agni* is required for understanding the function of bodily system.



## Innovations in *tridosha* teaching: structuring a new teaching model as a part of transition curriculum

Vinodkumar M.V. and Upendra Dixit

**ABSTRACT:** Teaching methodology is recently identified as one of the crucial areas that needed instant attention in *Ayurvedic* Education. In *aayurveda*, a beginner graduate learner needs to surmount an abrupt and devastating transition to an entirely new paradigm when compared to their previous learning experience. transition curriculum intends on making the transition as smooth as possible through adopting suitable approaches in designing the content and teaching-learning practices during the induction period of a graduate. Theory of *tridosha*, one of the fundamental concepts in *aayurveda*, truly represents the holistic and naturalist perspective in which *aayurveda* perceive human beings. Proper learning of *tridosha* needs and makes a perspective change in learners that would be the one, which they ideally need to develop for proper assimilation of *aayurvedic* content in the succeeding classes. Hence, developing a new teaching model for transacting *tridosha-siddhaanta* would ideally be a part of transition curriculum. Development of such a model would ponder on the problems faced by a beginner learner, their psychological issues and the scope of incorporating innovations so as to prepare the model more student centred, activity oriented, process oriented and participatory. Constructivist approach, as opposed by the conventional instructivist approach, is found to be appropriate in which learners truly participate in the making of new concepts. It has already been observed that *aayurveda* is amenable for implementing such an approach in teaching-learning process. A big range of teaching strategies belonging to problem based, participatory and student centred learning can be applied in making the new model. This article tries to share the experience of structuring an innovative model for transacting *tridosha siddhaanta* to a beginner learner as a remedial measure for the problems faced by young *aayurveda* students in learning core concepts of *aayurveda*.

*Key words:* *Tridosha*, Innovative Teaching model, Transition curriculum, Teaching methodology

### Introduction

Teaching methodology is recently identified as one of the crucial areas that needed instant attention in *aayurvedic* education.<sup>1</sup> In conventional teaching, as it is practiced presently in Ayurveda Colleges, students are passive and unable to express their ideas unless interrogated and may go with lack of analytical and critical thinking skills.<sup>2</sup> This problem appears more vital in the case of beginner learners in *aayurvedic* graduation, ie, BAMS Course, since, upto their +2 education, they grew up in a pedagogy, where critical and analytical thinking are considered to be more important. Along with this problem in pedagogical point of view, learning become more challenged due to abrupt transition in the scientific nature of the content being delivered in *aayurvedic* teaching. Here comes the importance of a transition curriculum. In general education,

transition points, such as advancing from one phase to the higher phase, are expected to leave chances to encounter new teachers, peers, academic expectations, social issues which may even precipitate overwhelming, anxiety, frustration, and insecurity in the learners.<sup>3</sup> Most attempts to conceptualize and develop transition curriculum have focussed on the abrupt and often devastating transition from one another (Edgar 1985, Halperrn 1985, Hazazi Gordon & Will 1985). In *Ayurvedic* pedagogy, the term transition sounds louder, because here it happens not from one phase to another only, but from one paradigm (of science) to another as well. The theory of cognitive development explained by Jean Piaget, becomes more relevant here.<sup>4</sup> According to this theory, learners exposed to new and unfamiliar concepts usually encounter turbulence called cognitive dissonance in their cognitive

process and they try to overcome this turbulence by means of either assimilating the new information to the previously existing knowledge (assimilation) or reframing their existing thought frame (schema) to accommodate the new information (accommodation). An ideal transition curriculum would effectively address these phenomena.

Transition of beginner learners from one paradigm to another signifies the change in perspectives from which they belonged till they reach to learn *aayurveda* to which they encounter in *aayurveda* pedagogy. *Aayurveda* keeps two approaches as its perspective frames: Holism related to its application and Naturalism related to its learning. Holism, as a hall mark of *aayurveda*, considers human being as dynamic conglomerate of multiple mutually influencing factors. The multiplicity pervades to realms like physical, physiological, psychological, environmental, temporal and many more. Naturalism, as an educational philosophy considers education to be dependent on role of two mutually co-operating teachers- Man and Nature.<sup>5</sup> *Aayurveda* innately developed its prime theories from natural phenomena (*Svabhaava-samsidha lakshana*)<sup>6</sup> and considers nature as the principal repository of learning.<sup>7</sup> Theory of *tridosha* truly complies with both these approaches. The holistic nature of *tridosha* is elucidated by explaining multiple factors including hereditary, physical, psychological, environmental, lifestyle, and temporal factors as its determinants in human beings. In Naturalist view, *tridoshas* epitomize the nature (*Loka-purusha saamya*) by representing three principal natural phenomena in the body such as Construction (*Visarga*), Destruction (*Aadaana*) and Projection (*Vikshepa*).<sup>8</sup> In this background, *tridosha* theory can be taken as a model concept which can inculcate the true perspective of *aayurveda* in beginner learners. Hence, *tridosha* perfectly fits into a transition phase of a beginner learner.

### Defining the nature of Innovations

#### Problems to be addressed

Innovation itself is a multidimensional approach in developing new pedagogic model, technically known as “Model of Instruction” for transacting

*tridosha siddhaanta* to people who begin to learn *aayurveda*, as a part of transition curriculum. Model of instruction (model of teaching) consists of guidelines for designing educational activities and environments. It specifies ways of teaching and learning that are intended to achieve certain kinds of goals<sup>9</sup> for meeting the specific needs in *aayurveda*, especially those related to beginner learner, developing the new model needs to address on the following concerns:

- Whether it considers cognitive issues of a beginner learner?
- Whether it ensures smooth transition from their previous learning experience?
- Whether it offers gross and considerable challenge to the level of understanding they already possess?
- Whether it starts from the learner’s existing level of understanding?
- Whether the new model is capable to lift the learners to a new perspective from where they can proceed with the core content of the new subject, ie, *aayurveda*?
- Whether the learning environment is ideally participatory, student centred, problem based and process oriented as far as possible?
- Whether new concepts would be built up with the help of real life examples as far as possible?
- Whether the new model grossly challenge the traditional teaching methods of *aayurveda*?
- Whether the new model tries to incorporate new generation teaching technologies to a possible extent?
- Whether the new model adopts usual method of “concept learning”?

#### Some basic issues

The basic issue related to *aayurvedic* pedagogy is the fact that the content supposed to deliver had been conceptualised centuries ago in a different scientific paradigm. Along with the content *aayurvedic* classical textbooks explicitly described the teaching-learning methods (*adhyayana-adhyaapana-vidhi*) adopted to transact the content. Deciphering such a content

and teaching methodology to meet the present needs is the point of crisis. It is impossible to go back to the history and blindly mimic ancient methods in the contemporary scenario, because the needs and objectives of the whole educational process had been subjected to transformation considerably. Before attempting such amalgamation of the two systems, ancient and contemporary, it will be ideal to see how much they are comparable. In a study conducted by the author as a part of PhD study, after comparing the two systems of education (ancient and contemporary) based on philosophy, teaching strategies and principles of learning reached in a conclusion that “Basic elements of ancient teaching is similar to the principles and practices of contemporary teaching”.<sup>10</sup> Hence, innovations in teaching can very well adopt blending of traditional methods with contemporary methods.

### Constructivism as a model approach

Abstractness of the concepts in *aayurveda*, unfamiliarity with technical terminology, absence of transition curriculum and absence of convincing teaching methodology are considered to hold responsibility of problems in abrupt transition from previous learning experience of a beginner learner in *aayurveda*.<sup>11</sup> Hence, teaching methods should be intensively streamlined to bring out an accommodation by reframing the thought process smoothly. Constructivism, as a relevant approach to teaching-learning practice can address this problem effectively. Constructivism says that people construct their own understanding of the world through experiencing things and reflecting on those experiences. Teachers and learners equally participate in the transmission of knowledge. This process inherently adopts student centred, problem based, process oriented and activity oriented methods in transaction. Table 1 explains the main differences between the instructionist (conventional) teaching and constructivist method.

Learning strategies employed in the constructivist approach include experimentation, research projects, field trips, discussions, problem based learning, inquiry based learning, co-operative learning, peer teaching, brainstorming, role plays and so on. As evidenced from classical textbooks

Conventional Teaching	Constructivist Model
Passive learning	Active learning
Teacher is authority	Teacher is facilitator
Teacher centred	Student centred
Achievement/result/product oriented	Process/quality oriented
Main method is didactic lecture	Active learning strategies are adopted
Concepts are taught	Concepts are learnt
Lesser chance for peer interaction	Ample opportunity for peer interaction
Motivation is not an essential component	Motivation essentially associate with process of learning

especially *Carakasamhita*, constructivist approach seems to be agreeable to *aayurveda* also. The evidences can be references related to: (1) Democratic way of discussions initiated by the learners seen in context of verses initiated by disciples (*Śishyasootra*) (2) Posing opinions by participants (*Ekeeyasootra*)<sup>6a</sup> (3) Considering the world itself as the teacher<sup>7</sup> (4) Explaining man as an epitome of universe (*Loka-purusha saamya*)<sup>6b</sup> and (5) Teacher (*Guru*) motivated through the queries raised by disciples.<sup>6c</sup> That means, the spirit of constructivist learning is not new to *aayurveda*. Hence, it is reasonable that innovations in teaching *tridosha* can adopt constructivism as its principal philosophy.

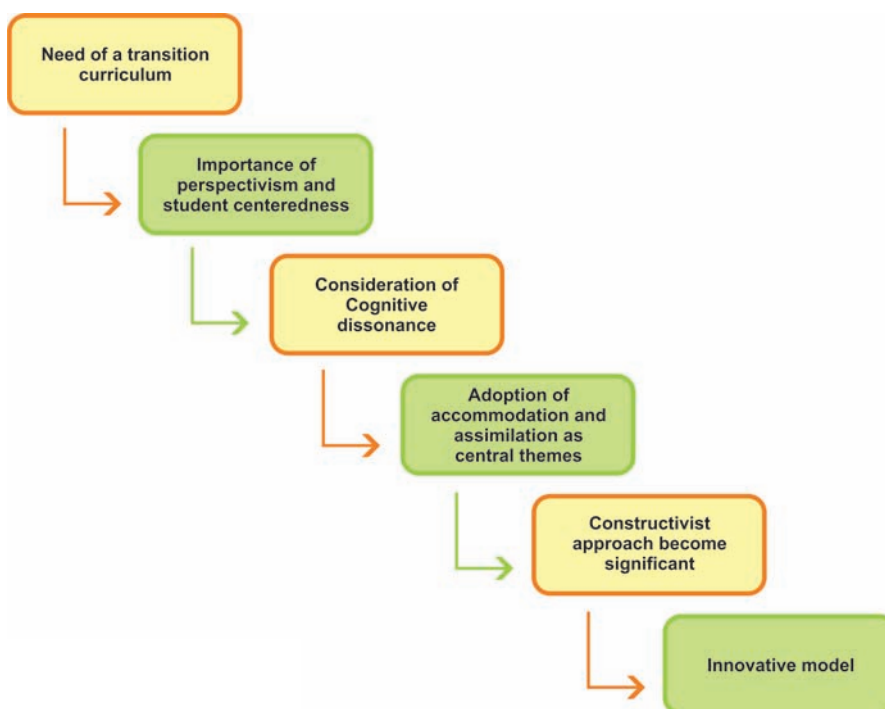
### Psychological concerns

The psychological concerns raised by Jean Piaget, as described above, need to be addressed as far as possible while planning an innovative model. For that, to avoid cognitive dissonance, new ideas should be introduced without offering gross challenge to the existing schema. *Aayurvedic* concepts were derived by putting human beings to a natural perspective. It would be ideal if such principles are introduced in relation to the environment and surroundings with which the learners are already in interaction. Before learning *tridosha per se* in a biological perspective, let the learners build up a different perception on the nature and natural phenomena. Free and open-ended observations on nature and natural phenomena lead the learners to think “out of the box”, where they are given chances to unlearn the preconceptions and relearn the nature in another order. This would groom the learners to

widen their perspective so as to accommodate new concepts, including *tridosha*. Hence, innovations in teaching *tridosha* would consider

a preparatory phase where learners are allowed to widen their perspective to fit the concepts being delivered later. Figure 1.

Figure 1  
The cognitive concerns of the new model  
(Source: Vinodkumar M.V. et. al., 2020)



## Making of a New Model

### Steps involved

As a part of PhD study of the author, a new model was designed and developed through a series of activities adopting social research methods, including a need assessment (brainstorming among students), evaluability assessment (survey among teaching faculties), structured conceptualization (Focus Group Discussion among stakeholders), implementation evaluation (Pilot trial) and process evaluation (experimental trial).<sup>7a</sup> Figure 2.

Initially, after considering the inputs from each step, a set of guiding principles were formulated initially, as follows:

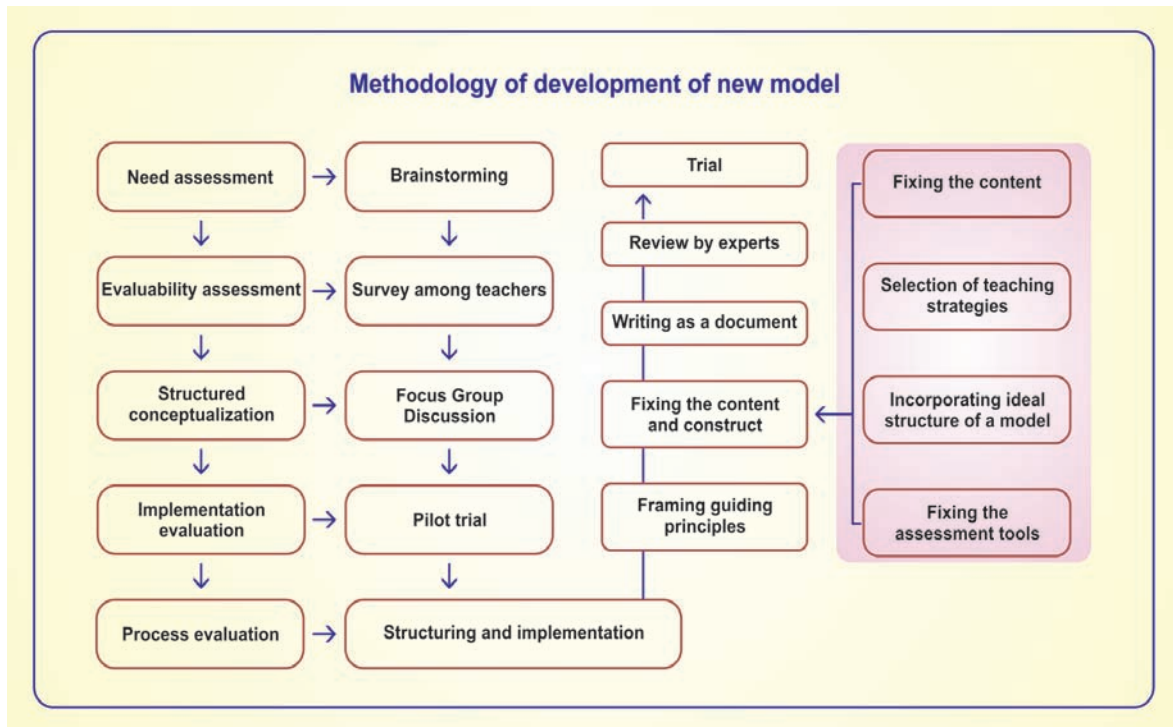
- The new model should address a learner during their transition period
- It should be a part of pre-clinical learning in *aayurveda*, where learners are engaged with nature, natural phenomena and healthy individuals

before exposing to patients.

- Piaget's principles on cognitive development should be properly incorporated.
- New model should not challenge the time frame prescribed for the topic assigned as per present curriculum.
- Constructivism can be adopted as the educational ideology behind the new model. Naturally it becomes activity oriented, student centred, process oriented and problem based.
- The teaching strategies adopted in the new model should be typically participatory in nature, where, learners participate actively in the process.
- Exposure to reflective and self-learning practices should be ensured in the new model
- Traditional *śloka* based teaching should be blended with new teaching methods.
- Let knowledge of *guṇa* spectrum be the background of *tridosha* learning. Interpretation



Figure 2  
Steps involved in Development of the new Model  
(Source: Vinodkumar M.V. et. al., 2020)



of nature, natural phenomena and lifestyle variables based on *guna* perspective makes an easy entry to *tridosha*.

### Organization of the new model

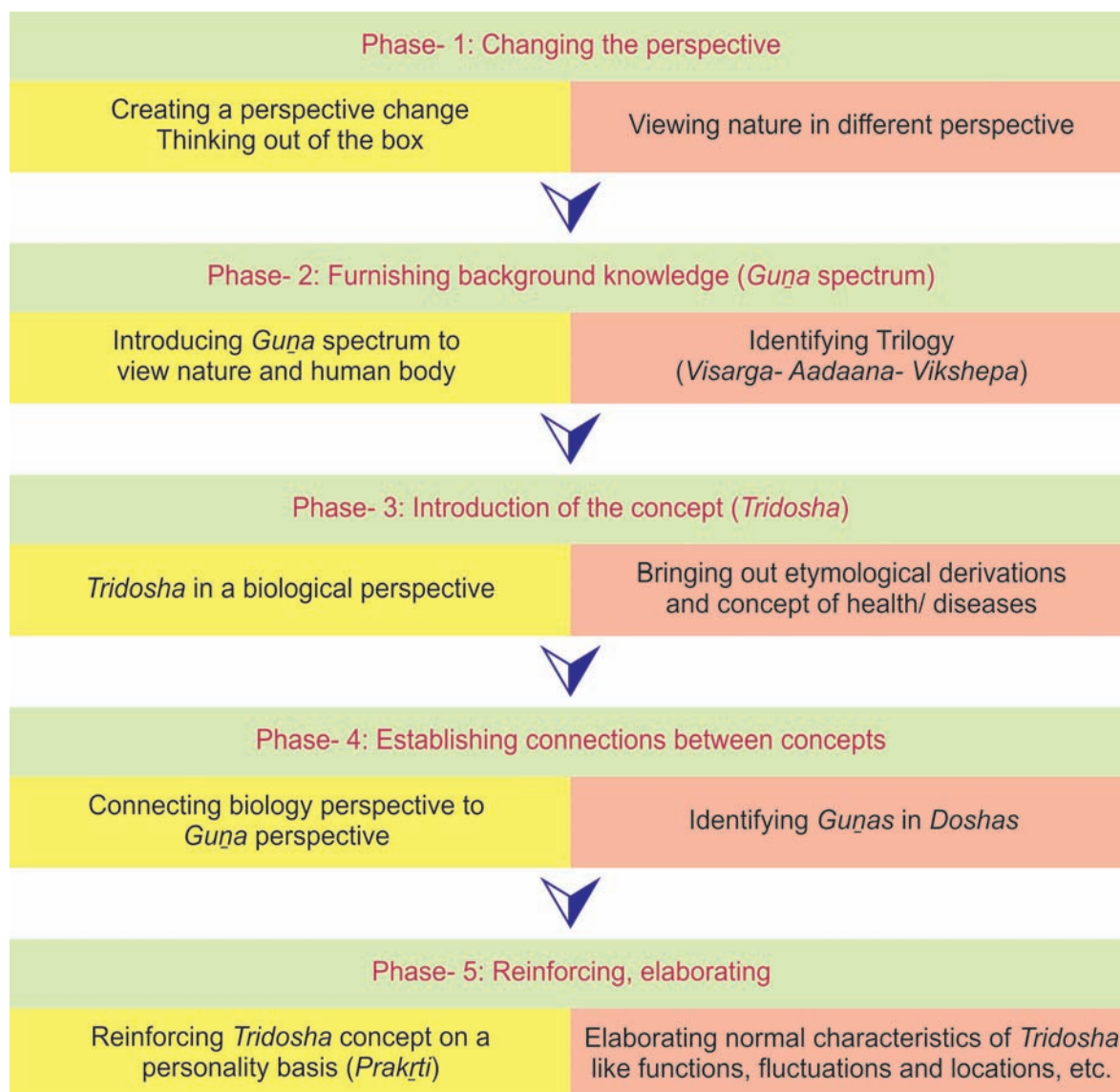
Systematic sequencing of teaching model is called syntax. The new model was organized in such a way that the learners are exposed to new ideas from the background of what they have within them. Also, they are trained to observe the nature and to come up with ideas related to man-nature mutuality, before approaching the core content ie, *tridosha siddhaanta*. *Tridosha sidahaanta* is based on theory of *guna*, precisely *vimsatiguna*. Initially, learners are familiarized with the way in which the nature around them including materials they consume hold the *guna* pattern within them. Reflection of this pattern in human body comes through introducing the trilogy in human body, ie, *tridosha*. Parallel to this exercise, *tridosha* was introduced in its biological parlance through showing how basic life processes reflect the presence of three kinds of activities. These

activities were etymologically connoted to derive the terminology- *vaata*, *pitta* and *kapha*. On the other side, human personality traits (*prakrti*), determined by physio metrical, physiological and psychological components were introduced to see how *tridosha* bring out variability in human nature. Idea of *tridosha* was then subjected to elaboration by relating it to the structural, functional aspects of human body and fluctuations observed due to various exposures. Normal functioning was followed by abnormal functioning and division into subtypes. The sequencing of the model is given in the Figure 3. The above sequencing was organised through five phases.

### Phase- 1: Changing the perspective

This phase was basically aimed at making the learners aware that “thinking out of the box” is inevitable part of medical learning. This approach ensures to view human beings beyond the boundaries of physics, chemistry, biology and mathematics through simple games, discussions, case descriptions and puzzles. This understanding was then advanced to place human being in a

Figure 3  
Structural Organization of the new model  
(Source: Vinodkumar M.V. et. al., 2020)



universal perspective by making them convinced about the theme “Man as an epitome of Universe”. This was achieved through brainstorming about comparison between man and nature based on different comparable attributes. The discussion advanced to find our three principal forces which maintains the nature viz. Constructive changes (*visarga*), Destructive changes (*aadaana*) and their co-ordination (*vikshepa*). Through this exercise learners became capable of classifying different physiological events (about 20 in number) into

three groups- *visarga*, *aadaana* and *vikshepa*. This was the preparatory phase where learners could widen their perspective to accommodate the forthcoming ideas.

#### **Phase- 2: Furnishing background knowledge**

Before introducing the core content of the new model ie, *tridosha siddhaanta*, it tries to build up a background by inculcating *guṇa* perspective in the learners. This phase makes learners familiar with *gurvaadiguṇa* and to interpret environmental and lifestyle variables in terms of

*guṇa*. Concept learning is done through comparing exemplars and non-exemplars, using pictures of materials commonly available around us. Simple games, puzzles, class room discussions and spot quizzes are employed as teaching activities to familiarize *guṇa* pattern related to seasons, different types of lands, common food items, human behaviours, and lifestyle factors like sleep, exercise, etc. and common objects. At the end of the phase, learners can develop a new attitude through which they easily identify things around them referring probable *guṇas* in them.

### **Phase- 3: Introduction of the concept (*Tridosha siddhaanta*)**

The main objectives of this phase are (1) understanding *tridosha* as a biological principle, (2) correlating the etymological derivations of *tridoshas* to their major activities (3) identifying *tridosha* in the major physiological activities in human body and (4) to make a statement of *tridosha siddhaanta* in *śloka* form. The phase starts by simply differentiating living organisms from non-living organisms. Learners are then instructed to analyse the differences in the background of *tridoshas* till they identify roles of *tridoshas* in bringing out the basic characteristics of living organisms. This understanding is reinforced by taking specific physiological processes (Eg. digestion, respiration, excretion etc.) and analysing roles of *tridosha* in them. Such a biological understanding of *tridosha* convinces them that equilibrium state of *tridosha* supports health and loss of equilibrium causes diseases. This idea is then presented as a *śloka* as explained in textbooks.<sup>7a</sup>

### **Phase- 4: Establishing inter-connectivity between concepts**

Once the learners are convinced about the core concepts of *guṇa* and *dosha*, in this phase, the interconnectivity of the two concepts is built up. Description of some features of *dosha* leads to identification of respective *guṇas* in them, which afterwards reaches in the respective *ślokas*.<sup>7b</sup>

### **Phase- 5: Reinforcing and elaborating the concept**

In this phase introduction of *dosha-prakṛti* (*Tridosha* based personality traits) and demonstration of characters of different *prakṛtis*

were done through video lessoning and role plays. Group and individual assignments are being done on preparation of *prakṛti* assessment proforma followed by *prakṛti* assessment of classmates and family members. It could lead the learners to identify more characteristics of *doshas* which is reinforced through experiential learning. It is followed by elaboration of *tridosha* concept through learning normal and abnormal fluctuations of *doshas* (*vrddhi, kshaya lakshanas*) structural basis of *dosha* (sites of *doshas* in the body) and functional divisions of *doshas*. Along with critical and reflective styles of learning, the *ślokas* were familiarised with the help of an innovative practice called Graded table method, where learners are exposed to Sanskrit terms related to the functions and features of *doshas* in a graded manner. Some specific instructional analogies also were newly developed for easy understanding of some concepts.

### **Teaching strategies employed in the new model**

#### **Games**

Games create an enjoyable atmosphere in the class room wherein the learners participate and learn things naturally, especially when the assimilation process becomes overloaded with new ideas. Also helps to minimize stress and frustration due to cognitive dissonance. It enables better student-teacher relationship from the beginning itself.

Examples:

- Nine dots game- to establish importance of building up new perspective.
- Picture puzzles- to learn about importance of perspective change.
- Card game- for understanding *guṇas* by their word meaning and to compare *guṇas* of *doshas*.

#### **Interactive lecture with or without the help of pictures:**

Building up new schema in the learners, and accommodating new information to the new schema are very important in bringing out smooth transition to a new paradigm. Raising learners from the old schema is an act where role of instructor is critical; even though a democratic

and participatory ambience in the class room is essential. Interactive lecture tries to surmount the limitations of a didactic lecture through its interactive nature but never lose authenticity since it tries to put the instructor at the centre. Pictures, videos, flow charts etc. make the understanding more smooth and clear. The topics selected are vital in strengthening the new schema. Nine such interactive sessions are included in the model to establish ideas such as (1) Man as an epitome of nature (2) Trilogy governing nature (3) The opposites within (4) The *guna* spectrum (5) *Guna* pattern of lifestyle and environmental factors (6) *Gunas* of *doshas* (7) Identifying major landmarks of *tridosha* (8) Specific locations of *tridosha* (9) *Doshakshayalakshana*.

Examples:

- Discussion on an egg, to show the known and unknown things about a simple object and to convince how unknown things are important, thereby leading to “out of box thinking”
- Broader perspective of human being- to show how definition of *aayus* as conglomeration of *sareera-indriya-satva-aatma* signifies a perspective of human being, broader than what the learners have already learnt

### Group discussion/ Guided discussion

Guided discussion helps the learner to discuss a theme in order to assimilate new ideas with their previous schema, where instructor intervenes to keep the integrity of the ideas. Role of instructor restricted to intervene only when the discussion advance to undesirable outcome. Primarily this method is student centred. Learners feel free in associating the ideas to the new situation.

Examples:

- Group discussion on the “Role of Physics-Chemistry-Biology-Mathematics in human body (PCBM basis of life).
- Trilogy of human body- to identify *visarga-aadaana-vikshepa* dispositions of major physiological activities in human body

### Case simulated learning/ Case studies

Learners get an opportunity to relate their knowledge to a given situation, mostly a real life situation, thus to assimilate the ideas to their

existing schema. It brings out problem based approach in learning where logical reasoning and interpretation skill are more important. The practicality of the concepts also is proved in this practice.

Examples:

- Situations in doctor-patient consultation sessions, to convince that there are many factors such as psychological, environmental, lifestyle, hereditary etc. those are beyond the physical considerations of a patient.
- Some clinical situations to explain how the locations of *tridosha* is important in disease manifestations and treatment.

### Brainstorming

Brainstorming was used to create an environment where the learners could ponder on some specific issues related to an area to which they are exposed previously, thereby to invoke readiness in receiving new ideas, especially, in the beginning of a session, prior to advancing to a new concept. Participants’ self-confidence is boosted up through such exercises. Regarding the topics selected for this strategy, learners could easily list out items, getting the ideas consolidated black and white and they could factually participate in the generation of further ideas.

Examples:

- Brainstorming on a topic “How can you prove that change is inevitable in the nature?” among the learners can enlist different types of changes in the nature which afterwards enable them to reach in the “constructive-destructive” binary in changes. This background is useful in demonstrating *visarga-aadaana-vikshepa* nature of the universe.
- Brainstorming “Features differentiating living organism from non-living” finally lead to the identification of *tridosha* in those differences.
- After introducing the major features of *doshaprakrti* a brainstorming was done to enlist the domains to be considered for developing a tool for *prakrti* assessment.

### Spot quiz

Spot quiz is a part of formative assessment as well as an activity. If the questions are so designed

to represent different levels Bloom's taxonomy, such as knowledge, understanding, application it serves these purposes. It works on reasoning capacity of the learners, typically bridges for accommodating the information to the new schema. Critically important in accommodation process. The selected topics contains applied aspects of the concepts learnt in the previous class, raising the reasoning, application and interpretation attitude of the learners. The questions are either multiple choices, fill in the blanks or match the following.

Examples:

- *Guna* spectrum- Applied aspect
- Identifying *tridosha* in physiology
- Normal fluctuations of *tridosha*

### **Didactic lecture**

Conventional lecture method sometimes become inevitable where learners themselves are simply incapable of constructing ideas; especially highly technical aspects of the subject. Technical linguistic lessons like etymology, numerical significance of three, *bhautik* configuration, etc. are topics where learners are incompetent to contribute by themselves.

Examples:

- Etymology of *tridosha*
- Why *doshas* are “three in number?”
- *Bhautik* configuration of *tridosha*

### **Concept building through instructional analogy**

Concept learning with the help of analogy is a customary method used in *aayurvedic* classics. Maxims used in *nyaaya* system also enabled the same learning process. It helps attaining concepts through analogy with real life objects/experience. Complex concepts may become easily understood through this approach. The analogies are meant to put a simple entry to complexities of the concepts. Usage of analogy as an instructional strategy is becoming more and more important in sciences like *aayurveda* where the fundamental concepts need a higher imaginative power than those related physical sciences. Instructional analogies are useful for teaching and learning because they require students to analyse a thing

(or things), and then transfer that analysis that analysis to another thing. This kind of transfer requires at least some kind of conceptual understanding. As a part of the new model a few instructional analogies are developed to enable simple, but, logical understanding of some abstract concepts. Some of them are pictorial analogies and some others verbally explanatory.

Examples:

- Horse rider approach- to explain how principles like *tridosha* are “principles behind” a visible phenomenon.
- Tea sugar approach- to explain why *dravya* like *tridosha* are not always understood physically.
- Bicycle approach- to establish the connection between *guna* and *karma*.
- Geometry box approach- to show how the *gunas* of *doshas* are not equally active always.

### **Concept mapping**

Learning concepts with the help of hierarchical diagrams and maps helps easy understanding of concept/s; drawing different aspects in segments which are logically connected.

Example: Understanding of functional division of *dosha*, especially that of *vaata*, starting with identifying human body as four circles representing major chambers in it; then connecting them logically to a functional hierarchy and structural constitution as well. Such a mapping can be easily extended to further more details regarding subtypes of *vaata*.

### **Role play**

Role-play is a technique that allows students to explore realistic situations by interacting with other people in a managed way in order to develop experience and trial different strategies in a supported environment. Apart from imparting suggested piece of information this method readily generates empathy, reflexivity and empowers the affective domain of the learners.

Examples:

- Simulation role play- for explaining the meaning of “dynamic equilibrium” of *doshas*.
- Three personalities (*prakrti*)- enacting the characteristics of three types *doshaprakrti* by three volunteers.

### Video lesson

Video lessoning primarily aims at multi-sensory input, which enhances learning outcome. In the present model video films are not directly used as a teaching tool, but to feature situations/sequences from which learners could build up reflections thereby enriching quality of learning experience. Using such videos and identifying specific features (like *prakṛti*) in the video brings out a notion of ordinariness to the concepts conveyed.

Example: Description of *prakṛti* in textbooks, especially those related to body language, character and consistency of behaviour, attitude etc are easily and effectively conveyed through films strips and cartoons. Animal behaviour also could be linked to the concept of *prakṛti* through videos.

### Constructionist practices

Constructionism represents a higher order learning ie, “learning through making.” Constructing a tool (here, a proforma) is the most advanced activity that can be assigned to learners to make themselves involved in the process of learning. Instead of filling up a prepared questionnaire, they construct a questionnaire based on the knowledge they have attained till then. As per Bloom’s taxonomy, “synthesizing” lies at the top while considering the hierarchy of learning process.

Example:

- *Prakṛti* assessment questionnaire is constructed by the learners after being exposed to key features of *prakṛti* assessment.
- *Doshavṛddhikshaya-lakṣhaṇa* becomes a questionnaire incorporating the ideas as they feel them in real life situations.

### Graded terminology tabulation

While learning technical terminology or simply a list of terms in Sanskrit, where learners are less familiar with the conventional/technical meaning of such terms, it is always advisable to introduce the terms and make sense of them in a graded manner rather than imposing the whole bunch of meaning all on a sudden. It’s better to let them attempt to sense meaning of the terms by themselves initially and to relate it with terminology already learnt. In the second and third

phases they will try relating the terms with the help of instructor’s connotation and explanation.

Example:

- Normal functions of *doshas*
- Symptoms of *dosha* increase

### Open textbook activities

In *aayurveda*, familiarizing original textbooks is a very important but, difficult task. In the beginning, during the transition period, learners will find it very hard to familiarise the textbooks all on a sudden. Open Text Book (OTB) activities help them to become familiar with the structure and gross orientation of the texts, which later help them to go deeper to the content.

The gross outflow of the content along with their instructional implications are given in flow chart below. Figure 4.

### How does the new model become innovative?

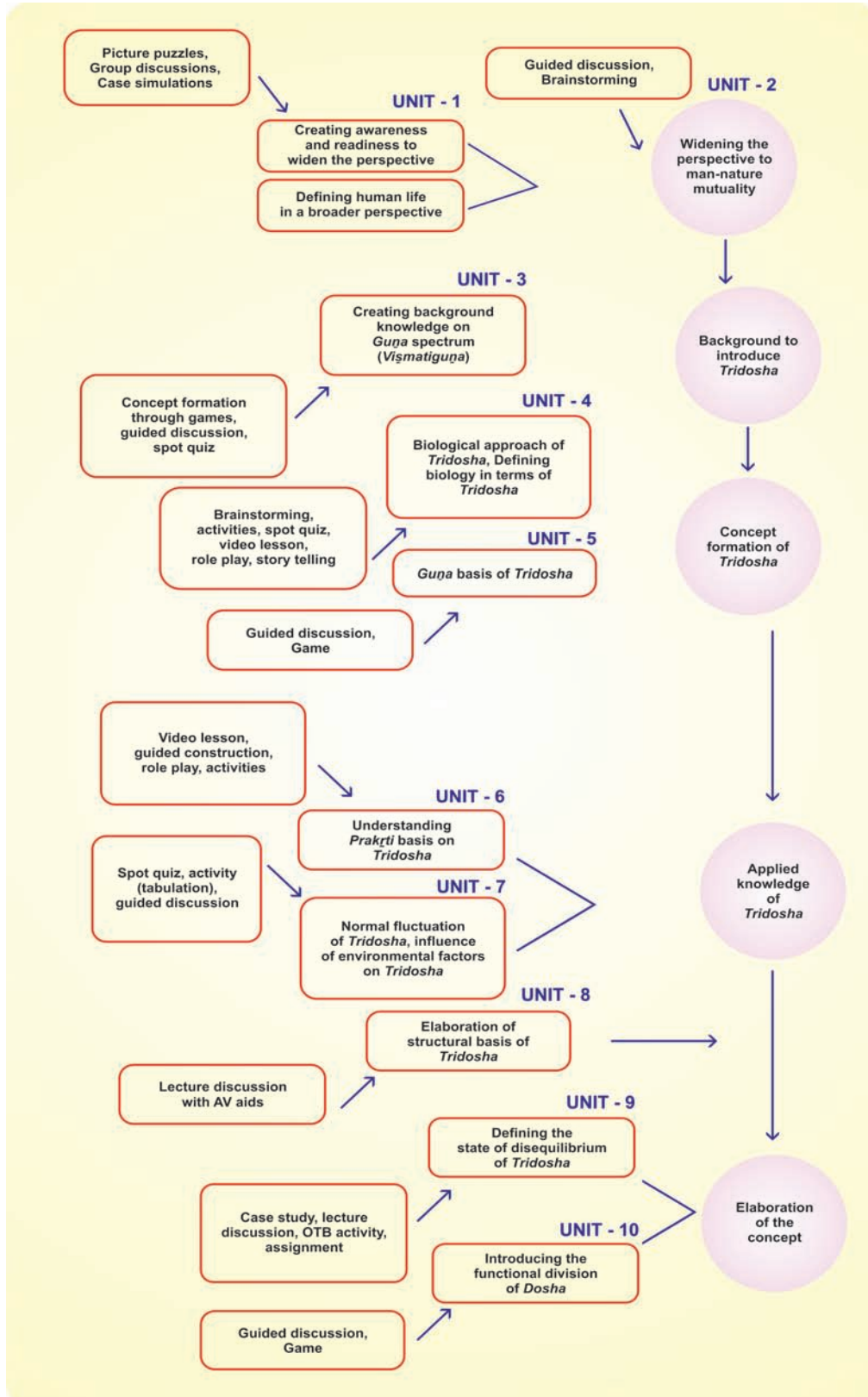
From many meanings/synonyms of the term “innovative”, those relevant here are: “unconventional”, “futuristic”, and “radical”. The new model is “unconventional” in two ways: (1) that in relation to *aayurveda* pedagogy (2) that in relation to models of instruction, explained in contemporary teaching.

(1) In relation to *aayurveda* pedagogy, the new model tries to introduce many new practices such as modular teaching, constructivist approach, unconventional teaching strategies, adoption of proven theoretical constructs related to education, adoption of newer methods in assessments and activities etc.

(2) In relation to models of instruction, though the present model adopts the structural integrity as a conventional model, it tries to integrate traditional methods related to *śloka* learning with contemporary methods of instruction. Hence, the model was designated as an innovative new model instead of cutting it to suit a ready-made one.

The model is “futuristic” in the sense; it travels ahead of its time, by providing sense of direction to the future endeavours related to curricular reforms. Vision document prepared by Central Council of Indian Medicine envisages some important change overs in the curriculum in future, which are reflected in the present model.

Figure 4  
 Outflow of content in the new model  
 (Source: Vinodkumar M.V. et. al., 2020)



The new model offers “radical change” in the present pedagogic practices in the form of (1) strengthening participatory and constructivist nature in learning of *aayurvedic* concepts (2) reversing the direction of instruction from “*śloka* to meaning to application” to “application to meaning to *śloka*” (3) integrating various epistemological constructs, relevant in the context of teaching and learning, to the concept learning process in *aayurveda*.

It developed newer methods in *śloka* learning which is in a reverse order when compared to conventional *śloka* learning methods. Usually, in conventional learning, *ślokas* are recited first and then introduce meaning, sense and practical implications in that sequence. Here, it starts from a practical situation, explains relevance of the theory in the context and finally reaches in the *śloka*. That means, constructivist approach is adopted in the case of *śloka* learning also. This method is easier in simple *ślokas* where the whole idea is conveyed in minimum verses. Whereas if the verses are larger in size, the method may not be suitable. Even then, once learners are convinced about the significance of *ślokas*, on a later period they will have natural attentiveness in learning *ślokas*.

### Conclusion

*Tridosha* being a model concept in *aayurveda*, application of which pervades through the whole span of *aayurvedic* learning and practice of an *aayurvedic* expert, it seems to be meaningful to incorporate innovations in its teaching-learning process. Moreover, transition of beginner learner to the core content of *aayurveda* happens when concept like *tridosha* is placed as the main content of the transition curriculum. It helps the learners to widen their perspective so as to accommodate further information properly through making teaching learning practices more participatory and student centred. Hence, the transition happens both the ways *viz.* from one phase to another and from one paradigm to another. In that way, the innovative model may be considered as a prototype for developing more

comprehensive transition curriculum for beginner graduate learners in *aayurveda*.

### References

1. Kishore Patwardhan et. al., Graduate Level Ayurveda Education: Relevance of Curriculum and Teaching Methodology, *Journal of Ayurveda*, Vol III No. 2, April-June, 2009.
2. Meena Shamrao Deogae, Perceptions of Dravyaguna Students About Small Group Teaching and Class room Teaching, 2015, *Annals of Ayurvedic Medicine*, Vol. 41, Issue 3-4, p. 68, July- December 2015.
3. Suzanne M. Robinson et. al., Preparing exceptional learners to enter junior high school: A transition Curriculum, *Focus on Exceptional Children*, Vol. 18, No. 4, p. 1, December 1965.
4. Piagets theory of cognitive development, <https://www.massey.ac.nz/~wwpapajl/evolution/assign2/DD/theory.html> accessed on 21.11.2021
5. Mohit Chakrabarti, *Pioneers in Philosophy of Education*, p. 95, Concept Publishing Company, New Delhi, 2002.
6. Agnivesa, *Carakasamhita*, Elaborated by Caraka and Drdhabala, Ayurvedadipika commentary of Cakrapanidatta, Edited by Jadavji Trikamji Acharya, Sutrasthanam, 30/27, p. 188, Chaukhambha Sanskrit Sansthan, Varanasi, 2017.
- 6a. Ibidem., Sutrasthanam 1/2, p. 3.
- 6b. Ibidem., Sarirasthanam 5/3, p. 325.
- 6c. Ibidem., Sidhasthanam 1/5, p. 677.
7. Vagbhata, *Ashtangahrdayam* with commentaries of Arunadatta and Hemadri, Edited by Vaidya Hari Sadasiva Sastri Paradakara, Sutrasthanam 2/45, p. 34, Chaukhambha Sanskrit Sansthan, Varanasi, 2017.
- 7a. Ibidem., Sutrasthanam 1/6, p. 6.
- 7b. Ibidem., Sutrasthanam 1/11, p. 9.
8. Susruta, *Susrutasamhita*, with Nibandhasangraha commentary of Dalhana and Nyayachandrika Panjika of Gayadasa on Nidanasthanam, Edited by Vaidya Jadavji Trikamji Acharya, Sutrasthanam 21/8, p. 100, Chaukhamba Surbharati Prakashan, Varanasi, 2017.
9. <http://elainelouiseesalonga-edtech.blogspot.in/2015/07/models-of-teaching.html> accessed on 03.09.2017
10. Vinodkumar M.V. and Upendra Dixit, Compative assessment of models of instruction for transacting Tridoshasidhanta, accessed from <http://shodhganga.inflibnet.ac.in:8080/jspui/handle/10603/317389>
11. Vinodkumar M.V., Upendra Dixit, Framing Innovative teaching module for Ayurveda Concepts- A trial on transacting Tridosha Sidhanta, *Aryavaidyan*, ISSN 0970-4086, Vol XXX, No.4, May-July 2017, pp. 15-20, Publication Department, Arya Vaidya Sala, Kottakkal.

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## Mythological understanding of *vaayu*

Sourabha S. Kokatnur and Berbi P.S.

**ABSTRACT:** *Tridosha* is the basic fundamental of *aayurveda*. *Doshas* are the active principles in the body which are responsible for normal physiological action of the body. If *doshas* are normal then the body will remain healthy otherwise diseased. Eventhough *aayurveda* is the *upaveda* of *atharvaveda*, its concept are seen in other *vedas*, *puraanas* and *upanishads* also. *Vaata* is said to be important one among three *doshas*. This is because *vaata* controls all the activities in body. *Vaatadosha* covers physical and mental abilities, sensory and motor responses and all activities happening in body conducted by *vaata* only and it is considered as *yogavaahi*. Lord *vaayu* is considered to be the first beneficiary of *somarasa* by *Rgveda*. *Vaayu* is considered as *mukhyapraana* according to *upanishad*. This statement states the importance of *vaayu*, without *vaayu* no function in the body can be functional. According to *upanishad*, *vaayu* is also responsible for *vibhajana kriya* also in development of fetus. This article deals with the mythological understanding of *vaayu*.

Key words: *Vayu* mythology, *Devata*, *Mukhyapraana*, *Vaata in aayurveda*

### Introduction

*Aayurveda* is the traditional healing modality of vedic culture. *Aayurveda* is a Sanskrit word that literally translates as ‘the wisdom of life’ or the knowledge of longevity. *Nidaanapancaka*, *shad-kriyaakaala*, *samsarga*, *sannipaata*, *anubandha* and *anubandhya* of *dosha*, etc. are the core concepts of *aayurveda* to understand the disease. *Aayurveda* defines health as a state where the *tridosha*, *agni*, *saptadhaatus*, *malas*, etc. are in perfect equilibrated condition. The definition of good health adopted by WHO is almost similar to the definition mentioned in *aayurveda*. The main aim of *aayurveda* is prevention and cure of disease. This knowledge system gives equal importance to our body, mind and soul and hence it is called as holistic science.

The concept of *tridosha* is traced out right from the *veda kaalas*. Eventhough *aayurveda* is the *upaveda* of *Atharvaveda*, its concepts are seen in other *vedas* and *puraanas* and *upanishads* also. According to some scholars *aayurveda* is *pancama veda*. *Aayurveda* is mentioned in the form of *mantras* in *vedas*. *Puranas* are Hindu religious texts of ancient times and are parts of *vedas*. The propagation of the study of *aayurveda* medicine was attempted only through *puranas*. The progression of *aayurveda* was

steady in those days. *Aayurveda* was taught as a compulsory subject along with the studies of *vedas* and *shastras*. So it is essential to have a glance of basic principles of *aayurveda* explained in the *vedas*, *puraanas*, etc.

### *Vaata/ Vaayu:*

#### Synonyms of *Vaayu*

*Anila*, *vaata*, *praana*, *mukhyapraana*, *bhaaratiramana*, *bheemaavataari*, *vyaana*, *pavana*, *pavamaana*, *manojala*.

*Sthaana: Pavana loka*

#### *Vaayu as devata*

Lord *Vaayu* is revered as one of the Hindu triad namely sun, wind and air. He is referred to as *vaata* meaning blown, *pavana* meaning purifier and also as *praana* or the breath. Other names of *vaayu* are *marut*, *anila*, *gandhavaha* (bearer of perfumes), *jalakantara* (whose garden is water), *sadagata* (ever moving) though he is said to have many more names. Lord *vaayu* is personified with four hands who is riding on deer and carrying an arrow in one hand and a flag in another. The other two hands are in *abhaya* (gesture of benediction) and *varada* (gesture showing grace and mercy) *mudras*. In the hymns, he is described as a distinct personage moving about in his shining chariot driven by two/forty-

nine/one thousand white and purple horses with a white banner.<sup>1</sup>

In *Rgveda*, the term *vaata* is used to describe its swift speed by *Rshi Avasyu Aṣvina* with Indra as a *Dhee devata in Trishtup chandah*.<sup>2</sup> the term *vaata* is even used to describe the qualities of *vaata* as: it trembles and moves swiftly, blazes like the flames of fire and achiever of heroic deeds by *rshi Bhrgu* with *Marutgana* as *aadidevata in trishtup chandah*.<sup>2a</sup> *Rshi Anil Vatayan* with *vaayu* as *ashidevata in trishtup chandah* mentions term *vaatah* his voice spreads thundering around, he moves along sweeping the sky, raises the dust from earth and makes it red colour from all four direction. *Rshi Ula vaatayan* with *vaayu* as *aadidevata in gaayatree chandah* mentions the term *vaata* as: it helps in breathing, brings health and joy to our heart and prolongs our days of life.

Lord *Vaayu* is said to be a trusted friend of *Indra* and the first partaker of the *soma* juice. He is the Lord of thought and swift as the mind. He is praised in the hymns as the intelligence who illumines the earth and heaven and makes the dawn shine. He is the lord of the North West quarter and a protector of the people. He is the king of the *gandharvas* and his abode is known as *gandhavati*. He is said to be married to the daughter of the celestial architect *Viśvakarma* and given his daughter *Ila* in marriage to the great king *Dhruva*. In the *Purushasookta*, *vaayu* is said to have sprung from the breath of *purusha* and in another hymn he is referred to as the son in law of *Tvashtri*. *Vaayu* is also said to have reincarnated as sage *Vasishtha* when he and *Agni* were cursed by lord *Indra* to go down to earth as *Vasishtha* and *Agasthya* respectively.

In *Yajurveda*, the term *vaata* is described as wind, *vaayu deva* and *mahaabhoota*.<sup>3</sup>

In *Saamaveda* in *poorvaarchikah* (*chandaarchikah*).<sup>4</sup> In *somapavana*, *vaata* is mentioned as lord *Vaayu*.<sup>4a</sup>

In *Atharvaveda*, *Atharva rshi* with *Brahma-karmadevata* as *adhipati atishakvari chanda* states as *vaayu* is the lord of the atmosphere and the whole universe is in need of his favour.<sup>5</sup> *Rshi Brhugvangiraa* with *Trishandhi devata* as *adhipati* in *anushup chandah* states the *vaayu*

conquers the enemies by bending their arrows.<sup>5a</sup>

*Vedas* have taken as “*the chanda*” which means to blow heavily. Clinically this is referred to as *oordhva*. *Svaasa* which is *deergha* in nature which if sustained abnormally would take away the life as explained in *indriyasthaana* of *Caraka* where *chandamahaabhoota* also causes great loss in the *brahmaanda*.

Lord *vaayu* is considered to be the first beneficiary of *soma rasa* by *Rgveda* which can be understood as the first *kriya* (action) by individual instantly after birth is breathing which is referred by *Saarngadhara*:

“*Naabhistha praana pavanah peetvaa caambara peeyam*” where *somasara* and *amṛta* are synonyms.

### In *Upanishads*

*Upanishads* have given utmost importance to *vaayu* as causative factor in *sṛṣṭi utpatti* base for the life of all individual and controller of universal activities like *stiti, niyamana, jnaana, ajnaana, bandha, moksha*. According to the *Brhadaraanyaka upanishad*, *vaayu* is most superior among all Gods as he symbolises the very breath of the body needed for human existence. There are numerous illustrations stating the greatness of *vaayu* in the *upanishads*. Two frequently used symbols of *brahman* in the early *upanishads* are *vaayu* and *praana*. It denotes the vital organs, the breathing and also the life principle which animates the vital organs. All organs are dependent on the *praana*. As long as the *praana* inhabits it, the body of an organism lives. Once the *praana* leaves the body, the living being is reduced to a corpse, without significance or value. Hence, the statement ‘*Praano vai brahma*’ meaning *praana* is verily *brahman*. The *Chaandogya upanishad* compares the *praana* in the body to the energy in the sun. The body generates heat during *tapas*. Later *Upanishads* drew a clear distinction between *praana* and *brahman* and described *brahman* or the self as the *mahaapraana* of the *praanas* and whom *praana* serves. Sage *Yajnavalkya* in the *Brhadaraanyaka upanishad* considers two categories, those nourished by food and those nourished by breath. He describes *praana* or breath as the subtle and invisible life force. By

regulating and calming *praana*, one can stabilise the mind and senses.

### ***Mukhyapraana***

*Vaayu* is also worshipped as *mukhyapraana*, the father of *Bheema* and *Hanuman*. The name means 'chief of life' and symbolises power, wisdom and source of all existence. In Hindu mythology, when *Hanuman* went towards the sun to eat it assuming it to be a ripe fruit, Indra hurled his thunderbolt at him rendering him unconsciousness. *Vaayu* as *mukhyapraana* was enraged and withdrew all air from the world and went into seclusion. This created panic every where and subsequently, Indra withdrew the effects of his *Vajra* (bolt) and the Gods blessed him with various boons. *Mukhyapraana* was then appeased and resumed his role in the universe. There are a few temples dedicated to lord *Vaayu* as *mukhyapraana*.<sup>6</sup>

### **In *Puraanas***

#### ***Vaayupuraana***

It is one of the eighteen major *puraanas* of Hinduism and is mentioned in the *Mahaabhaarata* and other Hindu texts. It has 112 chapters (*adhyaayas*) with 24000 verses and is divided into four *padas* (sections) namely *prakriya*, *upodghata*, *anusanga* and *upasamhaara*. It is a *Sivapuraana* dedicated to Lord *Vaayu*. King *Adishima Krishna* or *Asima Krishna* belonged to the lineage of the *Paandavas*. He was a good king and during his reign the sages once organised a *yajna* which went on for a long time. The sage *Lomaharshana*, the disciple of the great sage *Vedavyaasa* came to visit the sages. He was well versed in the scriptures and was highly respected. The sages welcomed him and requested him to recite the *puranas* learnt from his great guru *Vyaasa*. He informed them that there were several sages in the forest of *naimishaaranya* who had earlier requested lord *vaayu* to give them answers to all their queries. *Vaayu's* reply to them constituted the *Vaayupuraana*. Reciting it *Lomaharshana* then proceeded to tell them about creation, *Brahma's kalpas* or lifecycles, the *Yugas*, *Shiva's* technique of *yoga* and *praanaayaama*, the story of *Daksha* and his children, the story of *Soorya*

and the solar line, the lunar line and the glory of lord *Vishnu* and his *avatars*. He then blessed the assembled sages as fortunate to listen to the *Vaayu puraana* which would grant them great knowledge, wealth and finally salvation.<sup>6</sup>

### **In *Raamaayana***

*Hanuman*, the monkey God is one of the most important figures of the epic *Raamaayana*. He is often referred to as the son of the wind God *Vaayu*. Different legends state *Vaayu's* role in *Hanuman's* birth. According to *Ekanath's Bhaavaartha Raamaayana*, *Anjana* was performing intense prayers to Lord *Siva* for a son. At the same time king *Dasaratha* received the sacred *paayasa* on performing the *Putra-kaameshti yajna* in order to get a child. The *kheer* was to be shared by his three wives. A kite snatched a portion of the pudding and aided by lord *Vaayu* dropped it into the hands of *Anjana* who was engaged in worship resulting in the birth of *Hanuman*. According to another legend, when *Anjana* and her husband *Kesari* were engaged in prayer to lord *Siva* to bless them with progeny, on *Siva's* direction *vaayu* transferred his male energy to *Anjana's* womb. Hence, *Hanuman* is considered as the son of *vaayu* and referred to as *Pavanaputra*.

### **In *Mahaabhaarata***

*Paandu* the King of *Hastinapura* could not have children due to a curse. His wife *Kunti* had in her youth been granted a boon to invoke the Gods to bless her with a child. Urged by *Paandu* she invoked the wind god *Vaayu* to give birth to *Bheema*. *Bheema* was born with towering strength, power and wisdom.

*Vaayu* is said to be one of the first movements referred to as *praana*. Within the realm of nature (*prakrti*) he manifests as *praana*. Within the *purusha* (soul) he exists as consciousness. As *praana*, he is responsible for the manifestation of all creation. He is the essence and foundation of all life, the vitality and energy that permeates the whole universe. *Praana* is the link connecting the material level, mind and consciousness. Life in the material plane is possible only because of the *praana*. Ability to control *praana* results in good health and harmony of body, mind and

expansion of consciousness. Thus, the *praana* that an individual radiates depends on physical state of health, purity of thoughts and feelings reflecting in an 'aura'. This influences the environment and the society as a whole.

The *pancapraana* can be divided into- *Praana vaayu*, *Apaana vaayu*, *Udaana vaayu*, *Vyaana vaayu* and *Samaana vaayu*. *Praana vaayu* or 'forward moving air' is linked to the cosmic *praana* which supplies essential oxygen to the human body. It flows from the nostrils to the heart. *Apaana vaayu* or 'the air that moves away' influences the lower part of the body from the navel to the feet and regulates the elimination and reproduction process. *Vyaana vaayu* or 'outward moving air' flows through the nerves of the body and affects the whole body particularly the *naadis*. *Udaana vaayu* or 'that which carries upward' flows from the heart to the head region and accompanies the awakening of the *kundalini sakti*. *Samaana vaayu* or 'the balancing air' distributes nutritional energy throughout the body. Thus, the quality of food directly affects the quality of the *praana*. This is the reason why pure *saattvik* and vegetarian food is encouraged for a balanced body and mind.

According to *dvaita* philosophy, *vaayu* is attributed to *raamadoota* (*Hanumata*), who took three *avataara* as *Hanuman*, *Bheemasena* and *Madvacara*.

*Sreemad Bhaagavata puraana* explains 32 *lakshana* of *Hanuman* (*vaayu*). He is attributed as *vaayudevata* and is said in *dvaita* philosophy that "*Hari sarvottama, vaayu jeevottama*" *Hari* is supreme of all "*sarveshaam uttamaha*". The *vaayudeva* is said to be the person who is going to attain *brahma paddhati* and he is enlisted in the *gana* called *ruju gana* where *ruju* means personality having qualities to attain *brahma paddhati*. Among the *jeevi* and *devata*, *vaayu* possess all qualities of superiority after god *Vishnu* and *Lakshmi*. According to *dvaita* philosophy, *brahma* and *vaayu* are considered as one.

The *dvitrimsa lakshana* explains in *Bhaagavata-puraana* is abundantly found in *vaayu* and he is known as supreme in following *suddha bhagavaddharma*.

### **Caturvimsati tatvaas of the universe and the body**

*Avyakta, mahat, ahankaaraadi* are said to be the causative factor for the existence of universe, and the same for the body also, these all have *tatvaabhimaani devata* such as;

- *Karna- Ganapati*
- *Netra- Soorya*
- *Manas- Rudra, Jihva*
- *Agni and praana- Vaayu- Hanumanta*

"*Hrdi praana, gude apaanaaha, samaano nabhimanda le, vyaanaha sarvashareera gaha*".

This states that without *vaayu*, no function in the body can be functional as per *Chaandokya upanishat*.

Here the story comes that there was a play between all the *abhimani tatvadevata*, to confirm who is superior, in that play *brahman* and lord *Bhagavan* *wew* said themselves that they would stay inactive. Then one by one *Tatvabhimani devata* left the body such as *soorya* left his *indriya*. i.e. *cakshu* his *adhishtaana*, still the body continue to live alive as blind. Then *agni* left his *adhishtaana jihva* and still body continue as dumb. Further, *Ganapati* left the body and person continued to live as deaf. Thus made statement that there are not so important. Finally, lord *vaayudeva* left the body and body lost the liveliness. Seeing this together all stated that it could be a *kaakataaleeya* (coincidence). Again both inactive lords *Brahman* and *Vishnu* arranged for play wherein the play was reverse of the earlier. i.e. entry of *soorya, agni, indra, candra*, etc. But still body were mere a dead. Then *vaayudeva* (*mukhyapraana*) entered the body and there was frank liveliness in the body as soon *vaayu* entered. From this story the moral to know is the body is said alive even if *indriyas* are inactive. But it is called dead when *praanavaayu* is absent.

*Srushiti, sthiti, niyamana, jnaana, ajnaana, bandha* and *moksha*- these are collectively known as *srshtyaadi astakartriva*. *Sreemad Bhaagavatapuraana* has explained these *srushtyaadi astakartriva* as the prime qualities of lord *Vishnu*. *Bhaagavadataatparya-*

*nirṇayah*, which is *vyaakhyaana* on *Bhaagavadapūraṇa* by dvaita philosophy clarifies that the *taaratamya* between various super powers. In that lord *Vishṇu* is said to be supreme and his successor being *Lakshmi* then *Brahmamukhya praāna* and so on. In the same context it is explained that the *samyoga* of *puruṣa* and *stree* leads for *śṛṣṭi utpatti*. *Sukra sonita samyoga*, joining of *aatma* at the time of *samyoga*, *stīti* to continue life, *laya* the end, *jnaana*, *ajnaana*, *niyamana* (controlling), *bandha* (*karma phala*), *moksha* (*karmanaasa*) are all under the supervision of lord *Mukhyapraāna* and virtue of his supremacy.

### **Vaata in Aayurveda**

The *pancavaata* in the human body namely *praāna*, *udaana*, *apaana*, *samaana* and *vyaana* affects the nature of the body. The dominance of each of the *vaayus* in the body varies with each individual. These result in different body types or constitutions called the three *doshas* namely *vaata*, *pitta* and *kapha*. *Vaata* is governed by *vaayu* and *aakaasa*. The word '*vaata*' means to blow or move like the wind. Every individual has a combination of all three *doshas* with one or two being more predominant. *Vaatadosha* governs motion and flow in the body. It controls elimination of wastes, blood flow, breathing and movement of thoughts across the mind. A disturbed *vaayu* (*vaatadosha*) in the body shows constipation, flatulence, disturbed sleep, loss of strength and immunity, nervous disorders and other adverse symptoms of ill health which can be restored by *aayurveda*. *Panca-vaayu* needs to be in balance for *vaatadosha* to be normal.

### **Discussion and Conclusion**

It is evident from the above that the *veda* are the original sources of the subject matter of *aayurveda*. In the ancient times, India was full with such brilliant minds. And in the hands of some of those individuals, we received the most effective and glorious natural means to maintain a healthy anatomy—we received knowledge about healthy

life—the *veda* of *aayu*- *Aayurveda*. The vedic hymns were skillfully crafted by the sages of ancient India through rigorous mental exercise. The Sanskrit word *Veda* is derived from the root "*vid*" which means "to know". The vedic literature was among the earliest documentation of human knowledge. They are of great scientific and philosophical significance. Going through the historical and mythological evidence, we learn that *aayurveda* existed and was practiced through many centuries. *Vedas* and *purāṇas* are authentic references of Indian culture and tradition which existed in ancient times and which influenced the civilization to come. *Tridosha* is the basic concept of *aayurveda*, its roots are in the mythology. This shows that the strongest philosophical background of *aayurveda* for treating the disease and maintaining the life style of the individual by maintaining the *vaata* in the body. *Purāṇas* such as *Garuda*, *Agni*, *Padmapurāṇas* states the basic concepts of *aayurveda* such as *tridosha*, etc. in their context. By reading *vedas*, *purāṇas*, *upanishads* and *samhitas*, we will get the clear idea of budding *aayurvedic* basic concepts.

### **References**

1. <https://www.hinduscriptures.in>
2. *Rigvedasamhita*, English translation according to H.H. Wilson and Bhashya of Sayanacharya, Edited and revised by Ravi Prakash Arya and K.L. Joshi 3<sup>rd</sup> Edition, Delhi Vol.1 ,5<sup>th</sup> Mandala.
- 2a. *Ibidem.*, Vol.1, 10<sup>th</sup> Mandala.
3. *Yajurveda*, English translation of R.T.H. Griffith-9,13,19,22,23,25,27,35 and 40 Adhyayas.
4. *Samaveda*, English translation by R.L. Kashyap, Part 1, Book 2, Chapter 2, Decade 4.
- 4a. *Ibidem.*, Part 2, Book 3, Chapter 2.
5. *Atharvavedasamhita*, English translation with critical and exegetical commentary, Edited and Revised by William Dwight Whitney and Charles Rockwell Lanman, 5<sup>th</sup> Kaanda.
- 5a. *Ibidem.*, 11<sup>th</sup> Khanda.
6. *Vayupurana*, English translation by G.V. Tagare, Motilal Banarsidas, Delhi.

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## *Vaatika sirassoola*

Ramesh P.R. and Mahesh K.

**ABSTRACT:** To formulate a conclusive diagnosis and carryout effective management of the disease, *aayurveda* uses assessment of various subjective and objective parameters, different permutations and combinations of *dosha* vitiation and clinical signs and symptoms. In this article, a case study of pituitary macro adenoma and its treatment done making use of the basic principles of *aayurveda* is narrated. A 46-year-old male presented with chronic left sided headache, pain in right eye, generalized body swelling, decreased libido and weight gain of one year duration. He was diagnosed elsewhere with pituitary macro adenoma, for which he had undergone binasal trans sphenoidal endoscopic excision around 8 months back. His post surgery CT Brain showed minimally enhancing hyperdense lesion involving sella extending to right cavernous sinus-residual lesion- 28x19x12mm. He was on anti epileptic modern medicines and pain killers following the surgery without considerable relief in his clinical symptoms and therefore opted for *aayurveda* management. He was admitted for in-patient treatment at the in-patient unit of the clinical research department for 31 days. His numeric rating scale for pain and HIT score was recorded as 9 and 71 respectively at the time of admission. He has been prescribed oral medications along with different treatment modalities for a period of 31 days. After completing the treatment, his numeric rating scale for pain score and HIT score were decreased to 3 and 52 respectively and his quality of life improved. His clinical symptoms like headache considerably improved and he was able to restrain from the use of analgesics, which he was taking six hourly basis. The improvement in quality of life achieved by the systematic incorporation of the *aayurveda* protocol is worth considering and further studies in this direction may be helpful in an effective management of this type of cases.

*Key words:* Pituitary macroadenoma, *Vaatika sirassoola*

### Introduction

Diagnosis is both a process and a classification scheme, or a “pre-existing set of categories agreed upon by the medical profession to designate a specific condition”.<sup>1</sup> *Aayurveda* focuses on the concept of imbalance of *tridosha* which could be assessed by observing the set of signs and symptoms, during the clinical examination of patients. A physician examines the changing condition of *dhaatu*, the specific *dosha* which vitiates them, the abode of disease (body) and the habitat of the patient (*desa*), time which dictates the course of the disease and the cycle of seasons (*kaala*), digestive power (*agni*), body constitution (*prakrti*), age of the patient, mind, and the life style and food habits of the patient to draw a definitive diagnosis.<sup>2</sup> The physical assessment of a patient is carried out by inspection (*darsana*), palpation (*sparsana*) and interrogation (*prashna*). The causative factors (*nidaana*), premonitory symptoms (*poorvaroopa*), clinical features (*lakshana*),

therapeutic tests (*upasaya*), and the disordered physiological processes of *dosha* vitiation associated with disease (*sampraapti*) are important in formulating a conclusive diagnosis. According to *aayurveda* a physician need not be feeling ashamed of for the inability to name a disease instead he must be skilful in eliciting the exact *dosha-dooshya* vitiation by closely assessing the signs and symptoms mentioned.<sup>2a</sup> Each and every disease is caused by the disequilibrium of *dosha*, which are caused by the inappropriate food and lifestyle and the aim of the physician should be to bring back the perturbed *dosha* to normalcy. Following is a case of recurrent pituitary macroadenoma, treated using *aayurveda* principles taking into account the clinical symptoms and probable *dosha* vitiation.

### Case presentation

A 46-year-old male, a known case of Type 2 Diabetes mellitus and hypertension presented at the special Out-Patient Department, Charitable Hospital, with pituitary macro adenoma, post

surgery. His main complaints were chronic left sided headache which aggravates by late evening, pain in right eye and feels like eyeball protruding out, generalized body swelling, decreased libido and weight gain of one year duration. He was on anti-epileptic modern medicines and pain killers following trans sphenoidal endoscopic excision of the tumour without considerable relief in his clinical symptoms and therefore opted for *aayurveda* management.

A year back, the patient presented to a modern medicine physician with dizziness, left sided headache and occasional loss of conscious. A computed tomography (CT) scan of brain was performed then which showed a heterogeneous lesion of 33x16mm pituitary tumour with calcification suggesting the possibility of pituitary macro-adenoma. Magnetic Resonance Imaging (MRI) of brain revealed 2.4x1.7x2.6cm sized pituitary adenoma with hyper intense collection within the lesion which is hyper intense in T1 and T2 p/o apoplexy. Hormonal assay was carried out. Prolactin (PRL) level was found to be elevated 1271.8ng/ml (normal range: Male 4.6-21.4 ng/ml) and a low cortisol level of 0.5 mcg/dL (normal range: 10 to 20 micrograms per deciliter (mcg/dL) was observed. Thyroid profile was found to be normal. He underwent binasal transphenoidal endoscopic excision of adenoma. Histopathology report confirmed pituitary adenoma. Upon discharge, he was advised antiepileptics and analgesics. After 6 months a post surgery CT Brain was performed as advised by his physician, which revealed minimally enhancing hyperdense lesion involving sella extending to right cavernous sinus-residual lesion- 28x19x12mm. His cortisol level was found to be on the lower side. i.e. 4.29 mcg/dL. He was not having any considerable relief in his symptoms.

Upon evaluation at the clinical research department, his pulse rate was 72 beats per minute, blood pressure was 110/80 mmHg and the temperature was 97.2 degrees Fahrenheit. He was confined to his home alone and was unable to carry out his usual activities without the aid of analgesics. He used to take 4-5 tablets of paracetamol 650mg a day. His body weight was 88 kilograms and he reported a gradual weight gain since the last one year. His sleep was

disturbed due to pain, micturition was normal and there were no abnormalities in his bowel habits. Professionally he was a mason and was married with two children. He had the habit of smoking, which he stopped 2years back, and was a social drinker. There was no history of the same illness in his family.

He was admitted for in-patient treatment at the in-patient unit of the clinical research department. His numeric rating scale for pain and HIT score was recorded as 9 and 71 respectively at the time of admission. Following medications were prescribed.

1. *Varaṇaadi kashaayam* 15ml + warm water 45ml, twice daily in empty stomach.
2. *Kaancanaara guggulu vaṭika* 1no. twice daily in empty stomach.
3. *Amṛtamehaari coornam* 5gm, with warm water, before lunch and dinner.
4. KGS tablet 2 Nos. before lunch and dinner.
5. *Daṣamoolahareetaki leham* 10gm, at bedtime.
6. *Balaahathadi tailam* for external application over the scalp.
7. *Prabhanjanavimardanam kuzhampu*, for external application over the body.

He was provided with non-oily, non-irritant and non-spicy vegetarian diet. The diet timings were also modified to enable proper digestion and assimilation. Along with the oral medications following therapies were performed.

1. *Abhyangam* with *Prabhanjanavimardanam kuzhampu*
2. *Takradhaara* prepared with *Varaṇaadi gana*
3. *Talapoticcil*
4. *Sirolepana* with *Dattooraphalam* + *Saindhava putapaaka*
5. *Sirolepana* with *Bimbee patra* + *Navaneeta*
6. *Yogavasti*

*Varaṇaadi takradhaara*, *abhyangam* and *sirolepana* with *dattooraphalam+saindhava putapaaka* were started initially. After six days of therapy, no relief was observed and the case

was reviewed and discussed with the additional Chief physician. *Sirolepana* was withdrawn and after 14 days of *takradhaara*, *talapoticcil* and *sirolepana* with *bimbeepatra* + *navaneeta* paste was done. Headache started subsiding progressively and the intensity of pain drastically came down soon after starting the paste application of *bimbeepatra* prepared in *navaneeta*. He was able to restrain from the use of analgesics, which he was taking six hourly basis at the time of admission. Sleep quality substantially showed improvement and his body weight has reduced from 88kg to 85kg. At the time of discharge, his numeric rating scale for pain and HIT score was recorded as 3 and 52 respectively. In a nutshell, his quality of life has shown considerable improvement and he became confident to restart his profession. He was prescribed oral medications and advised regular follow-ups every four weeks, at the time of discharge.

### Discussion

The above case was treated as *vaatika sirassoola*. The symptoms were pointing towards vitiation of *vaatadosha* at the seat of *kapha*, i.e. *uttamaanga sira*. His symptoms like *sankhaanistoda* and *lalaata tapana* (pain over the left frontal region), *akshi nishkaasanavat peeda* (pain in left eye like eye being protruded out) and *bhavanti teevre nisi* (aggravates by late evening) were typically seen in *vaata* vitiated condition. Macro adenoma at the seat of *kapha* justifies the *kapha* involvement in the condition. *Siras* being seat of *kapha dosha*, the state of *kapha* vitiation needs to be assessed in each and every condition of *siroroga*. Therefore the treatment principle adopted was *vaatakapha samana*. The vitiated *dosha* need to be tamed of with the help of appropriate treatment modalities and medicines recommended based on *saamaanya visesha* principles. Both external and internal *samana* therapies can be resorted for the effective management of the condition.

The regimen which is congenial for promoting the healing aspects of a condition is generally termed as *upasaya* for that particular disease. In the classical texts of *aayurveda*, the following

principles are specifically recommended as *upasaya* which needs to be adopted in *vaatika sirassoola*.

1. *Snigdhoṣṇamupaṣete ca siroroge f nilaatmake (Ca. Soo. 17)*
2. *Bandhopataapesca bhavetviśeṣaḥ sīrobhitaapah sa sameeranena | samau ... (Su. Ut. 25/5)*
3. *Maardavam mardanasneha svedabandhesca jaayatel sirastaapo f ya..... (Ash. Hr. Ut. 23/7)*

*Aahaara-* With *snigdha* and *ushna guna*.

*Vihaara-* *Mardana, svedana, snehana and bandhana*.

In *samhita*, the *saadhyasaadhyata* of *sirassoola* is generally described considering the severity. *Siroroga* which is not chronic than one year and devoid of any major complications can be termed as *sukhasadhya* (good prognosis). On the contrary, when *siroroga* is having history of long chronicity and relapses, where no improvement is observed even after undergoing all sorts of treatment can be termed as *asaadhya* (poor prognosis).

Here the formulations selected and the treatment modalities administered were mainly *vaatakaphahara*, which is expected to have helped the patient in relieving his clinical symptoms.

*Sirolepana* with *dattooraphala* + *saindhava putapaaka* was initially started considering the *kaphameda* predominance which is found in adenoma. However *anupaṣaya* was observed by not having any effect on the intensity of pain which can be attributed to the *vaatakr̥t* and *rooksha guna* of *dattoora*. When the combination of the *lepana* was modified into *vaata samana* using *bimbeepatra* + *navaneeta* paste instant relief was observed which prompts us to think in term of *dosha* predominance while treating this kind of condition.

### Conclusion

The improvement in quality of life achieved by the systematic incorporation of the *aayurveda* protocol is worth considering and further studies in this direction may be helpful in an effective



management of this type of cases.

**Informed consent:** Written informed consent was obtained from the patient for the purpose of publication of his clinical details.

**Competing interest:** The authors declare that they have no competing interests.

**Author contribution:** The authors have equally contributed in patient assessment, formulation of treatment plan, data analysis and interpretation, conceptual development, discussion and drafting of the manuscript.

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#### References

1. Edavalath M. and Bharathan B.P., Methodology for developing and evaluating diagnostic tools in Ayurveda - A review, *Journal of Ayurveda Integrative Medicine*, 12(2), pp. 389-397, 2021. doi:10.1016/j.jaim.2021.01.009 (Accessed on 23.12.2021)
2. Vagbhata, *Ashtangahrdayam* with commentaries of Arunadatta and Hemadri, edited by Vaidya Hari Sadasiva Sastri Paradakara, 1<sup>st</sup> Edition, Sutrasthanam 12/ 67-68, p. 207, Chaukhambha Sanskrit Sansthan, Varanasi, 2016.
- 2a. Ibidem., Sutrasthanam 12/64, p. 206.

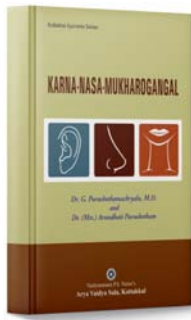
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### ***Karna-Naasa-Mukharogangal***

Dr. G. Purushothamacharyalu and

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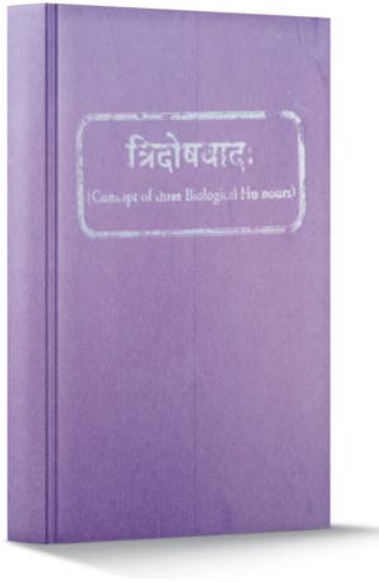
Price: ₹260/-

*Karna*, *naasa* and *mukha*, the seats of hearing, smelling and tasting, are the main portal entries of the body situated in the head or the *uttamanga*, which is the most vital part of the body. The disorders of these organs are known to ancient Indian science, Vedic period and was termed as *sirasanya*. *Tridosha*, *saptadhaatu* and *dooshya* are responsible for the maintenance of health and causation of disorders of these organs. Modern aids like head mirror, speculae, aurioscope, laryngoscope, etc. can help in understanding the diseases well and to implement *aayurvedic* therapies more appropriately. The authors here have attempted to interpret the recent observations of modern medicine in the ENT and epidemiological studies of scientists where ever feasible substantiate the concepts of *aayurveda*.



## ***Tridosha vaadah-* a book validating *dosha* theory**

Leena Nair P.



### **Introduction**

Epistemology is the science of correct knowledge and *pramaana* (means of object) is the way in which we came to know anything true and objective. A person should be there to acquire the valid knowledge, real experience of an object. Without any individual, there is no utility of *pramaana*. The activity of getting knowledge occurs in *sacetana sareera* (living body) only. Human being only can decide merits and demerits, advantages and disadvantages of an object and which object is perceivable and which is to be deleted. Hence, human being is called as *pramata* (knower).

In *aayurveda*, the means to attain knowledge is described as *sabdalaaptopadesa* (authoritative instructions), *pratyaksha* (direct observation) and *anumaana* (Inference). *Aayurveda*, the science of life explains about the origin, growth and

development of an embryo, its physiological and anatomical aspects along with the pathological aspects with treatment. Also explains about the spiritual wellbeing of a living being to attain the *purushartha* (four goals of life). *Tridosha* are one among the basic constituents which act as the base of human body. When it is well maintained along with other constituents like *dhaatu*, *mala* and the psychological factors like *aatma* (soul), *indriya* (sense faculties), *manas* (mind) is considered as *svasthaavastha* (state of wellness). So any knowledge related to *tridosha* is highly beneficial for understanding the concepts of *aayurveda* in detail.

*Tridoshavaada* (Concept of biological humours) is a text book compiled by Sri Bhanu Shankarasharma, son of Trivadyupahva Nirbhayaramathmaja published by Chaukhambha Samskrita Prathishtan, Delhi. The text book is comprised of three *khandas* namely *Pratyaksha khandas*, *Anumaana khandas* and *Sabda khandas*. The author substantiates the *tridosha* theory- the fundamental concept of *aayurveda* with the *trividha pramaana- pratyaksha, anumaana* and *saabda*. The book comprises of 215 pages includes the review written by Dr. Balkrishna N. Mehta, affiliated to Bhavnagar State Medical Service and conclusion regarding *mokshamaarga*. The date mentioned in the last page of the text book is *vikrama samvatsara* 1991 *sraavana suklapaksha ravivaasara* (assumes to be written in between 1934-1935).

### **Contents**

#### ***Pratyaksha khandas***

The text starts with the oblations to *munitrayam* (*Brhatrayee*) and explains that the *vaada* (postulation) is done in *doshatraya* in view of *aayurveda* with the base of *sabdaśaastra* and *saankhya saahitya*. In the commentary, the

author highlights the importance of utilising the *pramaana* (means of knowledge) in understanding the *tridosha* concept correctly. After giving the relevance of *pramaana jnaana*, author starts with the *śṛṣṭi utpattikrama* (cosmology) by quoting the references of *Saangkyakaarika*, *Carakasamhita Sareerasthaana* ending with *panceekarana prapanca*. Then the detail description about *pancapraana*, (five types of vital force), *shadpadaartha*, *jnaanotpatti*, etc. to highlight the definition of *pratyakshapramaana*. The *pratyaksha khanda* is detailed under the headings- *panceekarana prapanca*, *padaartha-niroopana*, *pramaananiroopana*, *dosha nirukti*, *tridosha aarambhakatvam*, *dosha vivecanam*, *doshakarma vivecanam*, *tridosha karma vivecanam*, etc.

The main contents of *pratyakshakhanda* are

1. Enumeration of *vaataadi dosha*
2. *Guna* of *tridosha* as per *aacaarya Caraka* and *aacaarya Suśruta*
3. *Karma* of *tridosha* as per *aacaarya Vaagbhata*
4. Relationship between *pancamahaabhoota* and *tridosha*
5. *Lakshana* of *śukra* and *sonita* as per *aacaarya Suśruta*
6. Explanation of *garbhasaamagri* as per *aacarya Suśruta*
7. Enumeration of *dhaatukarma* as per *aacaarya Suśruta*
8. Explanation of *paancabhautikva* in relation to the manifestation of *garbha*
9. Explanation of types of *vaata* in relation to its function
10. Explanation of types of *pitta* in relation to its function
11. Explanation of types of *kapha* in relation to its function

Detailed explanation of the influence of *soma*, *soorya* and *anila* along with the effect of *aadaana kaala* and *visarga kaala* is also included. The details of the diets and regimens of

all the *rtu* are added. In respect to the effect of *dosha* in *rtu*, the author explains in detail about *kriyaakaala*. After the detailed explanation of *kriyaakaala*, the *nidaanaarthakararoga* are explained with the *saptavidharoga* classification by *aacaarya Suśruta*. Detailed explanation regarding the classification of *prasaada* and *kitta* from the *aahaarasambhavam* and the *upadhaatu* also explained. Author also explains the reduction of life in every ten years. Highlighting the *paancabhautika* composition of *śleshma* by quoting *Suśrutasamhita Śaareerasthaana* reference of *guna* of *śleshama* and its taste in *vidagdha* and *avidagdha* stage. *Pratyaksha khanda* has concluded by the remarks that the *tridosha* can be called as *dhaatu* when it does the *poshanakarma* and due to its easy vitiating quality if it is not well maintained, can be called as *dosha* as such.

#### **Anumaana khanda**

Starting the *khanda* with the relevance of *anumaana* with his own *śloka* explains the necessity of substantiating *tridoshavaada* by *anumaana*. By quoting the classification, the author narrates the importance of *anumaana* citing the classification of *trikaala anumaana* of *Carakasamhita Sootrasthaana* and the views of *nyaaya* and *Saangkyadarsana*. The main contents in *Anumaanakhanda* are:

1. Explanation of *pancaavayavavaakya* and *trividha lingga*.
2. Detail explanation of *hetvaabhaasa* under the heading of *hetvaabhaasaprapanca*.
3. Explanation of *Svasthalakshana*.
4. Need of the maintenance of constituents like *manas*, *satva*, etc. by quoting references from *Bhagavadgeeta*, etc.
5. References from *Suśrutasamhita Sootrasthaana* for quoting *doshakarma*.
5. Eliciting *tridoshakshaya* by *anumaana*.
6. Explanation of *doshakarmavishaya* by *anumaana*.
7. Eliciting the *saamaanya lakshana* of *vaataadi dosha* in the context of *śopha*.

8. Role of *anumaana* in *aahaara parinaamakara bhaava*.
9. Understanding the *traya aatura purusha* in the context of *vaatalaadi sadaatura*.
10. Relevance of *anumaana* in the context of *saadhyaasaadhyatva*.
11. Relevance of *anumaana* in understanding *guruvyaadhita* and *laghuvyaadhita* by quoting *Susruta Sootrasthaana* reference.
12. Explanation of *dosha vrddhikashaya lakshana* and the relevance of *anumaana* in eliciting it in respect to *amsaamsavikalpa*.
13. Relevance of *anumaana* in understanding the *rasa in dravya* and its logic.
14. Classification of *dhaatvaasayaantara kala* along with its application in *adhikarana* of *visha* and *pancakarma*.
15. Explanation of *koshtha* and the importance of *vastikarma* among *sodhanakarma* by quoting the reference from *Carakasamhita Siddhisthaana*.

Sharma concludes *anumaanakhanda* by highlighting the relevance of *anumaana pramaana* in eliciting the association of *dosha* by citing that the *paarthivaadisareera* is *tridoshaatmaka*, so the *roga* and the *cikitsa* will be of *tridosha*.

### **Upamaana pramaana vicaara**

In this *khanda*, the author tries to highlight the importance of *upamaanapramaana* by his own *shloka*. By quoting the reference of *aupamyia* as a *vaadamaarga* by *aacaarya Caraka* in *Vimaanasthaana*. Detailed explanation given regarding the incorporation of *upamaana pramaana* in *anumaanapramaana* in the context of '*go sadrsya gavaya*'. As per the author's view, the *upamaana* can be incorporated in *sabdapramaana* due to *arthaprakaasaanat* (helps to identify meaning), due to *sadrsya lingga jnaanena* (gets knowledge by similar features) in *anumaana* and due to *upameyasya pratyaksha darsanena* (direct observation of analogy) in *pratyaksha pramaana*.

Author further highlights the relevance of *upamaana* as in the context of *arsas*, *atisaara*

and *grahani* disease due to *agnimaandya*, the *cikitsa* can be planned for the *agnimaandya* due to *samaanadharm* of *lakshana* in those diseases. In the conclusion, author highlights the relevance of *upamaana* in ascertaining the *vaataadilakshana* in different parts of body by finding out the resembles in it.

### **Sabdakhanda**

In *Sabdakhanda*, the author salutes all the *aadi-guru* and honoring them by considering them as *aapta*. Detailed explanation of definitions of *sabda* as *pada* and *pramaana*. Quoting the references of *Muktaavali* he explains the knowledge of *sabda* through *vaakyarthajnaana* and the instrument is *sabda*. The application of *aaptavacana* in *aayurveda* are given as '*sabdaanaam caturvidham*', *sabda sakti vicaara*, *aayurveda lakshana*, *aayurveda nityatvam*, *aayurvedasya nityatasiddhi*, *rogopatti prakara*, *rogaanaam doshavikrtijanyatvam*, *doshaanaam svalakshanam*, *doshasamjaka varnanam*, *upacaaraanaam srutipraamaanyam*, etc.

The contents of *Sabdakhanda* are;

1. Relevance of *saktigraha* (means of meaning) in understanding *tridosha* in the context of *trisootra aayurveda*,
2. Role of *aaptavacana* in understanding the reference of *aayurveda prayojana*.
3. Detailed knowledge of *aayu* and constituents of *aayu* through *aaptavacana*.
4. Understanding Eternity of *aayurveda* through *aaptavacana*.
5. Role of *aaptavacana* in assessing *rogaanaam doshavikrtijanyatvam*.
6. Role of *aaptavacana* in assessing *doshaanaam svalakshanam*.
7. Understanding the *vedapraamaanyam* in *dosha vivecana*
8. Role of *sruti* in *upacaara* in *aayurveda*.
9. Explanation of *saadhyaasaadhyatva* in *saptavidha vyaadhi*.
10. Importance of *langghanabrmhana kriya* in *trividhabala rogi*.

11. Explanation of *upakrama* in respect to *doshavikṛti hetu*.

12. Incorporation of *shadupakrama* to *tridoshaja vyaadhi*.

13. Explanation of *vegadhaarana* and contraindications of usage of curd at night.

The *Ṣabdakhandā* is concluded with the explanation of *aayurveda* principles like *purusha*, *moksha* under the heading *aayurvedopanishat* and *mokshopaayamaarga* under the heading *tatropaaya*. The text is ending with the salutations to *Umacarana* and surrendered to *Yaadava*.

The time period is given as 1991 *vikrama samvatsara sraavana suklapaksha ravivaasara*.

Highlights of the contents in *Aayurvedopanishad* (p. 213).

*Tridoshavaada* is basically a compilation of application of *pramaana* in understanding *tridosha*.

A context titled *Aayurvedopanishad* is given in *Ṣabdakhandā*. The important topics dealt in the context are discussed here with concerned references.

#### ***Śloka 1- Purusha- the six dhaatu***

The combination of *khaadaya* (*Pancamaahaabhoota*) and *cetana* is called *shaddhaatuka purusha* and even *cetanaadhaatu* is also called *purusha* (*Carakasamhita Sareerasthana* 1/16).

#### ***Śloka 4- Factors responsible for Sukha and Duhkha***

There cannot be happiness or misery with *aatma*, sense organs, mind, intelligent, objects of sense organs and effect of past deeds. It is being described in the way it is to be understood (*Carakasamhita Sareerasthana* 1/132).

#### ***Śloka 8- Location of sensation***

The location of sensation is mind along with body associated with all the sense organs except scalp hair, bodyhair, tip of nails, ingested food, excreta, fluids and sense organs. (*Carakasamhita Sareerasthana* 1/136).

#### ***Śloka 9- Salvation***

In state of *yoga* (union with soul) and *moksha* (salvation) sensation become non existant. In *moksha*, there is complete disappearance of all sensations, while *yoga* is ameans or actuator of *moksha*. (*Carakasamhita Sareerasthana* 1/137).

#### ***Śloka 10- The Yoga***

Happiness and misery manifest due to contact of soul or self, sense organs, mind and sense objects. However, when the resolute mind is concentrated and gets located with soul, both happiness and misery disappear due to absence of initiation and the soul along with body becomes overpowered by supernatural power. The sages call this stage, *yoga*. (*Carakasamhita Sareerasthana* 1/138-139).

#### ***Evaluation of the details in the book***

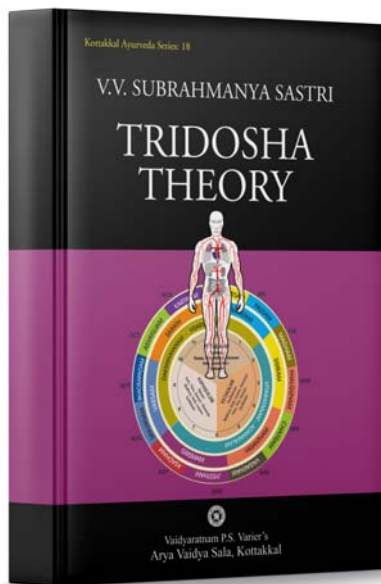
The text book *tridoshavaada* is written as a *paribhaasha* to *tridosha* by sequencing the references from the *brhatrayee*. Before starting the *vaada*, the author salutes the *munitraya* and takes the permission to do the *vaada* of *tridosha* in *aayurveda*. Relevant references from all the sthanas of *brhatrayee* has been collected and explained beautifully. Equal importance is given to the concept of *sareera*, *aatma*, *purusha*, *pancamaahaabhoota*, etc. in respect to origin, growth and sustenance of human being. Also explains about the relevance of *aayurveda upadesa* to attain *mokshapraapti*. Author remembers his work as the *aaptavacana* of *Umacarana* and surrenders it as such to *Yaadava*.

Author

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## ***Tridosha* theory- V.V. Subrahmanya Sastri**

Anand P.K.V.



'Tridosha theory' is the 18<sup>th</sup> book of Kottakkal Ayurveda Series. It is a study on the fundamental principles of *aayurveda* by V.V.Subrahmanya Sastri. First Published in 1977, obviously by its popularity and demand, it was printed at least ten times later. As a book that incorporated updates in science without losing the originality of *aayurveda*, it has a special status among the *vaidyas*. This book by V.V.S. Sastri do have uniqueness. It gives proper direction on how to place concurrent medical knowledge and allot spaces to incorporate further advancement within the principles of *aayurveda*, by being a very good example by itself. Modern sciences had already contributed a lot of information on human body when this book was out.

The pages of *Dhanvantari*, the magazine published from Arya Vaidya Sala, Kottakkal, provides an overview of earnest attempts to

incorporate newer information right from early 20<sup>th</sup> century itself. From such smaller articles and seminars which are limited by time constrains, this book by V.V.S. Sastri is a firmer step forward in this area. He very well understand that readers of his book will be a generation who reads and thinks every sentence and concept only from the Western point of view, which continuously gets updated and pushes every previous ones under the carpet. They miss the larger picture which connects each of these inventions. So he provides the readers with fingerposts and road maps which can make all these updates meaningful for a practicing *vaidya*. He is ready to start from the basic understanding about human body of current generation and projects them as physical facts of *aayurveda* fundamental concepts. Wherever needed, he quotes liberally from *samhitas* by which it can be searched further.

Sastri introduces *dosha* to current day readers, who has learned biology in their basic education in a very easy way to understand. He designates cell, the minutest unit of the living body as *jeevaparamaanu* and substantiates it with quotes from *Carakasamhita* which says man is a multicellular organism. He enters the world of biology through this bridge and refers cell as an *avayava*. He points out that cells of each *dhaatu* are different from one another, while *rasadhaatu* is not cellular in nature.

Further he goes deeper into subcellular level to say chromosomal particles of sperm and ovum as *beejabhaaga* and *beejabhaagaavayava* and comes back to state that the cell is the common denominator of all living forms. Flow of energy and flow of information are the functions of a cell when summarised into two point of views. The metabolic and multicellular flow of energy works in five differnt ways such as chemical, osmotic, electrical, mechanical and regulatory works.

Multitudes of cells with an organisational mechanism through the flow of information, which can also be inherited to generations. Multicellular organisms delegate many functions to those cells that are specially adapted to perform one special function. Those functions can be reduced to 3 categories in general such as correlative, substantiative and generative functions. He was also aware of ill effects placing them in categories. He cautions that, the above functions are not compartmental in nature. Since the living being is a complete whole, these functions are performed simultaneously with definite and clear relation to each other. These are the three functions visualised by the perceivers of aayurveda as three *dosha*.

Explaining the general details of *dosha*, he shows us that, *vaata* is not a physical matter. It is a form of energy capable of conducting some physiological functions in the body. The functional seat of *vaata* is brain. The qualities of *mastishka* should be opposite to that of *vaata*. The importance of *pakvaasaya* as prime seat of *vaayu* is because it is the place where the materials necessary to maintain structural and functional integrity of the *mastishka* are made available. He quotes examples from physiology of digestive system to substantiate this argument. Based on the meaning that '*tantra*' is body and '*yantra*' is machine along with its parts in relation to body, he brings appropriate basic explanations from modern physiology for most of activities of five *vaata*.

As compared to the concept of *vaata*, the concept of *pitta* appears to be not only material, but also physical. The theories of digestion and metabolism in *aayurveda* are based on its concept of *pitta*. He adds that *pitta* is an *aagneyadravya* and not agni itself. *Paacakapitta* is considered as a group of different substances capable of digesting the food. The digestive mechanism in three stages of *prapaaka/ avasthaapaaka*, which is described with the help of modern physiology actually opens the door for modern inventions to enter and enrich *aayurveda* basics. The present available knowledge emboldens him to state '*yakrt*' as major site of *bhootaagnipaaka*. Site of action of *bhootaagnipaaka* extends from walls of intestines to cell membranes of tissue cells,

positioning the liver in between. He has not given any details other than the minimal original concepts in the area of *dhaatvagni*. Even then, as he has shown the path, we can follow the method and go to the details of *dhaatvagnipaaka* by ourselves. Probably he is asking us to further it. After discussing thirteen *agnis* under *paacakapitta*, he explains *ranjakapitta* and erythropoiesis. Substances like neuro-transmitters in the brain are with the functions described similar to that of *saadhakapitta* along with limbic system. He entrusts the functions of *aalocakapitta* not only to the retinal responses, but also to the entire visual cognitive mechanism. Almost all functions of skin other than the tactile sensation is discussed under *bhraajakapitta*. He discusses the whole of it as 1) *paacakapitta* and 13 *agnis* 2) *paacakaamsa* located in *dhaatvagni* 3) *pitta* with special functions like *ranjaka*, *saadhaka*, etc.

There lies a good description of general structure and functions of *kapha* without much to quote from modern texts. But when he explains *avalambaka kapha*, he details its functions with examples from physiological actions of water in the body. Both the soluble and insoluble gastric mucosa are given as examples related to *kledaka kapha*. The functions of CSF are exemplified to mention *tarpaaka kapha*. *Bodhaka kapha* is located at the root of tongue and throat. Saliva, which helps to differentiate tastes is its major form. He shows us the micro and macro level functions of *sleshaka kapha*. The one which binds and connects each other and altogether at the level of *jeeva-paramaanu* and that which contributes to the smooth functioning of the bony joints together. He explains different materials of *sleshaka kapha* like intercellular fluid, synovial fluid, etc. Finally he summarises most of the functions of *kapha* into the larger extracellular fluid system.

Even though there is a chapter on production of three *doshas*, the discussion is in the *aayurveda* aspects only. Enrichment with the current awareness is limited to reiterating *pakvaasaya* as the seat of *vaata*, which is only an invisible and self generating factor. He emphasises on *dosha* responsible for *prakrti* to be different from that are responsible for diseases, as the former does not play any direct role in the production of diseases. This differential emphasis put forth by

him is of immense importance as we nowadays use the same word *vaata*, *pitta* and *kapha* loosely in both situations. Characters of *prakṛti*, classifications of *jātharaagni*. *Koshṭha* and *prakṛti* are not in detail, but explained sufficiently enough to grasp the idea.

The fine differentiation he brings forward about the *doshavaishamyā*, *roga* and *vikaara* is to be bare in mind. He points to the fact that disturbance of the equilibrium is regarded as a causative factor rather than a disease itself. Unless a distinct *vikaara* is produced, an ordinary disturbance of equilibrium of *dosha*, as it happens during the course of day, night, etc. is a normal equilibrium condition. He gives the simple example of *rtusandhi* leading to *doshavaishamyā* and consequent initiation of disease process. When he details the types of *doshavaishamyā*, he brings our attention to two ways of *doshakshaya*, which needs a thorough discussion by the *vaidya* community. First is the negative aspect called *praakṛtahaani* and second is the positive aspect called *virodhinaam vṛddhi*. In clinical practice, most of the *vaidyas* must be familiar with these two phenomenon especially in the symptom analysis of diseases such as *pakshaaghaata*, *paandu*, etc. His discription on the causes of *doshavaishamyā* and the stages of *doshavaishamyā* are very vivid and limited to the very essential details. The precise and vivid description of *aama* makes clears many confusions existing in the minds of readers. Effects due to vitiated doshas are enlisted separatley as activities of *vaata*, *pitta* and *kapha*. To avoid confusions in a beginner, *aavṛtavaata* and 62 dicordent conditons are limited to a plain and minimum mention. However the discussion does not beyond quotes from *samhita* in the area of vitiated *dosha*, which shows that his intentions were to discuss physiological aspects only.

Striking similarity exists between the physical qualities of *kapha* and those of the protoplasm. The functions ascribed to *kapha* are those of the cell protoplasm. *Ambukarma* of *kapha* has striking resemblance with extracellular fluid systems.

The introductory chapter, as it should be, introduces the broad conceptual base of *aayurveda*, which

deals with five *mahaabhootas* and *cetanaa-dhaatu*, etc. Immediately in the next chapter it goes to the minutest units and cell biology showing how to interpret them on the basis of three *doshas*. In subsequent three chapters he show us elegantly how to read modern physiology by a *vaidya*. Never in any context he allows the modern physiology explained without or not related to *aayurveda*. This is in sharp contrast to today's teaching in Ayurveda Colleges, where teachers keep both systems separate and immiscible. Such teachings prevents enrichment of *aayurveda* and updation of knowledge which creates confusions in the minds of students and practitioners of *aayurveda*. He never projects *aayurveda* as a separate system and different from modern scientific branches. Instead he looks at modern knowledge as detailing of *aayurveda*. He shows us the right direction and method to follow while adding modern information into ancient wisdom. In *aayurveda* journals like *Dhanvantari*, upto 1950 and 60s we find many articles attempting to incorporate modern information to enrich *aayurveda*. Later on the momentum was lost. The integrated development was many times viewed as a move that compromise the basic concepts of *aayurveda*. There was *suddha aayurveda paathya paddhati*, which published many *aayurveda* books. The integrated *aayurveda* course went back to *suddha aayurveda* course. Thus the divide was soon obvious. Later, when modern advancements came back to the syllabus, modern knowledge was kept separate and taught deeper to some extend. Consequently, the *aayurvedic* aspects were dealt to a bare minimum and never went deeper than the titles given in the syllabus. This was also reflected as a large number of practitioners confusing it as fight between medical systems. At clinical level it makes lot of negative impacts such as, search for *aayurveda* medicine to match a modern diagnosis without subjecting it to an *aayurveda* thought process. V.V.S. Sastri has offered a method to integrate without contradictions within.

The original contribution of Dr. Sastri in the book is his vision. He has used modern advancements to the betterment of *aayurveda* principles, which will eventually reflect positively in practice.



Unfortunately, the current trend is to investigate *aayurveda* with modern tools, which will end up enriching modern science only. Sastri's method was in the opposite way. He was investigating modern science with *aayurveda* concepts and tools. He quotes those information that are capable of explaining the *ambukarma* of *avalambaka kapha* or the mechanism of action of a non physical matter like *vaata*. He appears to be open for accomodating multiple and different explanations, because each of them can bring more and more light to a concept. Where ever an example from the current awareness is not available, he kept the discussion going on with *aayurveda* texts only. Thus he keeps the door open in those areas for development with examples.

The *vaidya* community, especially those in the acadamy, should encourage the reading of such books. The first print of this book was in 1977 when the momentum of conceptual integration was still present. The authenticity of the auther is in contravertable. He was a successful Practitioner, Professor and the Deputy Director of Research in Ayureda at Government of India. Now it is 10<sup>th</sup> reprint. I take this opportunity to request the Publication Department not to reprint this book again with the same content. It should be enriched with additional knowledge in the same method Dr.V.V.S. Sastri has been doing. An appropriate panel of eminent scholars can sit together and discuss the addition of contents for each edition to keep it updated and ever relevent.

Reviewer

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# Vaatam

Punnasseri Nambi Neelakantha Sarma

Dhanvantari is the first medical journal in Malayalam published every month by Vaidyaratnam P. S. Varier from Arya Vaidya Sala uninterruptedly for 23 years from 1903 to 1926. This clinical note was published in its column on Book No. 1, 1079 Tulaam & Dhanu Malayalam Era (1904 CE), Article No. 6 & 9, Pages 55 & 98.



The motor abilities depends solely on *vaayu* and an obstruction in its flow will put an end to all the activities and the body will be nothing but a log; lifeless and disfigured. The ill effects are innumerable and the count of 80 by the ancient wise is on a macro level. If we go to the micro level, the manifestation are in plenty. The other significant feature of the said *dosha* is that it upholds the body till the end. Therefore it is considered as a *dhaatu*. The etymology of the term doesn't limit itself to just protection but the nurture the strength, health, vigour and intelligence.

This piece is a humble attempt to depict the characteristics and its significance in a condensed manner.

The characteristics of *vaata* comprises of severity (lack of moisture), lightness (weightlessness), ruggedness (rough), cold (chill), motion (unsteadiness) and concentration. One might wonder how the aforementioned characteristics could be attributed to a formless phenomenon. But it is possible and the processes are in plenty. For instance, exposure to the air for a few minutes makes the skin dry despite having an oiled shower. *Vaayu* could be considered as the architect of severity. Influence is possible only if the quality is inherent. Therefore we attribute it to *vaata*.

Among the attributed characteristics, it would be wise to explain, cold. The basic nature of the air is directly proportional to the environment, ie, the air is hot when the environment is hot and cool when it is cold. The following verse will substantiate my claim.

The ancient science of *ayurveda* advocates the maintenance of the equilibrium of the three *dosha* and hence, the onus is on each and everyone of us to make sure that it is so because an appreciation, depreciation and deviation from the said state trigger ill health. Therefore an in depth knowledge is inevitable.

The placement of *vaata* as the first in line depicts its significance and it is a synonym of *vaayu*. Yet contrary to the popular meaning of the 'air' around us, here it is the air that travels inside our body and its influence on us towers over the one that is outside.

*Yogavaaha: param vaayu-  
ssamyogaadubhayaarthakrt |  
daahakrttejasaa yukta-  
sseetakrt somasamsrayaat ||*

If we apply the same to *vaata*, it will become hot when in contact with *pitta* and cool when it comes in contact with *kapha*. The pertinent question would be that whether it is wise to attribute qualities to a phenomenon which has none and my answer would be that the said imposition of the quality are to illustrate the fact that the consumption of items that are cool vitiates the *vaata* and the consumption of items that are hot will alleviate it.

The said qualities provide us with a clear objective; if they are on the rise, the *vaata* is vitiates and the diet ought to be of items that are hot and oleaginous (oily) and if they are on the fall, *vaata* is low and is affecting the performance of the body and hence, should be replenished with the diet of items that are rich in *vaata*.

It is impossible to illustrate the characteristics of *vaata* beyond this. I believe the following passages on the *sthaananiroopanam*, *vibhaagam*, *karmavicaaram* and *kopavicaaram* will provide the readers with a better perception on *vaata* and hence I conclude this part.

Now let's the seat of *vaata*. Though it is spread throughout our body, from head to toe, it's source is navel. Yet, according to the verse,

*Pakvaasaya kateesakthi srotraasthi  
sparsanendriyam sthaanam vaatasya ||*

It is centered in six organs, namely, intestines, hip, legs, ears, bones and skin, among which the *pakvaasaya* is the most important source. The following verse substantiates the aforementioned fact.

*..... tatraapi pakvaadhaanam viseshata: |*

It should be noted that the 'aantra' too should be taken into account with the term *pakvasaya*. *Kati* is navel, many mistake *sakthi* as a synonym of thighs because of the verse,

*Sakthi: kleebe pumaanooru: ..... |*

But in *aayurveda*, the term represents the entire pair of legs, that's why in *anggavibhaaga* it is mentioned thus;

*Siro antaraadhirdvaubaahu sakthinee ca  
samaasata: shadanggamanggam ||*

The bones and skin are located at above and below. The ears alone are placed at a distance from the seat of *vaata*, the *naabhi*. Therefore the primary location of *vaata* is below the *naabhi*. Moreover, it is a known fact that it mainly affects the lower parts of the body. Lower backpain, difficulty in forward bending, cramps, aches and pains the in lower limbs and humming in the ears, osteoporosis, cracks, severity and numbness are the commonly connected ailments to diseased *vaata*. It is not that other parts apart from the seats are not affected by *vaata*, but the prominent happens to be the ones specified. Though the *vaayu* inside our body is one and the same, it is classified into five according to its respective seats, pathways and actions by the ancient wise. They are *praana*, *udaana*, *vyaana*, *samaana* and *apaana*. The synchronised movements of the five *prana* through their respective pathways brings harmony, whereas the disruption in both the pathways and the camaraderie between the *dosha* or among the three results in chronic ailments. The difference between health and the lack of it is decided by the *vaata* and hence, the primary position in the three *dosha*.

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The language of the journal is English. For Devanagari script please follow the transliteration key given and make them in Italics. Manuscripts submitted will undergo internal editorial review and external peer reviewing.

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a	aa	i	ee	u	oo	r	e	ai	o	au	am	ah												
क्	ख्	ग्	घ्	ङ्	च्	छ्	ज्	झ्	ञ्	ट्	ठ्	ड्	ढ्	ण्	त्	थ्	द्	ध्	न्	प्	फ्	ब्	भ्	म्
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There is no need of translating the fundamental words of Ayurveda in English. Eg. *Dosha*-Humors, *Agni*- Bio fire, etc. Use the transliteration key given, for writing Sanskrit words.

Research articles, review articles and short communications must be limited to 5000, 4000 and 2000 words in length respectively.

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1. O'Campo P, Dunn JR, editors. Rethinking social epidemiology: towards a science of change. Dordrecht: Springer; 2012. 348 p.
2. Schiraldi GR. Post-traumatic stress disorder sourcebook: a guide to healing, recovery, and growth [Internet]. New York: McGraw-Hill; 2000 [cited 2019 Nov 6]. 446 p. Available from: <http://books.mcgraw-hill.com/getbook.php?isbn=0071393722&template=#toc> doi: 10.1036/0737302658
3. Halpen-Felsher BL, Morrell HE. Preventing and reducing tobacco use. In: Berlan ED, Bravender T, editors. Adolescent medicine today: a guide to caring for the adolescent patient [Internet]. Singapore: World Scientific Publishing Co.; 2012 [cited 2019 Nov 3]. Chapter 18. Available from: [https://doi.org/10.1142/9789814324496\\_0018](https://doi.org/10.1142/9789814324496_0018)
4. Stockhausen L, Turale S. An explorative study of Australian nursing scholars and contemporary scholarship. J Nurs Scholarsh [Internet]. 2011 Mar [cited 2019 Feb 19];43(1):89-96. Available from: <http://search.proquest.com/docview/858241255?accountid=12528>
5. Kanneganti P, Harris JD, Brophy RH, Carey JL, Lattermann C, Flanigan DC. The effect of smoking on ligament and cartilage surgery in the knee: a systematic review. Am J Sports Med [Internet]. 2012 Dec [cited 2019 Feb 19];40(12):2872-8. Available from: <http://ajs.sagepub.com/content/40/12/2872> doi: 10.1177/0363546512458223
6. Subbarao M. Tough cases in carotid stenting [DVD]. Woodbury (CT): Cine-Med, Inc.; 2003. 1 DVD: sound, colour, 4 3/4 in.
7. Stem cells in the brain [television broadcast]. Catalyst. Sydney: ABC; 2009 Jun 25.

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- b. Conflict of interest declaration
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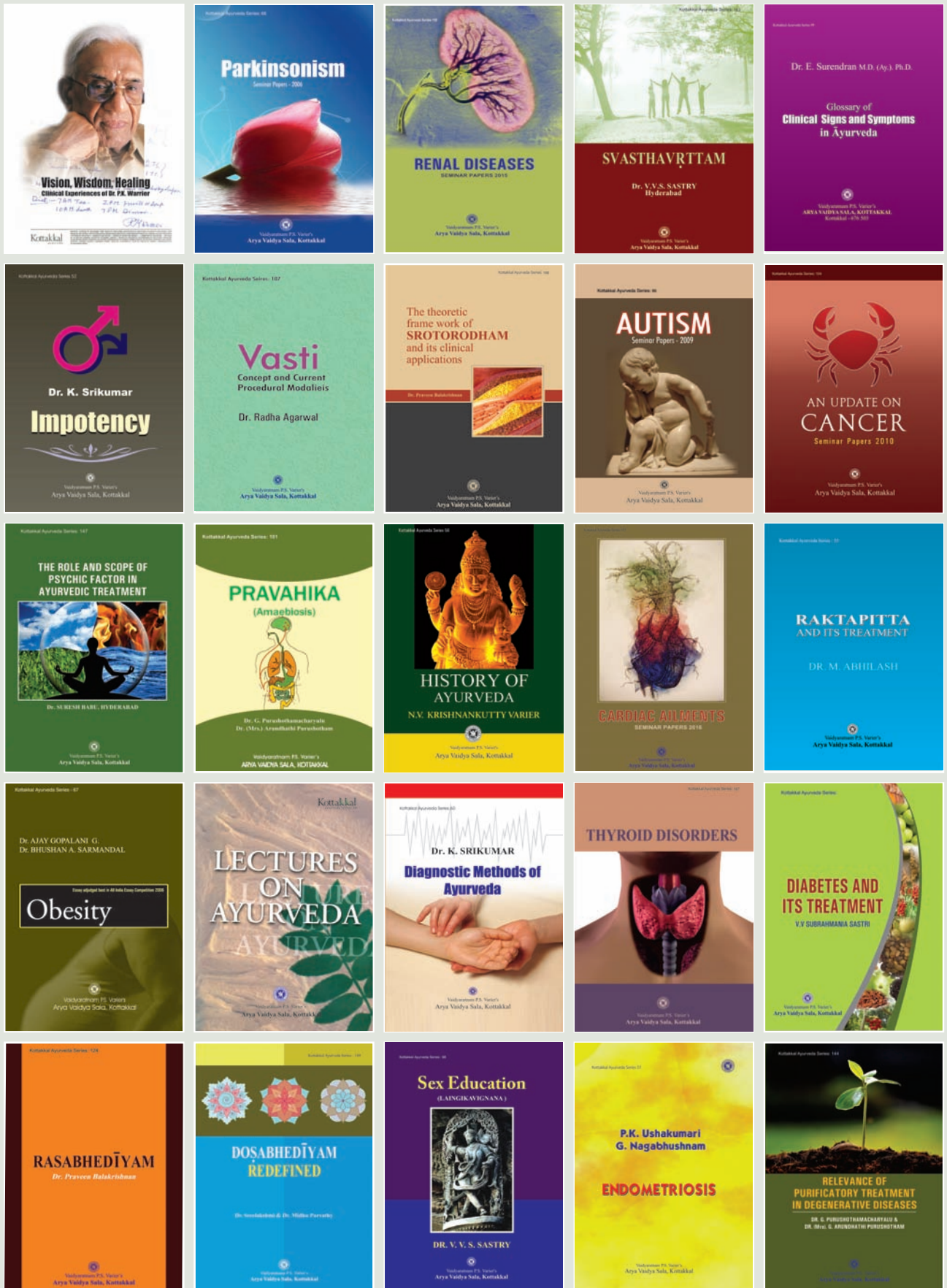
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