MVR AYURVEDA
Since 1964.

Bodhi

Volume 3 Issue 1 Aug - Sep 2024

MVR AYURVEDA MEDICAL COLLEGE
PARASSINIKKADAVU

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FORWARD

Chairman Advisory Board Publication Division:

E. KUNHIRAMAN

Director

MVR Group of Institutions

As I write this message, my heart goes out to the people of Wayanad, who have been devastated by the recent landslide tragedy. We offer our deepest condolences to the families of those who lost their lives and our support to those who have been displaced or injured. In this hour of grief, MVR group of institutions stand in solidarity with the affected families and communities. We recognize the resilience and strength of the people of Wayanad and pledge our support in any way possible and may we work towards rebuilding and recovery with resilience and hope.

The recent Global Ayurveda Fest was a resounding success, and MVR Ayurveda Medical College was proud to be a part of it. The fest provided a platform for Ayurveda practitioners, students, and enthusiasts to come together and share their knowledge and experiences. Our team showcased their skills and expertise in various areas of Ayurveda.

As we move forward, we will continue to emphasize the importance of innovation, research, and responsible practices in Ayurveda. Our commitment for advancing the frontiers of Ayurvedic knowledge remains unwavering, even as we acknowledge the challenges in the current scenario.

In this issue of E Bodhi, we feature contributions from esteemed scholars and practitioners, including our own faculty members, who are pushing the boundaries of what is possible in Ayurveda.

Thank you for joining us on this journey.

Prof. E. Kunhiraman
Director, MVR Group of Institutions

EDITORIAL

Chief Editor:
PROF. DR. A.K MURALEEDHARAN MD (AYU)
PRINCIPAL
MVR Ayurveda Medical College, Parassinikkadavu

Dear Readers,

As we celebrate the graduation of our 2018 BAMS batch, I am filled with immense pride and joy. They have worked tirelessly to achieve their dreams, and it is our privilege to have been a part of their journey.

We were fortunate to have esteemed guest authors, such as Dr. Ramanathan, MD of Sitaram Pharmacy, offered valuable insights into the obstacles and challenges faced by the Ayurvedic manufacturing industry. Additionally, Dr. Varghese Thomas, PhD scholar from TDU, Bangalore, who shared his expertise on the controversial Identities of medicinal plants in Ayurveda. This Issue of E Bodhi features insightful articles contributed by the esteemed faculties of the Dravyaguna and Samhita departments. These writings are highlighting both the classical principles and contemporary relevance of Ayurveda.

Our college has been actively participating in the recent Global Ayurveda Summit & Expo 2024, where our team showcased their skills and expertise in Ayurveda. We are proud to have been a part of this global event and look forward to continuing to contribute to the growth and development of Ayurveda. Mr Adarsh, our marketing manager has written an article regarding that.

This issue also included sessions regarding the events that happened in our colleges, such as convocation ceremony, medical camps and other awareness classes outside campus.

I would like to express my gratitude to our faculty, staff, and students for their dedication and hard work. Together, we have created a legacy of excellence that will continue to inspire future generations.

The recent landslides in Wayanad have caused devastating loss of life and property, leaving a trail of destruction and heartbreak in their wake. Our hearts go out to the families and loved ones of those affected, and we offer our deepest condolences in this time of immense disaster.

Sincerely,
Dr. Muraleedharan A K
Chief editor, BODHI
Principal
MVR Ayurveda Medical College, Parassinikadavu

INDEX

Bodhi

MVR AYURVEDA Since 1964.

Dr. RAMANATHAN
GENERAL SECRETARY
AMMOI & CEO OF SITARAM AYURVEDA, THRISSUR

CHALLENGES IN AYURVEDA MANUFACTURING SECTOR

Ayurveda Medicine Market Overview

- The global Ayurveda medicine market was valued at approx USD 6 billion in 2022
- Projected to reach around USD 14 billion by 2030, growing at a CAGR of 12%
- Key drivers include rising demand for natural products and minimal side effects compared to allopathic medicines
- Asia-Pacific leads the market due to strong cultural tie and governmental support

Key Challenges of Ayurveda Industry

01 Raw Material

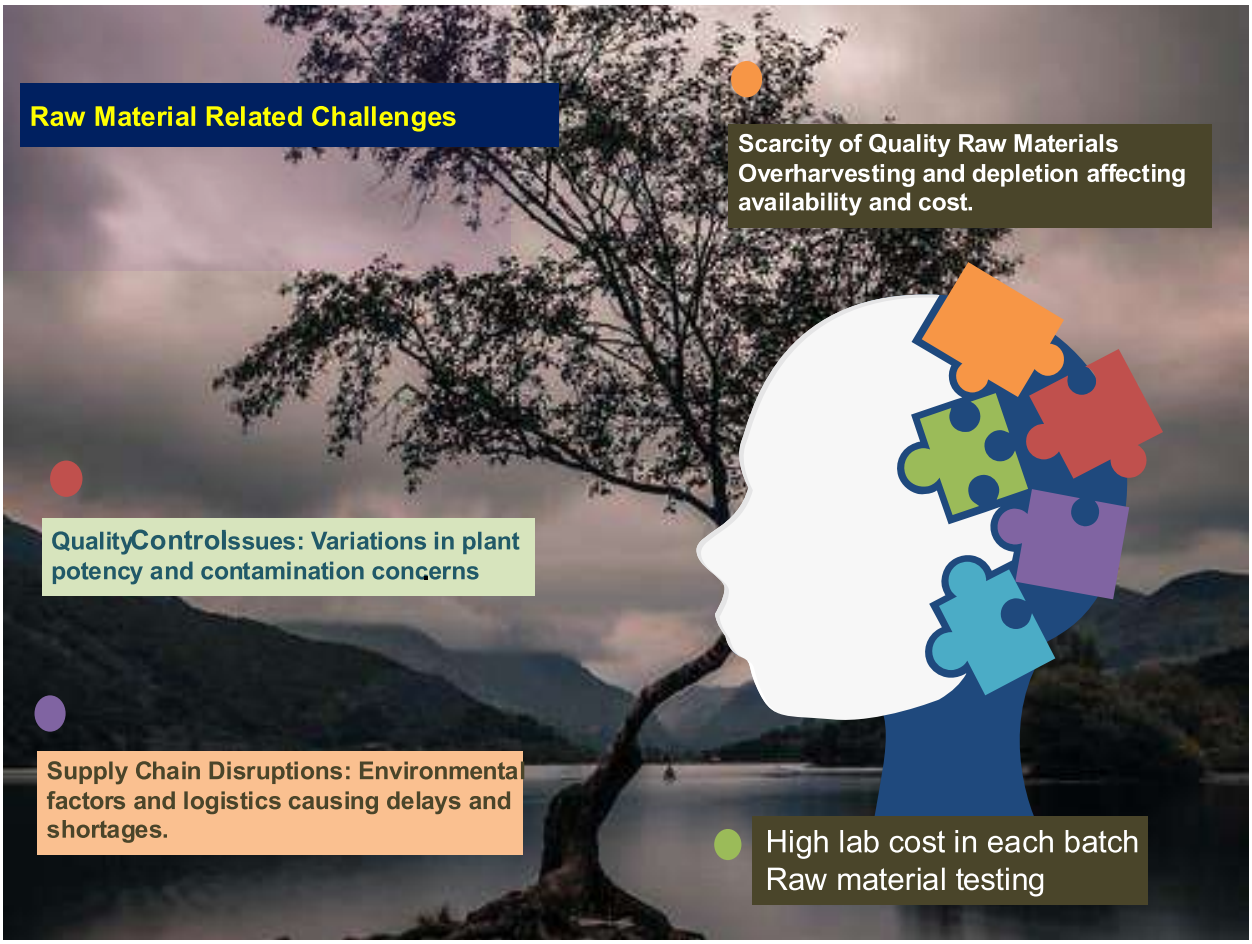
02 Regulatory Affairs

03 Export Related

04 Tax and Financials

05 Research and Development

06 Awareness and Education



Access Benefit Sharing (ABS) on the Ayurveda medicines

- Codified knowledge specially for Ayurvedic medicines in Schedule 1 exemption from ABS - only if they are cultivated plants

- Exemption not extend to formulations that include ingredients collected from the wild, even if the majority of components are cultivated.
- Ambiguity regarding the applicability of ABS to certain raw materials, such as the bark of medicinal trees
- Ambiguity on minerals, animal products - whether they are exempted from ABS or not still persist

Wild life protection act 1972

CHALLENGES

- Procurement , use of animal products like horns, certain specified plants are prohibited as per this act
- Reports of individuals in Kerala misusing the provisions of the wildlife protection act to unjustly target Ayurvedic firms
- Forest department face challenges while addressing the situation

Recommendation

RECOMMENDATIONS REGARDING ACCESS BENEFIT SHARING

- Exempt codified knowledge from ABS- irrespective of the raw material source
- Extend the exemption provided for codified knowledge in Schedule 1 to formulations with wild-collected ingredients
- Initiate discussions with the Ministry of Environment Forest and climate change to clarify the ambiguities surrounding ABS

RECOMMENDATIONS REGARDING ACCESS BENEFIT SHARING

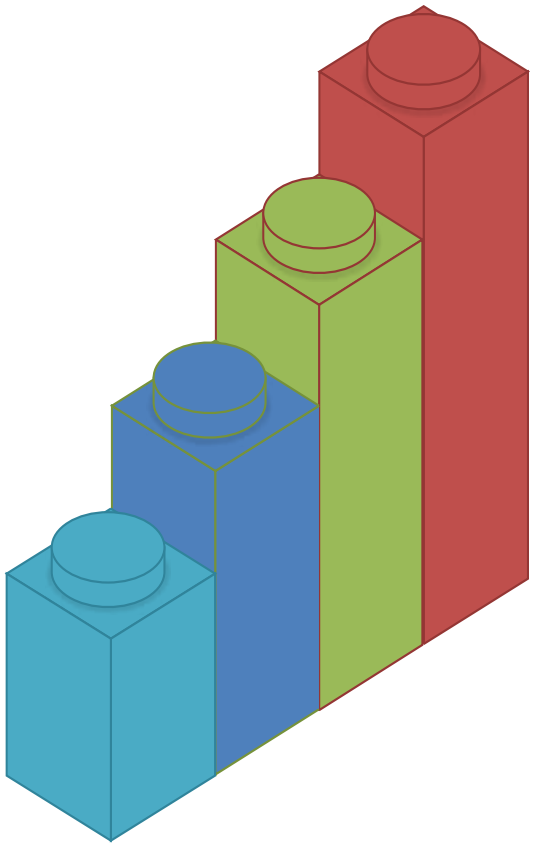
Identifying and using suitable alternatives

Ayurvedic texts like Yogaratnakaram, Bhaishajya ratnavali enlisted alternatives in the name of "Abhava pratinidhi dravyas"

Making adequate provisions underAFI/API standards to legalize the use of alternative/ Abhava drugs by Ayush industry as substitutes

Classical Ayurvedic products like Kasthooryadi gutika, Kombanchadi gutika - can be prepared without any legal scrutinizations

REGULATORY CHALLENGES



01 **Lengthy Licensing Process**

02 **Subsidiary Control by Allopathic Drugs Controller**

03 **Frequent Changes in Regulation**

04 **Global Regulatory Harmonization**

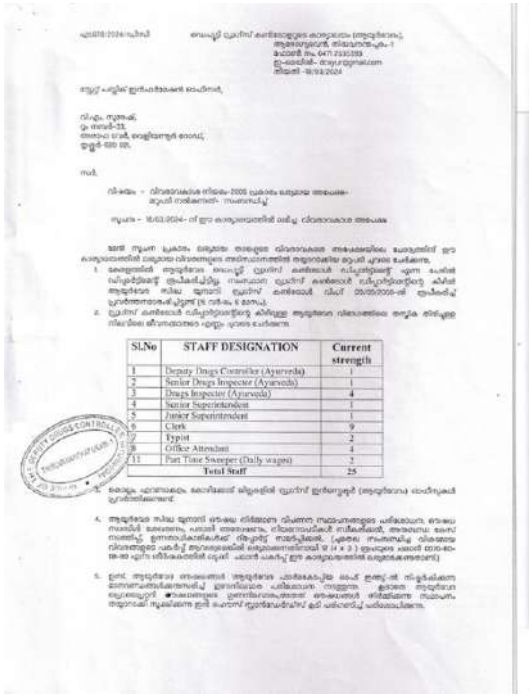
SEPARATE DRUGS CONTROLLER FOR AYURVEDA

For the growth of the Ayurveda community, we need a separate drugs controller dedicated to Ayurveda.

This will ensure tailored regulations, better focus on Ayurvedic practices, and support the industry's expansion.

Automated, Timely, Industry-Friendly Licensing Process

Details of Ayurveda Drug control section -RTI information



SLNo	STAFF DESIGNATION	Current strength
1	Deputy Drugs Controller (Ayurveda)	1
2	Senior Drugs Inspector (Ayurveda)	1
3	Drugs Inspector (Ayurveda)	4
4	Senior Superintendent	1
5	Junior Superintendent	1
6	Clerk	9
7	Typist	2
8	Office Attendant	4
11	Part Time Sweeper (Daily wages)	2
	Total Staff	25

For about 680 Ayurveda manufacturing units working in Kerala

1 deputy drug controller

1 senior drug inspector

4 drug inspectors

Total 25 staffs

Export Related issues

1.Offline Process: Need for online system.

2. Language Barriers: Issues due to officers from other regions.

3. Officer Availability: Delays due to unavailability at Cochin Port.

4. Document Approval Delays: Need for faster document checks

Administrative Delay

The current officer overseeing both Kerala and Chennai regions is often unavailable at Cochin Port.

This causes shipment delays.

Officers take time to review documents and grant approval, further delaying the process.

- Recommendation: Consider alternative options to speed up document checks and approvals.

Appointed officers from other regions lead to language difficulties.

- Recommendation: Prefer officers from Kerala or Chennai regions to alleviate this issue.

The current officer overseeing both Kerala and Chennai regions is often unavailable at Cochin Port.

This causes shipment delays.

The current wildlife inspection process is conducted offline.

- Recommendation: Transition to an online system to expedite the process and improve efficiency

Exporting Medicines and Product Registration Issues

Challenge 1: Restrictions on exporting Ayurveda medicines to countries where herbal medicines are banned.

Challenge 2: Product registration in countries like the EU and GCC regions is costly due to extensive lab tests and documentation requirements

HSN Code in Export

Efforts should be initiated to implement a uniform HSN code for Ayurveda products or to establish HS Codes for categories such as medicaments and herbal cosmetics based on the type of products. For example, oils,kashayam,tablets, herbal cosmetics, etc.

This will streamline the classification process and enhance clarity in trade documentation

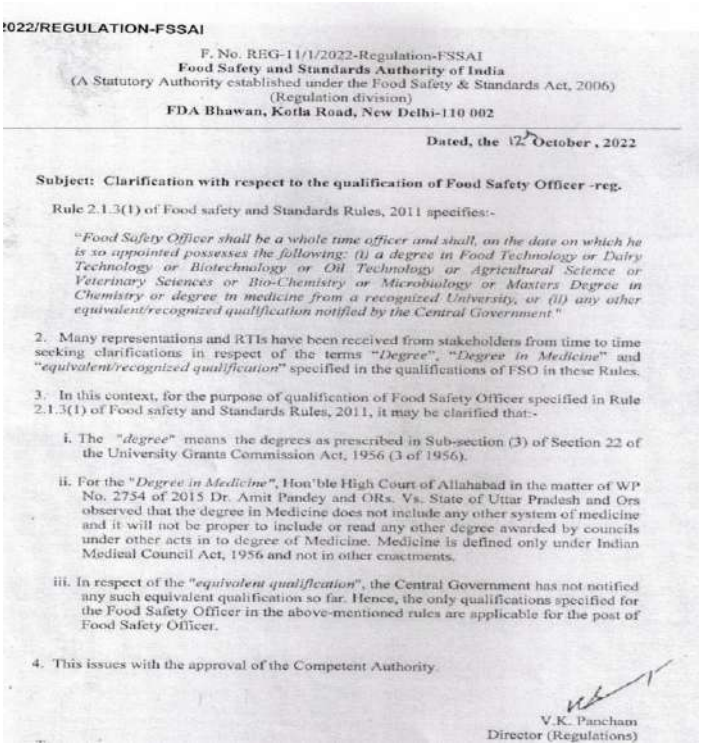
HSN Code in Indian Market

Tax Regulation

Presently, classical Ayurveda is charged at 5%, and proprietary Ayurveda is charged at 12%.

An initiative should be taken to benefit Ayurveda by limiting the tax to 5% for all products.

Ayush graduates for Food Safety Officer post



022/REGULATION-FSSAI

F. No. REG-11/1/2022-Regulation-FSSAI
Food Safety and Standards Authority of India
(A Statutory Authority established under the Food Safety & Standards Act, 2006)
(Regulation division)
FDA Bhawan, Kotla Road, New Delhi-110 002

Dated, the 12th October, 2022

Subject: Clarification with respect to the qualification of Food Safety Officer -reg.

Rule 2.1.3(1) of Food safety and Standards Rules, 2011 specifies:-

"Food Safety Officer shall be a whole time officer and shall, on the date on which he is so appointed possesses the following: (i) a degree in Food Technology or Dairy Technology or Biotechnology or Oil Technology or Agricultural Science or Veterinary Sciences or Bio-Chemistry or Microbiology or Masters Degree in Chemistry or degree in medicine from a recognized University, or (ii) any other equivalent/recognized qualification notified by the Central Government."

2. Many representations and RTIs have been received from stakeholders from time to time seeking clarifications in respect of the terms "*Degree*", "*Degree in Medicine*" and "*equivalent/recognized qualification*" specified in the qualifications of FSO in these Rules.

3. In this context, for the purpose of qualification of Food Safety Officer specified in Rule 2.1.3(1) of Food safety and Standards Rules, 2011, it may be clarified that:-

i. The "*degree*" means the degrees as prescribed in Sub-section (3) of Section 22 of the University Grants Commission Act, 1956 (3 of 1956).

ii. For the "*Degree in Medicine*", Hon'ble High Court of Allahabad in the matter of WP No. 2754 of 2015 Dr. Amit Pandey and ORs. Vs. State of Uttar Pradesh and Ors observed that the degree in Medicine does not include any other system of medicine and it will not be proper to include or read any other degree awarded by councils under other acts in to degree of Medicine. Medicine is defined only under Indian Medical Council Act, 1956 and not in other enactments.

iii. In respect of the "*equivalent qualification*", the Central Government has not notified any such equivalent qualification so far. Hence, the only qualifications specified for the Food Safety Officer in the above-mentioned rules are applicable for the post of Food Safety Officer.

4. This issues with the approval of the Competent Authority.

V.K. Pancham
Director (Regulations)

Ayush graduates not qualified for applying Food safety officer post
Eligibility only for degree in medicine holders defined under Indian medical council act 1956

File No: QA-11015/1/2023-QA-FSSAI
Food Safety and Standards Authority of India
(A Statutory Authority established under the Food Safety & Standards Act, 2006)
(Quality Assurance Division)
FDA Bhawan, Kotla Road, New Delhi-110002

Dated: 14th August, 2024

To,

CPIO-HR Division, FSSAI, HQ
FDA Bhawan, Kotla Road
New Delhi -110002

Subject: Transfer of RTI Application of Dr. Gowthami dated 01.08.2024 received in this division on 06.08.2024 under RTI Act, 2005 – reg.

Sir,

Please find enclosed herewith the RTI application of Dr. Gowthami dated 01.08.2024 received in this office on 06.08.2024. As the questions asked in the RTI pertain to your jurisdiction, the application is therefore forwarded to your office. You are requested to furnish the requisite information directly to the applicant, with a copy to the undersigned.

2. In case, you are not satisfied with the reply, you may appeal to the Appellate Authority indicated below within thirty days from the date of receipt of this letter. The first Appellate Authority of the undersigned is Shri Ajai Prakash Gupta, Director, (QA), Food Safety and Standards Authority of India, FDA Bhawan, Kotla Road, New Delhi.

Encl: RTI Application as above

Signed by
Ravinder Kumar Narula
Date: 16-08-2024 09:59:43

(Ravinder Kumar Narula)
CPIO/ AD (QA)

Copy to –

1. Dr. Gowthami, Room No. 33, Arafa Tower, Veliyannur Rd, Thrissur-680021 (Kerala)
2. Joint Director, RTI and Grievance Cell, GA Division, FSSAI, FDA Bhawan, Kotla Road, New Delhi-110002 (***for information***)

Recommendations

- Request to include degrees under NCISM Act 2022 , as qualification for this post
- Especially in the context of cooperation and promotion of healthy nutritious foods under

AYUSH AHAAR by Ayush Ministry and FSSAI

Legal metrology and discrimination against Ayurveda

- Ayurvedic medicines need to display unit sale price but not allopathic medicines
- Additional burden to Ayurveda manufacturers mostly MSMEs
- Batch size of Ayurvedic medicines less in numbers , leading to additional label printing costs

RECOMMENDATION

Exclude Ayurvedic medicines which are listed among essential drugs by Ministry of Ayush from the purview of legal metrology rules

MEETING THE NEEDS OF INDUSTRY- MACHINERY UPDATION

CHALLENGES

- Presently using equipments are adopted from modern medicine drug manufacturing sector
- Eg: In Tailam preparation - precise temperature control, mixing of each raw material at specific time to ensure maximum extraction

RECOMMENDATIONS

- Sophisticated machineries required for specific needs of industry are to be tailored
- Machineries with temperature regulation , advanced agitation and temperature controls
- Automated systems to speed up maximum extraction of active constituents

State excise and Asava Arishtas Sale License

Challenges

- SP-VI and SPVII sale licenses for Asavas and Arishtas are still needed
- Excise department raids
- Sale of products are drastically reduced

Recommendations

- Withdrawal of sale licenses for Asavas and Arishtas from the purview of the Abkari Act
- Actions required on the report submitted by external committee to the Kerala government

RESEARCH AND DEVELOPMENT

- School of Fundamental Research ,Thripunithura
- National Ayurveda Research Institute of Panchakarma, Cheruthuruthy
- International research institute of Ayurveda , Kannur

Recommendations

Need to integrate the functioning of advanced laboratory resources available in these institutes for the benefit of the Ayurveda manufacturing sector.

Increasing the present budget allocation of 413.5 croresto CCRAS from, which is insufficient to meet the rising demands of the industry.

ADDRESSING THE GAP BETWEEN AYURVEDA INDUSTRY AND EDUCATIONAL INSTITUTIONS

Challenges

•Currently Ayurveda curriculum entails visits to manufacturing facilities as a part of BAMS program

• This approach is inefficient in providing students with a comprehensive understanding of industrial operations

Recommendation

• Curriculum updation

• Include apprenticeships and training programs for students in manufacturing units

• This will help produce confident Ayurvedic doctors ready to meet challenges and demands of system

Awareness and Education

Ayurveda faces misleadi news daily through social media.

In this situation, more awareness programs should be conducted through well known personalities, and steps should be taken to educate the public

New research done through CCRAS and other institutions should be made openly available to all

RTI information received from approximately 9 government medical colleges in Kerala shows no cases of patient death due to liver or kidney damage from consuming Ayurvedic medicines

ജില്ല മെഡിക്കൽ കോളേജ്		2021, 2022, 2023 വർഷങ്ങളിൽ വന്ന രോഗികളുടെ കണക്ക്
1.	കൊല്ലം	4,04,425
2.	പത്തനംതിട്ട	4,27,878
3.	ഇടുക്കി	5,17,142
4.	തൃശൂർ	3,48,064
5.	പാലക്കാട്	2,62,762
6.	കോഴിക്കോട്	28,39,864
7.	മലപ്പുറം	14,20,761
8.	കണ്ണൂർ	28,53,144
9.	കാസർകോഡ്	86,657
	ആകെ മൊത്തം രോഗികളുടെ എണ്ണം	91,60,697

Immediate steps by **multidisciplinary committee** to analyze accountability of studies criticizing Ayurveda

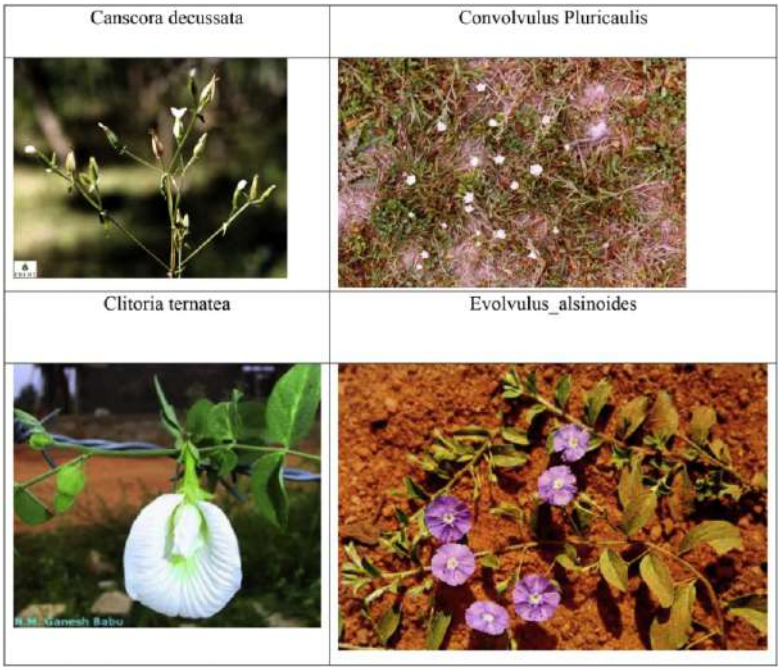
Dr. VARGHESE THOMAS MD (Ay)
PHD SCHOLAR
THE UNIVERSITY OF TRANS-DISCIPLINARY HEALTH SCIENCES AND TECHNOLOGY (TDU), BENGALURU

CONTROVERSIAL IDENTITIES OF MEDICINAL PLANTS IN CLASSICAL AYURVEDIC LITERATURE

Ayurvedic literature has meticulously documented medicinal plants through four historical phases: the Vedic period, Samhita period, Medieval period, and Modern period. In the Vedic period, Rigveda lists 67 plants, Yajurveda 82, and Atharvaveda 288, making Ayurveda an upaveda of Atharvaveda. The Samhita period further enriches this knowledge with texts like Caraka Samhita and Susruta Samhita, which provide extensive details on hundreds of medicinal plants, including their therapeutic uses, classifications, and pharmacology.

As time progressed, from the Medieval period onwards, the identification of these plants became increasingly controversial. Factors contributing to this include the loss of living traditions, inconsistent naming across texts, and the addition of region-specific plants. For instance, Chakrapani's medieval works introduced many regional plant names, leading to further confusion over time. The large chronological gaps between texts, as well as variations in the names and descriptions of plants, have added to the challenges in maintaining consistent botanical identities.

For example, the ethno botanical literature of last hundred years correlates eight different species of plants to Sankhapuspi. They are Convolvulus pluricaulis Choisy., Evolvulus alsinoides (L). L., Canscora diffusa (Vahl) R.Br. ex Roem. & Schult., Clitoria ternatea L., Lavandula bipinnata (Roth) Kuntze., Cannabis sativa L. and Xanthium strumarium. This shows the difficulty in correlating the Sanskrit names and synonyms of medicinal plants with their botanical identities, underscoring the need for careful consultation with living traditions to preserve Ayurvedic knowledge.



REASONS FOR CONTROVERSY

Why has so much loss of identity and controversy occurred? Identification of a plant mentioned in Ayurveda is not possible through etymological analysis of its nomenclature in the literature. This is because names do not reveal identity. Identity needs detailed morphological descriptions in the literature and such descriptions in Ayurvedic literature are sketchy. Thus, only such plants such as haridra, tulsi, ardraka etc, which have an active and unbroken living tradition of use, are free of controversy. The only way to find the identity of plants in the literature is to consult living health traditions that use it. Intimate interaction with living traditions that have knowledge of plants is essential for establishing identities of controversial species. Controversy in botanical identity can also arise due to various reasons, as mentioned below.

MANY TEXTS WITH LONG CHRONOLOGY, LOSS OF LIVING TRADITIONS, ADDITIONS AND DELETIONS

Using Jan Meulenbeld's work, it is estimated that around 200 texts containing data on medicinal plants were written between 1500 BCE and 1900 CE. Of these, six are Samhitas, 38 were written between 600 CE and 1000 CE, 80 between 1000 CE and 1500 CE, and 90 between 1500 CE and 1900 CE. Notable works from these periods include Ashtanga Nighantu, Siddhayoga of Vrinda, Madavacikitsa of Madhava, Cikitsasamgraha, and Dravyagunasamgraha. The chronological gap between these works has created challenges in identifying medicinal plants, leading to the loss of knowledge about specific groups of plants, such as divya aushadhas and mahausadhi, which were mentioned in earlier texts but not in later ones.

The evolution of plant names over time has further complicated their identification. For example, the plant Kamaci in Siddhayoga was previously referred to as Kakamaci in earlier texts like Caraka Samhita and Susruta Samhita. Additionally, new plant additions to the Ayurvedic Materia Medica over time have introduced regional names, as seen in Chakrapani's 11th-century work Dravyagunasamgraha. This evolution has led to variations in the understanding and classification of medicinal plants across different periods.

Vyakhyas (commentaries) on the Samhitas were written to explain and interpret the content of the original texts. However, the significant time gap between the Samhitas and their commentaries has resulted in further loss of knowledge, including discrepancies in the identification of medicinal plants. For instance, Jejjata's commentary on Caraka Samhita highlights differences in plant identities as noted by various authors. Likewise, in the case of Ashtanga Hrudaya, commentators like Indu and Arunadatta identified certain medicinal plants differently. Nighantus, which are works specifically on medicinal plants, also show considerable variations in plant names over time, reflecting the changes that occurred in different historical periods.

MANY NAMES FOR ONE ENTITY

In Ayurveda, the nomenclature of medicinal plants is unique, involving multiple names for a single plant based on its habitat, properties, potency, taste, pharmacological actions, geographical origin, and usage. For instance, Sankhapuspi has 34 different names reflecting its various features. However, this system lacks sufficient morphological details to establish clear botanical identities.

Over time, the addition of new names by different authors, often translating local names into Sanskrit, has compounded the problem, creating a vast and sometimes confusing array of synonyms for the same plants.

NO TAXONOMIC SYSTEM/SKETCHY MORPHOLOGY

The Ayurvedic tradition did not employ a taxonomic system for identifying and classifying medicinal plants. Instead, identification was based on close interaction with nature and an oral tradition of experiential teaching. This method allowed for the direct transmission of knowledge, but it lacked formal classification. During the medieval period, authors began to provide basic botanical descriptions, though these were often incomplete and insufficient for precise identification. For example, Jejjata's descriptions in Caraka Samhita are sketchy and lack the detail needed for taxonomic classification. Terms like "Deerghamoola," meaning "long roots," were used for multiple plants, leading to confusion. As the oral tradition declined, the precise identities of many plants became increasingly obscure.

SINGLE GENERIC NAME FOR MANY PLANT ENTITIES

In Ayurveda, references to generic properties of plants like Pashanabheda and Brahmi often lead to controversy because these names describe a property rather than a specific species. Pashanabheda, for example, means "stone breaker," and this property can be attributed to several different plants. Bapalal Vaidya lists 10 plants across various regions of India that are referred to as Pashanabheda due to their ability to break down renal stones. These include Aerva lanata, Aerva javanica, Ammannia baccifera, Rotula aquatica, Bergenia pacumbis, Coleus aromaticus, Bryophyllum pinnatum, Bridelia montana, Ocimum basilicum, and Homonoia riparia. The use of a generic name for multiple species with similar properties complicates the precise identification and classification of these plants.

COMMON NAME FOR DIFFERENT PLANT ENTITIES

The practice of assigning common names to different plant species based on similar characteristics often leads to confusion and controversy regarding plant identity. These names are often derived from similarities in morphology, habitat, taste, properties, effects on doshas, geographical origin, or uses. As a result, the same name can be applied to different plant entities. For instance, the common name "Aksha" is used for various species, including Rudraksha. Additionally, a single medicinal plant like Haritaki can have multiple names, such as "Aksha" and "Amritha," which are also associated with three other distinct plant entities. This overlap of names makes it challenging to accurately identify and classify medicinal plants.

CONTROVERSY DUE TO LACK OF EXPERTISE IN GRAMMATICAL INTERPRETATION OF SANSKRIT LANGUAGE

The identification of medicinal plants in Ayurvedic literature often hinges on the precise grammatical interpretation of Sanskrit names, which can lead to controversy when misunderstood. For example, Sushruta mentions two names, Meshasrnga and Meshasrngi. Meshasrnga, identified as a tree (Dolichandrone falcata), is grouped with other trees in Sushruta's Salasaradi gana, and its wood is noted for making small medicine boxes. Conversely, Meshasrngi is identified as a creeper (Gymnema sylvestre) within the Varunadi gana, a group containing various plant types, with the feminine gender in Sanskrit suggesting a different habit.

Bhavamisra underscores the importance of expertise in Sanskrit grammar by listing plant names with multiple meanings in his chapter 'Anekartha nama varga.' For instance, Uddalaka can refer to either Paspalum scrobiculatum in food or Cordia myxa as medicine, depending on the context. Similarly, Gojihva can mean Elephantopus scaber in a vegetable context and Onosma bracteata as a medicinal plant. Misinterpretations of these names can lead to significant confusion, highlighting the necessity for careful grammatical analysis in the identification of medicinal plants from Ayurvedic texts.

FOLK NAMES

The traditional knowledge of medicine in India comprises two primary streams: the folk stream and the codified stream, both relying on oral transmission without taxonomic descriptions. The folk system, also known as Prakrit (meaning "directly from nature"), is an empirical, community-specific tradition found in rural areas, passed down through generations within ethnic communities. This system has documented 6,403 botanicals from various health traditions across India, as recorded in 154 ethnobotanical publications between 1889 and 2010. These botanicals are associated with approximately 100,000 vernacular names in 32 languages. Similar to codified traditions, the folk names often lack detailed morphological descriptions, leading to challenges in plant identification.

MODERN EFFORTS TO DOCUMENT PLANTS USED IN MEDICAL TRADITIONS OF INDIA

EUROPEAN EFFORTS IN DOCUMENTING IDENTITY AND USAGE OF MEDICINAL PLANTS

The system of taxonomical classification and binomial nomenclature began in the 18th century, with works on correlating Sanskrit and vernacular names of Ayurvedic medicinal plants emerging only about 200 years ago. Early ethnobotanical works on Indian medicinal plants include Coloquios dos Simples e drogas da India by Garcia de Orta in the 16th century, followed by Christobal Acosta's Tractado de las Drogas y Medicinas de las Indias Orientalis in 1578, and other notable publications like Jan Huyghen van Linschoten's Itinerario (1596), John Gerard's The Greate Herball (1597), and Hendrik van Rheede's Hortus Malabaricus (1678–1693). Although these works were pioneering, they often lacked rigorous consultation with living traditions. For example, Hortus Malabaricus, despite being an extensive study of Asia's medico-botanical resources, primarily focused on the Malabar region and sometimes missed critical medicinal uses documented in Ayurveda, such as the anthelmintic activity of Vidanga.

Another important work is George Watt's Dictionary of Economic Products of India (1889–1890), which compiled information on commercial plants and products in India. However, like earlier works, it primarily focused on commercially significant plants, often overlooking the broader medicinal knowledge preserved in traditional Ayurvedic practices. This highlights the limitations of these early efforts in fully capturing the depth of India's medicinal plant knowledge, particularly in the context of living traditions.

During the 20th century, approximately 170 works were dedicated to correlating botanical names with Sanskrit and vernacular names of medicinal plants. Among these, the work by Dr. Bapalal Vaidya stands out for its rigorous field documentation, though it could not encompass all of India's living traditions due to time and resource constraints. His systematic methodology is exemplary, involving extensive fieldwork, etymological analysis of plant names, correlation with classical literature, expert opinions, references from other medicinal systems, and market data. For instance, his analysis of the plant "Jivanti," identified as a top vegetable in Ayurveda, utilized its Gujarati name "todi" to confirm its identity.

WORKS BY INDIAN SCHOLARS IN THE 20TH CENTURY

More recently, Dr. Venugopal published a comprehensive compendium of plants in classical Ayurvedic texts, bringing clarity to the complex task of assigning botanical identities. His work identified 1916 unique plant names in the Caraka Samhita, grouped into 620 basonyms correlated to 630 botanicals. Similarly, the Susruta Samhita contains 1856 unique names grouped under 775 basonyms, linked to 1078 botanicals. The Ashtanga Sangraha lists 1614 unique plant names, organized into 910 basonyms correlated to 755 botanicals. Dr. Venugopal's rigorous approach has significantly advanced the understanding of plant identity in Ayurvedic literature.

ANALYSIS OF CONTROVERSIAL MEDICINAL PLANTS

An analysis of Ayurvedic medicinal plants reveals that approximately 1,540 botanicals are used in the system, with around 9,500 Sanskrit names documented between 1500 BC and 1900 AD. Among these, 1,689 names have more than one botanical correlation, highlighting the significant issue of controversial plant identities in Ayurveda. Addressing this issue requires starting with the earliest available documentation on Ayurvedic medicinal plants, specifically the Bruhatrayis—Caraka Samhita, Susruta Samhita, and Ashtanga Samgraha. These foundational texts are the most descriptive and have heavily influenced later Ayurvedic literature.

A focused analysis of these texts, using the "Glossary of Vegetable Drugs in Brihattrayi" by Thakur Balwant Singh and K.C. Chunekar, reveals that 274 medicinal plants have controversial identities, while 301 have definite identities, and 320 remain unidentified. However, the analysis is limited by its lack of information on the chronological changes in plant names across the Bruhatrayis, which complicates efforts to resolve identity issues solely through literature research. To effectively address the controversy, a systematic, chronological examination of each Bruhatrayi text is essential. This approach is crucial because the dynamic and evolving nature of Ayurveda is reflected in the changing documentation of medicinal plants, such as the introduction of new plants in later texts like the Susruta Samhita and the deletion of others in the Ashtanga Samgraha.

CONTROVERSIAL MEDICINAL PLANTS IN CARAKA SAMHITA

Dr. Venugopal, building on earlier efforts by Dr. Unnikrishnan Payyappallimana and Dr. P. Ram Manohar, undertook an analysis to list the medicinal plants mentioned in Caraka Samhita along with their identity status. This analysis was based on the text Caraka Samhita and its 11th-century commentary Ayurveda Deepika by Chakrapanidatta. The methodology involved several steps:

Compilation of Medicinal Plant Names: A list of all the Sanskrit names of medicinal plants mentioned in Caraka Samhita was compiled. This includes multiple names for the same plant due to the polynomial naming system used in Ayurveda.

Grouping Synonyms: Synonyms referring to unique medicinal plants were grouped, with one name designated as the basonym and others as its synonyms, based on frequency in the text and usage in later Nighantus.

Clarification by Commentators: Names identified as synonyms of a unique plant by Chakrapanidatta or later Nighantus were grouped together. For example, Amrutha phala is identified as a synonym for Amalaki (Phyllanthus emblica).

Identifying Controversial Names: Names with confused botanical identities or those not clearly linked to a known basonym by commentators were tagged as controversial. For instance, Ambashta is linked to multiple possible botanical sources, such as Cissampelos pariera, Hibiscus cannabinus, and Solanum nigrum.

Lack of Commentary: Names without clear identification from commentators or varying identifications across traditions were also tagged as controversial, like Agnimantha and Daruharidra.

Unidentified Names: Names with no clear identification from commentators, later authors, or traditions were considered unidentified.

Results: The analysis identified 12,670 plant references in Caraka Samhita, corresponding to 1,915 distinct names. Of these, 1,247 are synonyms, and 668 are basonyms. Among the 668 basonyms, 100 plant names are unidentified, 294 are identified, and 274 are controversial.

LIMITATIONS:

This analysis was limited to Caraka Samhita and Chakrapanidatta's commentary. Other commentaries, like Jejjata's Nirantarapadavyakhya, were not included. Further analysis of Sushruta Samhita and Ashtanga Samgraha, along with other available commentaries, is necessary to fully understand the evolution and variations in medicinal plant names. The Nighantus of the medieval period, which focus on medicinal plants in Ayurvedic Materia Medica, should also be considered for a comprehensive catalog of controversial plants.

CONTROVERSIAL MEDICINAL PLANTS IN HIGH TRADE

There are 174 species of Ayurvedic medicinal plants with an annual consumption exceeding 100 metric tons. Among these, some controversial plant drugs are in high demand, such as Talisapatra, Daruharidra, Pashanabheda, and Shankhapushpi. Despite the controversy, these plants are widely traded. For example, Shankhapushpi has an annual consumption of around 1,000–2,000 metric tons, with species like Evolvulus alsinoides, Clitoria ternatea, and Canscora decussata being traded under the same name. A review of the highly traded plants identified 27 species associated with 18 controversial medicinal plants in Caraka Samhita.

CONCLUSION

The Ayurveda system boasts an extensive and intricate naming system for its Materia Medica, with around 9,500 Sanskrit names used for 1,540 medicinal plants. These names are found across various texts, including Samhitas, Vyakhyas, and Nighantus, spanning from approximately 1500 BC to 1900 AD. Dr. Venugopal and colleagues' work on the Brihatrayis—the foundational texts of Ayurveda—has been instrumental in cataloging and grouping these medicinal plant names into synonyms and basonyms. The studies revealed that Caraka Samhita, Sushruta Samhita, and Ashtanga Sangraha mention 1,915, 1,856, and 1,614 unique plant names, respectively, which correspond to 620, 775, and 910 basonyms.

To fully understand the Ayurvedic Materia Medica, further studies on the remaining Ayurvedic literature up to 1900 AD are essential. These studies would clarify the additions and variations in medicinal plant names over time and allow for a more comprehensive understanding of Ayurveda's evolution.

An analysis based on the Glossary of Vegetable Drugs in Brihattrayi by Thakur Balwant Singh and K. C. Chunekar revealed that about 30% of the plants in the Brihatrayis (1500 BC to the 7th century) have controversial identities. Additionally, a prioritization of controversial medicinal plants in Caraka Samhita based on contemporary trade data identified 27 species in high trade that correspond to 18 controversial plant drugs. Dr. Venugopal's analysis of controversial medicinal plants in Caraka Samhita offers a valuable methodology for literary research in Ayurveda, emphasizing the need for similar studies across other classical texts and Nighantus. This research would significantly enrich the Ayurvedic Materia Medica by clarifying the unique species and regional substitutes used across different texts over time.

SUGGESTED RESEARCH STRATEGIES

To resolve controversies in the identification of medicinal plants in Ayurveda, the following strategies are proposed:

Collect Textual Information: Analyze etymology, synonyms, clinical applications, and chronological differences among authors to address controversies in plant identities.

Collect Information from Living Traditions: Surveys on local health traditions and living Ayurveda practices can help correlate vernacular, Sanskrit, and botanical names, aiding in the documentation of traditional uses and identifying potential botanical candidates.

Collect Data from Regional Literature: Reviewing regional medical literature can provide insights into plants used locally for those with controversial identities in Ayurveda.

Collect Data from Non-Medical Sanskrit Literature: Non-medical Sanskrit texts are another valuable source for plant information that could contribute to resolving controversies.

Review Recent Botanical Correlations: Reviewing correlations made by ethno botanists and Ayurveda experts, especially those involving rigorous field studies, will help identify credible botanical candidates linked to traditional names.

Trade-Related Studies: Analyzing trade data can reveal different botanical candidates being traded under the same name, provided that adulterants are not being considered.

Lab Analysis: Pharmacognostical, phytochemical, and pharmacological analyses of shortlisted candidates based on the above methods will help in identifying the most suitable plants for contemporary use. Traditional Ayurvedic pharmacology should be translated into modern biological terms and tested to verify if the activity matches Ayurvedic claims.

These strategies aim to bridge the gap between traditional knowledge and modern scientific approaches, ensuring the accurate identification and effective use of medicinal plants in Ayurveda.

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COMPARATIVE PHYSICOCHEMICAL ANALYSIS OF BRUHATI-MOOLA (*SOLANUM TORVUM SWARTZ*) AND DASHAMOOLA

Abstract

Vast consumption of raw materials on a daily basis in Ayurveda and due to globalization worldwide, there is a scarcity of standard raw drug. The drugs which are coming under dashamoola are endangered species now a days. To overcome this problem we have to focus to use any drug instead of Dashamoola. Solanum torvum Swartz is a tomentose shrub and widely distributed all over India which is used in several traditional medicines to cure various diseases Keeping in view the high medicinal importance and pharmacological properties of dashamooola and brihati, have done a comparative study of these two drugs. The parameters applied for the present study include moisture content, ash value, extractive value, and inorganic element analysis etc. The present study summarizes that the Bruhati-moola shows almost analogous physico chemical properties of Dashamoola.

KEYWORDS: Phytochemicals, bruhati moola, Dashamoola.

INTRODUCTION

Herbal formulations are getting popularity throughout the world and is commercialized extensively. WHO has emphasized the need for quality assurance of herbal products. Vast consumption of raw material in Ayurveda and due to globalization worldwide has lead to scarcity of standard raw drugs.

Dashamoolaasava, dashamoolarishta, Dashamooladigrita, is the drug of choice in vaatavikriti and Dashamoola also explained in the context of Shothaharadasemaani1. Although use of roots in 'Dashmoola' is prescribed in original ayurvedic literature but now many pharmacies use stem in place of roots. The drugs which are coming under dashamoola are endangered species in the present scenario. To overcome this problem we have to focus to use any easily available drug instead of Dashamoola.

Bruhati is is an erect shrub, growing widely throughout India2, and it is one among the laghupancha moola3, also considered in gana like Kanthyadashemani, hikkanigrahanani, shotahara, and angamardaprasamana4. We get the classical reference of many yoga where bruhati is an ingredient in the vyaadhies like jwara, swaasa, kaasa, kushta, and shotha.

METERIALS AND METHOD:

Collection of Drug:

Solanum torvum Swartz and dashamoola was collected from its natural habitat at Trivandrum, Kerala .The roots were cut into small pieces and shade dried at room temperature, dried roots was subjected to size reduction to a coarse powder by using a dry grinder.

Plant Authentication:

The plants were authenticated in C.R.L. K.L.E.'s Shri. B. M. K. Ayurveda Mahavidyalaya, Shahapur, Belgaum.

Preparation of extracts:

The powdered plant material was subjected to cold maceration process and successively extracted with ethanol and water as a solvent. The liquid extracts were collected in a tarred conical flask. The extract, obtained with each solvent were weighed to a constant weight and percentage of yield (w/w) was calculated.

ANALYTICAL PROCEDURES:

All the samples were evaluated for physicochemical properties by using standard methods like loss on drying, ash value, pH, acid insoluble ash, water soluble ash, specific gravity, solubility test, and qualitative assay of sodium, potassium, calcium, magnesium, iron etc. Chemical test were performed on extracts obtained from using non polar and polar solvent. It helps to find out organic compounds like carbohydrate, Proteins, glycosides, alkaloids, tannins and phenolic compounds, etc.

RESULTS:

Phytochemical screening of Aqueous and ethanolic extract of Solanum torvum Swartz.

Sl.No.	Phytochemical Constituents	**Extracts** Aqueous Extract	Alcoholic Extract
1	Carbohydrates	+	+
2	Proteins	+	-
3	Amino acid	-	-
4	Steroids	+	+
5	Tannins	-	-
6	Hexose sugar	+	-
7	Glycosides	-	-

Phytochemical screening of Aqueous and ethanolic extract of Dashamoola

Sl.No.	Phytochemical Constituents	**Extracts** Aqueous Extract	Alcoholic Extract
1	Carbohydrates	+	+
2	Proteins	-	-
3	Amino acid	-	-
4	Steroids	+	+
5	Tannins	-	-
6	Hexose sugar	+	-
7	Glycosides	-	-

Lod, Ash Values and Extractive Values

Drugs	Loss on drying	Total Ash	Acid insoluble Ash	Extractive Value (Aqueous)	Extractive Value (Alcoholic)
Bruhati(Solanumtorvum Swartz)	10.47%	5.239%	0.85%	6.77%	4.16%
Dashamoola	8.8%	5.5%	0.80%	5.67%	4.32%

Inorganic Elemental assay

Constituents	Bruhati moola	Dashamoola
Sodium	Present	Present
Potassium	Absent	Absent
Iron	Present	Present
Chloride	Absent	Absent
Calcium	Absent	Absent
Sulphate	Present	Present

DISCUSSION

The physicochemical evaluation of crude drug is an important parameter in detecting adulteration or in proper handling of drugs. The detailed study of the physico chemical analysis of solanum torvum Swartz and Dashamoola would give valuable information for the future studies. Moisture content of the sample shows that it was less prone to any type of infection or fungal growth. From the ash value of the root of Solanum torvum Swartz and Dashamoola, it suggests that the existence of inorganic matter is 5.2% and 5.5% respectively. Acid insoluble ash value shows that there is very fewer amount of silica present in Dsahamoola than Solanum torvum Swarts. Most of the phyto constitutes are same in Bruhati-moola and Dashamoola .It is observed that maximum components get extracted in Water. Bruhati-moola and Dashamoola can be used in the form of water base formulation.

CONCLUSION

On account of analytical study it can be concluded that the functional chemical constituents are almost compatible in both Bruhatimoola and Dashamoola. Establishment of bruhatimoola is a substitute for Dashamoola requires further extensive pharmacological studies and clinical trials.

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SANKARA SWEDA – AN EXPLORATION IN TO THE VARIOUS TYPES OF KIZHIS IN PRACTICE

INTRODUCTION

Sodhana is the process of eliminating the dushta doshas completely from the body so that the disease won't recur. For administering this process, Snehana – Swedana karmas called poorvakarmas are given prior, which prepares the body, as those malas which lie in leena avastha in the koshta, sakha, asthi sandhis, dhatus and srotases becomes klinna by sneha prayoga. The swedana karma which succeeds the process of snehana leads to draveekarana of these malas and hence facilitate the movement of malas towards koshta, from where it is expelled out through the nearest route. Various methods of Sankara sweda karma are popular, commonly known in the name of 'kizhis', which are practised as snigdha or rooksha to varied extents based on the Rogee pareeksha. The different 'kizhis' are developed according to the availability of dravyas in a particular desha and the guna – karmas of various dravyas in particular vyadhyavasthas.

SWEDANA

The procedure which is capable of removing sthambha (obstruction), gourava (the property of guru dravya – brmhana karma sakthi) and seeta (the guna capable of creating obstruction) by the application of heat in various modes is the procedure of swedana7. It is indicated in the avasthas of predominance of vata – kapha, vata or kapha. It should always be preceded by snehana.

GUNAS OF SWEDA DRAVYA

Guru, teekshna, ushna, drava, sthira, sara, snigdha, rooksha, sookshma are properties of dravyas which does swedana karma.These gunas should be interpreted accordingly as per the context on the preview of definition of gunas based on their karmas given by Hemadri.

IMPORTANCE OF SWEDANA AS A POORVAKARMA

Those malas which lie in leena avastha in the koshta, sakha, asthi sandhis, dhatus and srotases becomes klinna by sneha prayoga. The swedana karma which succeeds the process of snehana leads to draveekarana of these malas and hence facilitate the movement of malas towards koshta, from where it is expelled out through the nearest route. This is explained by Acharya Caraka as, the doshas which have reached koshta as upasthita dosha; he further elaborates the term upasthita as, pradhana avastha prapta dosha – the avastha for the administration of appropriate panchakarma. After sneha-sweda karma, the doshas which have got rid of their leena avastha and thus have reached koshta from sakha is meant by the term upasthita. To make it clearer, once the doshas have reached their swasthana (own abode), say, for kapha dosha, it is the amashaya, and vamana which is the supreme sodhana for kaphaja vyadhi is given only when the malas get concentrated in the amashaya.

In addition to this, the importance of snehana and swedana is elaborated by Acharya Caraka as, even a dried piece of wood is capable of bending instead of breaking up after repeated administration of snehana and swedana, then what about the case of a living human being? In Vatavyadhi chikitsa adhyaya, Acharya Vagbhata makes use

of this yukti and says that, the body part which is vakra (a pathological deviation of the joint from the normal anatomical position) stabdha (the feature of rigidity and stiffness) and having pain will easily undergo appropriate flexion and extension in whatever manner as we desire, after adequate snehana and swedana karmas.

CLASSIFICATION OF SWEDANA

Based on Rogabala, it is of three types:

1. Mrdu sweda – durbala vyadhi
2. Madhyama sweda – madhyama bala vyadhi
3. Mahat sweda – maha bala vyadhi

Based on the type of dravya used for swedana karma, it is of three types:

1. Snigdha sweda – vata predominant vyadhi
2. Rooksha sweda – kapha predominant vyadhi
3. Snigdha-Rooksha sweda – vata sleshma predominant vyadhi

Based on the kalpana employed, it is of two types:

1. Rooksha poorva snigdha – amashaya gata vata
2. Snigdha poorva rooksha – pakwashaya gata vata

Based on the intensity of sweda on different sareera avayava, it is of three types:

1. Mrdu sweda / no sweda – vrshana, hrdaya, drshti
2. Madhyama sweda – vamkshana
3. As required – remaining all body parts

This is the opinion of Acharya Caraka, a slight difference can be seen in Ashtanga hrdaya as,

1. Alpa sweda – vamkshana
2. Swalpam / no sweda – drshti, mushka, hrdaya

Based on the application on the body

1. Ekanga – concentrated to a particular body part
2. Sarvanga - concentrated to whole body part

Based on the mode of usage of agni guna,

According to Caraka Samhita

AAGNEYA SWEDA	ANAAGNEYA SWEDA
Sankara	Vyayama
Prastara	Ushna sadana
Nadi	Guru pravarana
Parisheka	Kshudha
Avagaha	Bahu pana
Jentaka	Bhaya
Asmaghna	Krodha
Karshu	Upanaha
Kuti	Ahava
Bhu	Atapa
Kumbhi	
Kupa	
Holaka	

According to Ashtanga Hrdaya

AAGNEYA SWEDA	ANAAGNEYA SWEDA
Tapa	Nivata grha
Upanaha	Aayasa
Ushma	Guru praavarana
Drava	Bhaya
	Upanaha
	Aahava
	Krodha
	Bhooripana
	Kshudha
	Atapa

SANKARA SWEDA

It is a type of Aagneya sweda done in two modes:

1. Vastraantharita - tying the swedana dravya like tila, masha, gokhara etc in the form of a pinda (bolus) inside a cloth.
2. Avasthraantharita – cloth is not used.

Acharya Vagbhata and Acharya Susruta have not mentioned this category of swedana separately but can be included under the heading of Ushma sweda or Tapa sweda. Utkarika, loshta, kapala, patra, dhanya etc dravyas or heated clothes or hands are used for this purpose. Wide varieties of this type are in practice based up on the rogaavastha and the availability of dravyas, popular in the name of 'Kizhi'. A few of them are compiled below:

1. VALUKA SWEDA / MANAL KIZHI

a. It is commonly employed in Amavata, Vata-Kapha Jwara, Sannitapa Jwara etc.
b. Easy availability of Valuka, easier mode of administration and quick results from this kind, make it popular among physicians.

Prayoga vidhi:

a. Can be given as Tapa as well as Ushma sweda.
b. Valuka can be tied in cloth with or without heating.
c. If it is tied in cloth, it can be applied to the body after dipping in hot dhanyamla, if required.
d. Since, it is a rooksha sweda, oil is not applied anywhere to the body during the procedure. The use of snigdha dravyas internally is also not appreciated.

e. If needed, Rasnadi choornam can be applied on the bregma portion of scalp before the start of the procedure.
f. Ingredients
Valuka – 100g
Cloth, thread

2. LAVANA SWEDA / UPPU KIZHI
a. Used mostly in the form of Tapa sweda.
b. Cheapness, easy availability of dravya and the easier mode of administration has made it popular among physicians.
Ingredients
c. Rock salt – 200g
Cloth, thread

3. VALUKA LAVANA SWEDA
a. In case of Amavata, valuka is mixed with saindhava and kizhi is prepared.

4. CHINCHA LAVANA SWEDA / PULI UPPU KIZHI
a. This swedana is commonly used in low back ache due to IVDP.
b. Seeds are removed out of tamarind; coconut oil or castor oil is mixed well with it and a paste is prepared.
c. This paste is then applied over the low back region

d. Then, lavana kizhi is made hot and applied over there.
e. Ingredients
Chincha – 100g
Rock salt – 50g
Instead of cloth, this kizhi is usually tied in jute sac material.

5. BHASMA PINDA SWEDA / BHASMA KIZHI
a. This kizhi is best for reducing swelling and inflammation.
b. In conditions of tonsillitis, small kizhi made with bhasma is used.
c. In sthoulya, kizhi made with bhasma and kulatha are used for swedana.

6. CHOORNA PINDA SWEDA / PODI KIZHI
a. This is a commonly used kizhi nowadays for the purpose of swedana.
b. Various types of pulses, swedakara dravyas and choorna yogas are used according to the disease condition based on the guna karmas of different dravyas.
c. It can be broadly classified in to two categories based on the drugs used:
1. Ekadravya kizhi – kulatha kizhi, kangu kizhi, syamaka kizhi are examples.
2. Bahudravya kizhi – yava kola kulatha kizhi, nava dhanya kizhi, kottam chukkadi kizhi, grhadhoomadi kizhi are examples.

7. DHANYAMLA SWEDA / KADI KIZHI
a. If choorna pinda is dipped in hot dhanyamla and then swedana is done, it is called dhanyamla pinda sweda.

8. USHMA PINDA SWEDA / AAVI KIZHI

a. If swedana is given by making use of the steam developed during heating of the kizhi (choorna pinda or patra pinda), it is called aavi kizhi. Dhanyamla or Kashaya or even plain water is used for harvesting the steam needed for the kizhi for administration on to the body.
b. Is beneficial in Seronegative arthritis, SLE etc.

9. PATRA PINDA SWEDA / ILA KIZHI

a. A highly popular type of swedana, practised in kerala. The mode of preparation and leaves used are according to the availability as per the climatic conditions of kerala; explained in the book Arogya Raksha Kalpadrumam.
b. Various vata samana leaves are cut in to small pieces and tied in to a kizhi.
c. A type of ushma sweda.
d. Leaves used – sigru, chincha, arka, nirgundi, varana, eranda etc
e. Kizhi is prepared with the above said leaves and grated coconut in fried form with little oil.
f. Each kizhi should be of the size of a hemispherical coconut shell.

10. JAMBEERA PINDA SWEDA

Ingredients

1. Jambheera
2. Lasuna
3. Methika
4. Satapushpa
5. Haridra
6. Tila
7. Kulatha
8. Saindhava
9. Taila

a. Lasuna is pounded and fried in oil. Jambheera is then cut into 8 pieces and added to it. Once it is slightly fried, saindhava and choornas of other drugs too are added.

11. SHASHTIKA PINDA SWEDA / NJAVARA KIZHI

a. A highly popular and effective type of swedana practised in kerala.
b. Shashtika variety of rice is cooked afresh every day for carrying out the process of swedana.
c. Done with Shashtika rice, Ksheera and Bala Kashaya.
d. There is a practice of adding Ajamamsa in to Shashtika kizhi in order to add up the brmhana karma.
f. In order to heat the kizhi, Bala Kashaya, Dasamoola Kashaya, Sahachara Kashaya, Mamsa rasa etc are used according to the disease condition.

DISCUSSION

Sneha – Sweda karmas are employed for two purposes practically:

1. As a poorvakarma to sodhana – preparatory procedure for the body to make it ready for sodhana.
2. In vatavyadhi, repeated administration of snehana and swedana itself act as an upakrama for vata.

Whatever be the condition, the physician is free to choose snigdha or rooksha sweda to varied extents with different dravyas available with different guna – karmas, based on the tara – tama bhava of vitiated dosha – dushyas, availability of dravyas in a desha, kala, roga – rogi bala etc. ('maathra kaalaasraya yukti'). A particular treatment employed for a disease in a particular desha, or in a particular person (Purusham purusham veekshya) may not be the same for other individuals or elsewhere for the same disease. Here lies the importance of the different modes of administration of the same 'swedana' karma.

It is noteworthy that the properties of various dravyas are effectively made use of depending on its applicability in a particular disease condition. Since, sareera is an outcome of food, usage of various ahara dravyas in appropriate modes is the favourable method of correcting the dosha vikriti in sareera, say for eg. Shashtika Pinda Sweda. Just like the black box design of research, the input is depended only on the dosha vaishamya, to receive the output of dhatusamya through the throughput of 'sneha-sweda-sodhana karmas' based on the dashavidha pareekshas.

The various types of swedas mentioned here can be administered based on the tara – tama bhava of doshas.

CONCLUSION

Swedana is a significant upakrama in case of Vata – Kaphaja Vyadhi, as there underlies the concept of 'Viruddhopakramatwam'. It is especially important in the Keraleeya Chikitsa, as procedures like Pizhichil (Kayasekam), Ilakizhi (Patrapotala Sweda), Njavara kizhi (Shashtika Pinda Sweda) are designed according to the climatic conditions and flora of Kerala. Kizhis are capable of regulating the extent of snehana and swedana, based on the dravyas used for tying in to pottali, and the oil used for heating the kizhi. The no. of Kizhis become innumerable thus, based on the dravyas used in it.

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DASAPUSHPA a quintessence of oushada from Keraleeya Ayurveda

Kerala has made its own significant contributions to the Ayurvedic science,which evolved through the interactions of humans with his own environment. Ayurveda isn't just a medical science, but wholly the science of life. It includes the daily realms of life, the environment, the time factor, the seasons and its alterations; its afflictions on mankind and other living organism,the symbiosis of living beings, and at individuality ones his karma, his ancestral lineage, his activities, his code of conduct; precisely his interactions with his surroundings and its impact over his health. If diseases occur, the cure lies within the very same surroundings in the form of oushadi, swastha vihara upadis, anukoola kala, ritu etc.

Due to its on desa vaisishtya, Kerala has developed its own Materia medica for treatment of diseases. One among such contribution to the Dravyaguna sastra is Dasapushpa. The depth of Ayurveda lies in Oushadha Dravya and its Oushadiyathwa, and its choice in a particular disease, Keraliya Vishavaidyas has introduced the combination of 10 flowers in its flora in the cure of visha vikaras. According to general doctrine of dravyaguna flowers are usually is related to mind and its realms and asthma like diseases.

Dashapushpa – The group of ten medicinal flowers Dashapushpam literally means 'ten flowers' („Dasham refers to ten and „Pushpam refers to 'flowers'). Dashapushpas are culturally and medically significant to the people of Kerala. All these drugsare used individually as ingredients in various Ayurvedic formulations.
The plants referred to as Dashapushpas are:

BOTANICAL SOURCE	MALAYALAM NAME	SANSKRIT NAME	PARTS USED
Aerva lanata (L.) Juss.ex.Schult.	Cheroola	Bhadra	Whole plant
Biophytum sensitivum (L.) DC	Mukkutty	Viparitha lajjalu	Whole plant
Cardiospermum halicacabum L.	Valliyuzhinja	Indravalli	Shoot, leaves
Curculiogo orchioides Gaertn.	Nilappana	Musali	Tuber
Cynodon dactylon (L.) Pers.	Karuka	Durva	Leaves
Eclipta alba (L.)Mant	Kayyunyam	Bringharajan	Shoots, leaves
Emilia sonchifolia (L.) DC	Muyalcheviyan	Akhukarni	Shoots, leaves
Evolvulus alsinoides (L.) L.var.alsinoides	Vishnukranthi	Hari Krantha	Whole plant
Ipomea sepiaria Koen. ex Roxb.	Thiruthali	Lakshmana	Whole plant
Vernonia cinerea (L.)Less.	Puvamkurunnel	Sahadevi	Whole plant

BHADRA
ചെറുള
Aerva lanata

VIPARITHA LAJJALU
മുക്കുറ്റി
Biophytum sensitivum

AKHIKARNI
മുയൽചെവിയൻ
Emilia sonchifolia

INDRAVALLI
ഉഴിഞ്ഞ
Cardiospermum halicacabum

MUSLI
നിലപ്പന
Curculigo orchioides

HARIKRANTHA
വിഷ്ണുക്രാന്തി
Evolvulus alsinoides

DURVA
കറുക
Cynodon dactylon

BHRINGRAJ
കയ്യൂന്നി
Eclipta alba

LAKSHAMANA
തിരുതാളി
Ipomoea sepiaria

SAHADEVI
പൂവാംകുരുന്നൽ
Vernonia cinerea

Cultural view on Dashapushpas : As per the tradition of Kerala, women wear Dashapushpa in the head as a decorative garland during Thiruvathira in Dhanumasa. In every household shrine, in the front of the diety, the ten sacred plants of Dashapushpa will be displayed in a gleaming brass plate in the Malayalam month of Karkkidakam (the monsoon season in Kerala when diseases are more prominent and the body has little resistance against diseases) even now as a part of tradition. It is also used with "Ashtamangalyam" (group of eight auspicious materials which are carried on a large bronze vessel for offerings) during marriage ceremony. It was also advised by the Rajavaidyas (doctors for the king) to the ritumati sthree to wear these plants on their head, probably due to the medicinal value imparted by them. Dasapushpas are used in Karkidaka kanji (a gruel preparation practiced in Kerala during Karkidaka masa, for preventing diseases and imparting strength). They are considered auspicious and each herb is associated with a deity in Hindu mythology.

Association of Dashapushpa with Hindu deities

Sl. No.	SANSKRIT NAME	DEITY IN HINDU RELIGION
1	Bhadra	Yama Dev
2	Viparitha lajjalu	Shree Parvathy
3	Indravalli	Lord Indra
4	Musali	Bhumi Devi
5	Durva	Surya Dev
6	Bhringaraja	Lord Shiva
7	Akhukarni	Kamadeva
8	Harikrantha	Lord Vishnu
9	Lakshmana	Shree Bhagavathy
10	Sahadevi	Brahma

Aerva lanata (L.): this plant is commonly known as Cheroola, of Amaranthaceae family an important gregarious shrub growing throughout Kerala particularly along waste lands. It is a herbaceous perennial plant which has white spikes of clusters of flowers 1 to 1.5 inches long. The plant is endowed with various components such as flavonoids, alkaloids, triterpenes, steroids, polysaccharides, tannins, and saponins etc., which possibly contribute its diverse uses in folklore medicine. It has anthelmintic action, it is diuretic, used in the treatment of headache. It is also used as demulcent & useful in strangury and in arsenic poisoning. The plant is reported as ant inflammatory, diuretic in lithiasis, antimicrobial, antidiabetic, antitumour.

Biophytum sensitivum (L.) : This herb is commonly known as Viparitha lajjalu in Sanskriti, belonging to Oxalidaceae family, distributed throughout as weeds in moist shady places of Kerala. It is a very small flowering plant, an annual herb with erect stem, stout or slender, and glabrous. Leaves crowded into a rosette on the top of the stem, petiole is short, and leaflets opposite, on either sides spreading out from a common base. Each plant produces five to ten small flowers with yellow petals. The flower is used in Athapoo, (special floral formation that adores courtyards and public places during Onam, the national festival of Kerala). The main constituent present is insulin.

The other constituents are two biflavones, and three flavonoids., In Ayurveda, this is a tonic, stimulant and in the treatment of stomach ache, diabetes and asthma, mennorhagia, lung diseases. The plant is bitter, expectorant, stimulant and tonic. The leaves are diuretic, relieve strangury.

Cynodon dactylon (L.): This herb is known as Durva, belonging to family Poaceae can grow in non fertile soil. It is a creeping grass growing throughout the country and was considered as a sacred grass by the Hindus, and it is still used for worships in temples. In ancient days, It is used as a diuretic and also used to stop bleeding. The stems and the leaves are used in medicine . The leaves are narrowly linear or lanceolate and finely acute. The stem is slender, very smooth and yellowish-green in colour. The roots are cylindrical, cream coloured. Bermuda grass is reported to contain cynodin, hydrocyanic acid, and triticin. The leaves contain flavone C glycosides and a flavonoid sulphate. The grass is a remedy in epitaxis, haematuria, inflammed tumours, whitlows fleshy excrescences, cuts, cystitis, nephritis and in scabies and other skin diseases. Herb is possessing astringent, anticatarrhal, styptic properties. The Ayurvedic Pharmacopoeia of India describes the dried fibrous root in menorrhagia, metrorrhagia and burning micturation. It is also reported to be antiseptic, demulcent, diuretic, and emollient. The plant is a folk remedy for headache, haemorrhage, hypertension, measles, snake bite, uro-genital disorders warts and wounds

Emilia sonchifolia Dc. : This plant is commonly known as muyalcheviyan, belonging to Asteraceae family. A glabrous slender herb, erect, variously branched. Leaves obovate and flowers purplish in colour. Distributed throughout India, found in waste grounds and moist areas. Whole plant is used medicinally. The aerial part of the plant contain alkaloids, flavonoids, and terpenes. The plant is antiseptic, astringent, diaphoretic, diuretic, expectorant, febrifuge, and ophthalmic.

Eclipta alba: This plant is commonly known as false daisy belonging to the family Asteraceae. Erect/ prostrate annual herb distributed throughout India in moist waste lands. The roots are well developed and a number of secondary branches arise from main root, and greyish in colour. Cylindrical stems are dark Green in colour and shows longitudinal ridges. The leaves oblong, lanceolate in shape. Small flower heads contain white, compressed ray florets and yellowish disc florets. Fruits are one seeded achenial cypsela. In Ayurvedic medicine, the leaf is considered to be powerful liver tonic, rejuvenative and especially good for the hair. A black dye obtained from Eclipta alba is also for dyeing hair, have been used in the treatment of scorpion stings. It is reported to improve hair growth and colour. Coumestan derivatives such as wedelolactone and demethylwedelolactone and other common sterols and triterpenoids are present. The entire plant contains triterpenes: ecalbatin, echinocystic acid, oleanic acid, ursolic acid, flavone. It is a potential hepatoprotective agent, in jaundice and in conditions of liver and spleen enlargement, The entire plant is used for tuberculosis and as haemostatic.

Ipomoea sepiaria : This plant known as Lakshmana in Sanskrit belongs to convolvulaceae family. Distributed throughout greater part of India. Whole plant is used medicinally. This is a perennial twiner. Annual, stems very long and slender, often purplish, twining, glabrous. Leaves are simple, alternate, entire, petiolate, cordate, blotched with brownish or purplish patches towards the centre and thin; flowers pale purple or pink, funnel shaped, in umbellate axillary cymes. Fruits ovoid capsules, 2-4 seeded, seeds grey colored covered over silky pubescence. Ipomoea contains nonergoline type indole alkaloids poisoning. Seeds used as cardiac depressant, hypotensive, spasmolytic. Plant is also used in the treatment of sterility in women, urinary retention, constipation, gynaecological disorders.

Cardiospermum halicacabum (L.): Plants common names are Balloon vine. A plant of Sapindaceae family. A climbing tendril bearing herb with wiry stem throughout the plains of India. Branches slender and leaves deltoid, 2-ternate, petioles 2-3.8 cm long and flowers are white. Seeds are globose. In India, leaves are commonly consumed as leafy vegetable. It is known to contain saponin, quebrachitol, apigenin, proanthocyanidin and stigmasterol. The leaves contain an alkaloid, oxalic acid and amino acids. The root is considered diaphoretic, diuretic, and aperient. The fried leaves are emmenagogue. The leaf paste is applied on domestic animals to kill lice and other insects. It is used in the treatment of rheumatism, lumbago, skeletal fractures, nervous diseases, amenorrhoea, haemorrhoids, and erysipelas, emetic, laxative, rubefacient and stomachic

Evolvulus alsinoides (L.) : In Sanskrit, this plant is known as 'Vishnu's step' and was used in worship belongs to Convolvulaceae family. The plant was used for dysentery, to enhance intelligence and improve memory. This is widely distributed in tropical and subtropical regions of India. It is a small perennial herb with small woody root stock. The leaves are alternate, simple, elliptic-oblong in shape. The flowers are light blue in colour, solitary or sometimes in pairs. Fruits are globose, four valved drooping capsules. The plant contains beta-sitosterol, stearic, oleic, linoleic acids, pentatriacontane and triacontane. Betane, sterols, tannins, carbohydrates, proteins and alkaloid namely evoline are present in the whole plant. The whole plant is used for various ailments. The plant is bitter, acrid, febrifuge, aphrodisiac, anthelmintic, expectorant and useful in bronchitis, brain tonic, an aid in conception, astringent, antidysenteric and asthma.. It is also one of the ingredients of the polyherbal formulation, Bramhi Grita.

Vernonia cinerea (L.) : This plant is commonly called Sahadevi in Hindi and puvvamkurunnila in Malayalam. It is distributed throughout India, as a weed on roadsides and open places. An erect annual herb, 12-75 cm in height with cylindrical branched stem, leaves is variable in shape and flowers are many pinkish violet in small heads. Regarding the history of the plant, it was mentioned in Sanskrit texts as being present in northern, western and southern India. The chief constituents are the triterpenes. Parts that were used include the flower (in conjunctivitis), seeds (anthelmintic), root (dropsy), and juice (piles). The whole plant is also considered to promote perspiration in febrile condition. The plant is anthelmintic, antibacterial, antiviral, antifungal, anti-inflammatory, diuretic, and stomachic

Curculigo orchioides Gaetrn.: This plant is known as Musali in Sanskrit and Nilapana in Malayalam, belonging to family Amaryllidaceae In many parts of India, due to it's over exploitation, kali musali is becoming rare in occurrence. Leaves sessile or petiolate linear or linear-lanceolate and root stock stout. Flowers are bright yellow in colour. Orcinol glucoside, curculigoside, curculigoside B &C, are present. The rhizome contains saponins (curculigosaponin C and F) sapogenins; phenolic glycosides, a triterpene alcohol; a pentacyclic triterpene, an aliphatic compound, hentriacontanol, sitosterol, stigmasterol, cycloartenol and sucrose. It is present in several drug formulations used in the treatment of menorrhagia and other gynaecological problems. Since generations, it is in used as folk medicine. The root is bitter, appetizer, nervine, adaptogenic, sedative, anticonvulsive, androgenic and anti-inflammatory. It is also used in Jaundice, urinary disorders and skin diseases, useful in piles, fatigue, diseases of the blood. According to Ayurveda, root is heating, aphrodisiac, appetizer, useful in the treatment of piles, fatigue, blood related disorders. In Indian medicine, powdered rhizomes with milk are taken as a restorative tonic, also for sexual debility.

DASAPUSHPA in KERALEEYA VAIDYAS

In Kerala, traditional practice in Visha Vaidya has world wide recognition. They make use of Dasapushpa in the form of Swarasa, Kalka, Taila and Ghrita. They are made use effectively in the treatment of malignancy conditions and anti-cancer therapy. These 10 herbs are considered to be useful in various stages of female reproductive life, hence has been part of Kerala,s social and religious culture from time immemorial. Many of the drugs possess antispasmodic, anti-inflammatory, antiseptic properties are also phyto-estrogen supplements. Research study prove these activities, A thorough probe can bring out many more establishments on scientific basis. In simple words, these weeds add beauty to the home garden, auspicious to the inhabitants, and imparts health and happiness to each home where they grow.

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TO THE ROOTS OF ANTIBIOTIC RESISTANCE

Ayurveda is resurfacing, what once was considered bizarre and outdated is now a trend and innovation. Dr. Marc Mitchell and Dr. David Wartinger1 were awarded Nobel Prize for a technic of treatment mentioned years before in samhitas. Ayurveda did always look upon the health of a person in a broad aspect considering personal social physical and mental levels. Treatment by giving medicine to a disease was merely a part of treatment modality explained in science of Ayurveda. It greatly understood and emphasized on understanding oneself and the world around. Starting from the day to day activities mentioned as in Dinacharya which dictates the regimens to be followed to therapies like Rasayana which rejuvenates the body and mind.

Disease is a condition effecting both mind and body, and its nomenclature states various approach to understand the condition like Papma, Jwara, Yakshma, Aadanga, Gada etc2. To understand this condition and to bring back the diseased to health is the first and foremost duty of the Vaidya3 for which there is inevitable requirements of four factors via, Bhishak, Dravya, Upastha and Rogi4. Rogi is the last and most important, without which the science will cease to exist. Hence proper understanding of Catushpaada and its essence is required.

According to Acarya5 the excellence of all the aspects of Catushpaada shows its effect on treatment which he states as a Bheshaja. And Oushadha mentioned in the Catushpaada is only an aspect to be considered in treatment of a diseased condition. Whereas, Bheshaja encompasses all the potential effect of the Catushpada.
As previously mentioned the term Gada is synonymous to Vyadhi or Roga. So anything antagonistic to a Gada is termed as Agada. A Vyadhi or Gada is tackled with effective and judicious use of Oushadha or Agada6. Here even a poison is considered as an effective Oushadha if used rationally. Whereas a potent Oushadha can be fatal if used irrationally.

Human body is an ingenious machine made of intricate parts and system which are always intertwined. And a slight derangement can cause the system to go haywire. Any factor which can cause this derangement has to be managed. Ayurveda has been doing this for ages and still holds strong. In recent past in 20th century there was invention of a revolutionary mode of medication called, antibiotics7which strictly based its theory on action of medicines on living entities. Body acts effectively against the disease causing agents when the antibiotics are introduced in to it. Hence bringing about normalcy. As it is used in array of disease its acceptability has drastically increased from the day of its genesis. Like everything, this also comes with its own drawbacks which seems strikingly similar to the concept in Ayurveda about use of Oushadha and knowledge of Visha8. The presentation of similar anomaly is termed as antibiotic resistance according to recent science of medicine.

Antibiotic resistance occurs when bacteria change in response to the use of antibiotics. Bacteria, not humans or animals, become antibiotic-resistant. These bacteria may infect humans and animals, and the infections they cause are harder to treat than those caused by non-resistant bacteria. Antibiotic resistance leads to higher medical costs, prolonged hospital stays, and increased mortality. The world urgently needs to change the way it prescribes and uses antibiotics. Even if new medicines are developed, without behavior change, antibiotic resistance will remain a major threat9.

PRECAUTIONS[10]

- Irrational use of antibiotics without the prescription of a certified health professional.
- Always follow your health worker's advice when using antibiotics.
- Never share or use leftover antibiotics.
- Prevent infections by regularly washing hands, preparing food hygienically, avoiding close contact with sick people, practicing safer sex, and keeping vaccinations up to date.
- Prepare food hygienically, following the WHO Five Keys to Safer Food (keep clean, separate raw and cooked, cook thoroughly, keep food at safe temperatures, use safe water and raw materials) and choose foods that have been produced without the use of antibiotics for growth promotion or disease prevention in healthy animals.
- Cleanliness of surroundings.

Antibiotic is the biggest discovery of modern medical science and the irrational use of it makes the threat to the life. Similar concept is being told when Visha and its use is mentioned. Visha is a broader term used according to context. Here the signs and symptoms of Visha described in the classical texts of Ayurveda are similar to signs and symptoms of Antibiotic resistance[11].

Signs and symptoms of Antibiotic resistance	Visha Lakshana
Fever	Jwara
Pneumonia	Phena
Upper respiratory tract infection	Swasa
Respiratory failure	Swasa
Pulmonary hemorrhage	Dusyati shonitam
Bronchitis	Hrudi vedanam
Vomiting	Chardhi

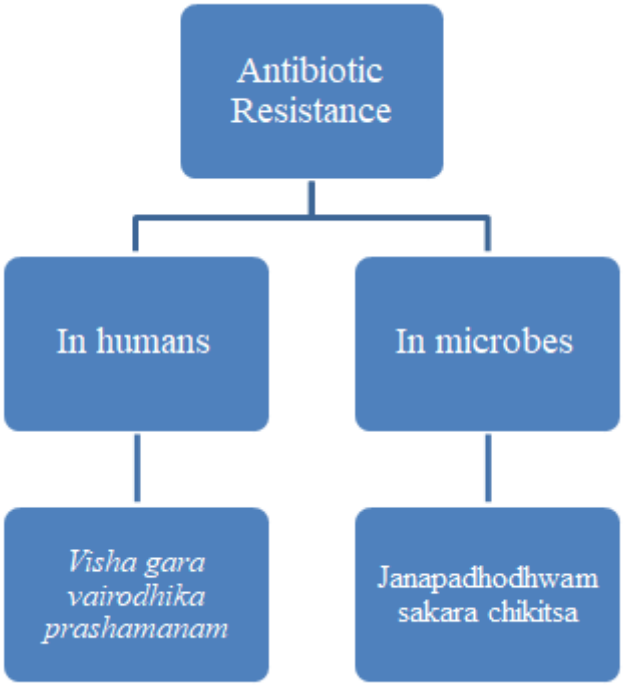
Poison is given its due importance in causing any disease by the triads of Ayurveda via Caraka samhitha, Susrutha samhitha and Ashtanga hrudaya, wherein treatment in condition of affliction of poison is coined as Agada tantra by Acharya Susrutha12, Damshtra chiktsa by Acharya Vaghbata13 and Visha gara vairodhika prashamana chikitsa14 by Acharya Caraka. Here emphasizing on Visha gara vairodhika prashamana by Carakaacarya gives us an insight on the extent of application of knowledge of Visha and its treatment.

In the context of explaining Ashtangas of Ayurveda15, the commentator Cakrapani explains the meaning of Gara as Kalantara prakopi visham16, which means Gara is the one which act as a Visha on prolonged use. Similarly according to commentator Arunadutta17 of Ashtanga hrudaya, Damshtra is having similar presentations to that of poisoning. Hence Gara can be considered to be the one which can fabricate the genesis of disease irrespective of its source of origin.

Antibiotics is a medicine that inhibits the growth or destroys microorganisms and it is commonly known that the use of antibiotics in any treatment has a structured protocol to be followed. Any disturbance to follow the protocol can generate its harmful effect on the body. Duration of use of antibiotics in any treatment is commonly not less than 7 days according to NIH18.

In India 15.7% of overall antibiotic use have antibiotic resistance due its prolonged irrational use. Prolonged use in any condition can cause habituation. Habituation diminishes the innate response to any frequently repeated stimulus irrespective of its positive or negative effect. Similar to habituation Acharya Caraka mentions the term Satmya[19]. Gara visha lakshana as previously mentioned is generated because of causes strikingly similar to prolonged irrational use of antibiotics.

Production of any antibiotic drug requires prolonged observation and systematic approach to have its effective positive outcome in its use. Though it is seen that there are innumerable antibiotics in the market for various kinds in diseases and which positively shows its effect on the health sector, it comes with a major drawback when considered on the aspect of the production and its waste management[20]. A report says that pharmaceuticals companies are the contributing factors to spread of drug resistant microbes and infections caused by them through unhygienic production processes and dumping of inadequately treated antibiotic waste. This can be considered as the underlying cause for the difficulty for management of antibiotic resistant microbes and the diseases caused by them, as these microbes are habituated or Satmya to the effluents or byproducts of improper or irrational waste management by pharmaceutical companies. These microbes which produce diseases are the cause for Janapadhodhwamsa vyadhis.[21]



In the same chapter there is the first reference of use of Rasayana22 for management of Janapadhodhwamsakara vyadhis where Acarya mentions Rasayana chikitsa as one of the most efficient mode of management when people suffer from Janapadhodhwamsakara vyadhi caused due to pollution or vitiation of Vayu, Udaka, Desa and Kala which effects a large number of population. In the same chapter there is a mentioning of effect of Rakshasa23 which can be correlated to micro-organisms in this context of Antibiotic Resistant micro-organisms. Acarya also mentiones the importance of maintenance of proper Agni24 for better results when the treatment of Rasyana is used. To bring out the maximum potential effect of Rasayana chikitsa maintaining the Agni to its highest can be done by judicious use of Samshodhana chikitsa25 and proper paschat karma. This briefs about the management of Janapadhodhwamsakara vyadhis caused due to Antibiotic Resistant microbes where the resistance is caused due to irrational and inappropriate waste management.

Also in antibiotic resistance in human body as previously mentioned presents itself with numerous diseases for which the line of management to be followed, according to Acarya is Visha gara vairodhika prashamanam. Here the meticulous use of Vishagna dashemani26 has to be done. Keeping in mind that antibiotic resistance shows similar lakshanas like that of Visha lakshanas seen in the body. It includes Haridra, Manjishta, Suvaha, Suksham ela, Paalindi, Candana, Kathaka, Sireesha, Sindhuvara and Sleshmaataka. The infection is the crucial symptom seeing in the Antibiotic resistance and which leads to the fatality of a person. Many studies proved that Haridra is one of the best anti-inflammatory, anti-microbial and anti-bacterial drug27. One of the active principle in Haridra, Curcumin has shown to inhibit a number of different molecules involved in inflammation including phospholipase, lipooxygenase, COX-2, leukotrienes, thromboxane, prostaglandins, nitric oxide, collagenase, elastase, hyaluronidase, interferon-inducible protein, tumor necrosis factor, and interleukin-12.

For effective management of antibiotic resistance proper screening of causative factor and understanding the depth of its effect is of prime importance. The ultimate one suffering this antibiotic resistance is the human body whether it is caused due to improper waste management or irrational use of antibiotics. Hence understanding antibiotic resistance in the light of maintenance of health of oneself and the health of the society is inevitable in field of heath science.

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AYURVEDA AS MEDICINE IN KUPOSHANA

"..... Pushyanti cha na dhatava:", ".... .....Pushyante anye na dhatava:", the beacon alerting for a swift action as encountered in the King of Diseases, viz., Rajayakshma, or the second sketch describing the presentation in Medoroga, since 'Poshanadharanayaoh' – that which supports and nourishes the body, DHATU – the Sakthi yukta dravya in the sareera is in the threat of disfigurement as 'Dosha Dhatu Mala moolam sada dehasya'. 'Poshana'- a word met in dealing with the Samprapti of various diseases, manifested in various modes need to be investigated thoroughly in the background of 'Kuposhana' as how it serves as a palpable element in the manifestation of multitudinous array of diseases and thus to arrive at proper medication.

"Rasa nimittam eva sthaulyam karshyam cha", the prime description portraying the unparalleled orientation of a jeevana sastra that has its foundation stone laid on the principle of 'samanya visesha siddhanta', encompassing the all-round aspects of an individual through its notion of 'Trisutra', is an alternative method of expressing the ideas of 'Health' and 'Disease'. 'Rogastu dosha vaishamyam dosha samyam arogatha', though, both of them are the either sides of the same coin, preventing the turn out to disease is nothing but the upaya to maintain the dhatusamyata or in other words, the key towards arogya. This upaya wholly or partly depends on the aahara, the mahabhaishajya, which is said as praanadharana for prani and as sarvabhootanam sthitikaaranam.

'Rasa', the first and foremost dhatu formed as a result of aaharaparinama as the parama sookshma saara bhaga of aahara which is tejobhoota predominant, determines the fate of all the other dhatus as 'rasath raktam tato mamsam....' and ultimately the swaasthya and aswaasthya of the sareera. It does the functions of tarpayati, dharayati, vardhayati and yapayati; the importance of rasadhatu in the maintenance of the other dhatus of the sareera is thus, of paramount nature. It is specially to be emphasized here that rasa dhatu, being an asthayi dhatu, means that it is all pervading in the sareera, is having the function of 'preenana' which means nourishing, none other than the concept of poshana. This Rasa for an easy understanding is categorised into Poshya Rasa – the sthayi dhatu in the sareera and Poshaka Rasa – the nutritive fluid for all the remaining dhatus, formed immediately after aahara pachana, circulating throughout the sareera. It is distinctive to note the role of vyana vayu, which does vikshepa of rasa (the cardinal essence of nutrients) continuously, and if there is any 'Khavaigunya', vyadhi manifests.Thus, it becomes crystal clear that the status of 'Rasa', in an individual determines his health status which is more evident on observing the Rasa pradoshaja vyadhis ranging from asradha and aruchi to the extent of klaibyam.

Therefore 'Kuposhana' can be defined as improper nutrition and these vyadhis arise as a result of any defect in nutrition at any stages right from the nature, quality, time period etc of food to their final conversion in to various bodily dhatus. Or in terms of Kaarana Kaarya Siddhanta, it can be explained as, the vyadhis generated out of the guna – karmas of Kaarana and any inadequacy in the various upcoming processes occurring in its conversion to the final end product of Kaarya.

Thus, the causes for Kuposhana can be inferred as those factors embraced from Kaarana to Karya. As a rule, with no doubt, the Kaarana itself is the principal factor in the list. 'Na cha ahara samam kinchit bhaishajyam upalabhyate' and 'ahara sambhavam vastu rogascha ahara sambhava:' are all symbolizing the significance of ahara in perpetuating the sareera from birth to death. Ayurveda is a sastra accentuating supreme importance to Ahara – Vihara which has mentioned its various aspects very elaborately and echoed 'Nidanasya cha parivarjanam' in the treatment of diseases. Guna karmas of various food articles, the eight factors called aaharavidhivisesha ayatanas incorporated in its consumption, the frequency and quantity of its intake (vela and pramana) etc should be considered here. In addition, food articles which are told as ahita and not meant for nitya sevana should also be taken into account in this regard as all these are undoubtedly involved in the aspect of poshana.

The second and the next important factor that may act as a causative factor, once the food article comes in to contact with sareera is the 'Agni' as it is told 'Yadannam deha – dhatu – ojo – bala - varnadi poshakam, tatra agni: hetu:' and one should be utmost vigilent on this as 'roga: sarve api mande agnau'. Though agni exists as vishama, teekshna, manda etc based on the predominant prakrti in a person, the ahara seva should be such that, it should not cause any disturbance to it so as to leave the supreme sara after ahara pachana. Why this point is specially to be stressed is that, any disorder in agni paves the way to certain other category of functional impairments, like Srotorodha and Ama, 'durbala agnibala dushta tu amameva vimunchati'.

The process of formation of Ama is due to the wimpish nature of Agni, both at Jataragni and Dhatwagni level, its inability to convert the appropriate stuff, as a result of which, they will get stagnated, affecting the quality of successive dhatus. It is a unique concept of Ayurveda, and finds place in the genesis of almost all diseases. The whole metabolic activities of the sareera will be affected in one way or the other, unable to produce visuddha tara dhatus so as to exhibit excellent body functions.

The concept of Srotorodha can be better understood by considering a pipe carrying water to various houses. If it is fully operative, it caters to the need of every house. If there is any flaw, there will be shortness in the requirement of water, which on the other hand give rise to copious worries, alike in sareera due to atipravrtti, sanga, siraanaam granthi or vimargagamana, dushti manifests, in turn as the vigunata at various dhatus presented as its vrddhi or kshaya. Hence, the Srotas is to be understood as a midway channel that carries the 'parinamam apadyamaanaanaam dhatunam' from their site of formation to their site of localization.

All these factors right from Kaarana and the intermediary troubles will ultimately result in Kuposhana at the level of Karya. Thus, Agni, Ama and Srotorodha are the inevitable factors dealt in the Samprapti of any disease other than the involved doshas and dushyas at various parts of localization in the body. Whether it be pandu or rajayakshma or grahani or sthoulya, to mention a few, become obvious as a result of the pathology occurring in any of these factors, terminating the poshana to the subsequent dhatus. To understand at the primary level, consider the example for pandu, where it is told, **"रक्तक्षयो रक्तपोषकरसस्य पित्तेन क्षपणाद् रक्तपोषकसारभागानुत्पादाच्च।"** . As a result, dhatu saithilya, oja kshaya, alpa rakta, alpa medas etc becomes apparent, eventually 'nissaradhatu' which are the clear-cut evidences of Kuposhana. It follows that, even if it is Santarpanajanya or Apatarpanajanya nidanas, perceptible as Aharajanya or Viharajanya at the level of sareerika or manasika, will act in the long run at the level of Agni.

Coming to the aspects of Chikitsa, undeniably, it could be uttered after analysing the hetus for Kuposhanajanya vyadhis as 'samprapti vighatanam eva chikitsa', to adopt the kriyas so as to bring out sareera dhatu samya. Before arriving at a treatment plan the doctor should asses the patient in four technical domains. First of all, the dosha vikalpa, i.e the fractional distribution of the involved dosha should be spotted out. Next is, evaluating the involved dhatus and its extent of vitiation. Third is, making a detailed study of the involved srotas. The final and fourth step is drawing out the status of Agni.

As per the Aptopadesha, only two forms of Aushadha are there in Ayurveda – Sodhana, Samana. On dealing with Samana, considering the factors involved in the Samprapti, medicines with deepana, pachana, vatanulomana and srotosodhana properties is the first line of treatment. Intially, the treatment approach should be Kaphaghna and Ushnakara that holds good with 'brmhyamstu mrdu langayet'. Panchakola choorna, Hinguashtaka choorna, Trikatu choornam, Gudoochyadi Kashayam, Chiruvilwadi Kashayam etc with various arishta preparations like Dantyarishtam, Jeerakarishtam, Panchakolasavam and similar others inducing deepana can be considered for this. Choorna preparations are especially good for conditions with depletion of Agni, that too at Jataragni level. Similar to sootika paricharya, medicines capable of doing deepana first followed by pachana would be a better option here, with due importance given to the vyadhyavastha and vaya of the patient. Hinguvachadi choornam, Abhayarishtam, Gandharvahastadi Kashayam, Dhanwantaram gulika are potent and frequently used yogas for vatanulomana. Amrutotharam Kashayam, also known as Amrtadi Pachana Kashayam, Shadanga Kashaya etc are inevitable to be reminded for their pachana karma.

In addition to the usage of the above, ghrta yogas are extremely good for srotosodhana, say for eg, Shatpala ghrta, Indukanta ghrta, Amrtaprasha ghrta etc, which can be used in Samana matra. Ghrthaprayoga also have a stimulatory effect on the Psycho – Neuro axis and pacifies the mind besides the sareera, as it is quoted, “ardra manasa sarva jwara nashanam". The various yogas told in Pandu Chikitsa, Grahani Chikitsa like Dhatryarishta, Yogarajadi choorna, Punarnavadi mandora etc can be adopted ideally after ascertaining the Dashavidha pareekshyas.

Other than mentioning various medicines, the Ahara – Vihara followed daily is too important as these are the vyadhis arising out of the defects in Poshana. Oushadha siddha paneeya like Dhanyaka himam, Shadanga paneeyam can be used daily for quenching thirst. Various types of Peya and Yavagus can also be administerd which helps to maintain the Agni, at a strong level, the most common one in use is Lajapeya. Takra, which is Amrta according to Ayurveda prepared with haridra, ardraka and kaidarya is a medicinal curry for daily use. Yushas and Pramathyas are also good for increasing Jataragni bala.

Following strict dietetic rules too are significant here. Never contaminate the internal environment with Apathya Ahara, Virudha Ahara, Abhishyandi Ahara and Apathya Vihara as this would be favourable for bringing out alterations in the 'Agni'- 'Agni moolam balam pumsam'. Pathya ahara should be given to him which must be kramena brmhana. Sali, Shashtika, Mudga, Mamsa, Ghrta are specially told for their consumption. In addition to Hrdya and Deepana Oushadha prayoga, he should be given Abhyanga, Udwartana, Kashaya and Sneha vasti which ignites his Agni readily.

Sodhana should be given after examining the bala, vaya, kala etc of the patient. The malas which lie leena in the sakhas are made klinna by Sneha prayoga are brought to Koshtha through draveekarana by Sweda karma

and is eliminated immediately through the nearest route, after administering appropriate Vamana or Virechana. Vasti which follows these procedures provides improves strength, increases the activity of enzymes, makes the senses active, maintains the calmness of mind etc. The frequency of the sodhana procedures, once or twice or multiple times, all depends on the extent of dushti in that individual. Even after the elimination of malas and attaining srotovishudhi, he should follow strict pathya, similar to, "Na vijwaro api sahasa sarvaannino bhavet tatha.....

He should be under Rasayana prayogas so as to impart superior Rasas and Dhatus to the body, and prevent the recurrence of the same. Ajamamsa rasayana, Vardhamana pippali rasayana, Mamsa rasa prayoga etc can be considered for this.

Nagaree nagarasyeva rathasyeva rathee yatha....." analogous to this monograph, "Sarvam anyat parityajya sareeram anupaalayet", and countless narration regarding the significance of fortifying and shielding the sareera are met throughout the Samhitas as the adhikarana of this sastra is indisputably 'sareera' and nurturing and nourishing of the same for Arogya and hence 'Dheergayu', to lead a life with Eshana traya, for ultimately securing the fruit of Purusharthas, is the fundamental aim of life.

The evergreen theory put forward by the great legend, Acharya Charaka, The concept of Swabhavoparama which always focused on the Kaarana in controlling the characteristics of the Kaarya need to be spotlighted unquestionably as we are the part and parcel of this universe – the Siddhanta of Loka Purusha Samya.

ADARSH A
MARKETING EXECUTIVE
MVR GROUP OF INSTITUTIONS

PARTICIPATION IN THE GLOBAL AYURVEDA SUMMIT & EXPO 2024

The MVR Ayurveda Medical College had the privilege of participating in the prestigious Global Ayurveda Summit & Expo 2024. This summit provided a valuable platform for showcasing the advanced Ayurvedic treatments and wellness solutions offered by the institution to a global audience. The event attracted a diverse group of visitors, eager to explore the ancient science of Ayurveda and its potential in modern healthcare.

Through our participation, we were able to engage with professionals from various countries, gaining valuable insights into global wellness trends and the increasing demand for Ayurveda-based health solutions. This exposure has significantly contributed to our mission of spreading the benefits of Ayurveda to a worldwide audience.

In addition to networking with international delegates, we had insightful discussions with key figures and enthusiasts from around the globe. These interactions have laid the groundwork for potential collaborations that could further expand the reach and impact of Ayurveda across borders. We are committed to leveraging the knowledge and connections gained during this summit to enhance our services and contribute to the global recognition of Ayurveda.

During the summit, we were honored by the presence of esteemed chief guests and visitors, including Shri Ahmed Gasim, Minister of State for Health, Republic of Maldives, and other prominent figures in the field of Ayurveda and healthcare. Their support and guidance have been instrumental in making our participation a success.

PARTICIPATION IN THE GLOBAL AYURVEDA SUMMIT & EXPO 2024

We also observed a growing interest in the holistic approach that Ayurveda offers, particularly among international attendees who are seeking natural and sustainable healthcare solutions. The emphasis on preventive care and wellness, which is central to Ayurveda, resonated with many of the visitors. This trend reaffirms the growing relevance of Ayurveda in addressing modern health challenges.

Looking ahead, our team remains focused on advancing Ayurveda through international collaborations and innovative treatments. The relationships forged at the Global Ayurveda Summit will serve as the foundation for future partnerships and growth, helping us bring the benefits of Ayurveda to a wider audience. We are confident that these engagements will pave the way for new treatment methodologies and wellness programs tailored to the global market.

The summit also allowed us to showcase our facilities and unique treatment methodologies, which blend traditional practices with modern technological advancements. Many visitors expressed interest in visiting our institution for treatments and collaborative efforts, enhancing our credibility and reinforcing our role as a trusted provider of quality Ayurvedic healthcare. This positive response motivates us to continue improving our services and expand our outreach to a global audience.

In addition to the networking opportunities, the summit provided us with insights into emerging global healthcare trends. These trends highlight a growing preference for integrative medicine, where traditional practices like Ayurveda are increasingly being combined with modern healthcare approaches. By staying aligned with these developments, MVR Ayurveda Medical College aims to adapt and evolve, ensuring that our treatments remain relevant and beneficial to patients worldwide.

Dr. KRISHNAPRIYA JAYAN (BAMS)
HOUSE SURGEON
MVR AYURVEDA MEDICAL COLLEGE, PARASSINIKKADAVU

GRADUATION DAY PRIDE: 2018 BATCH OF MVR AYURVEDA MEDICAL COLLEGE

Graduation is not the end , it is a beginning of something new!

On August 23rd ,2024 ,the time of the year to embark on the remarkable journey of our 2018 Bams batch ,MVR Ayurveda Medical College as we celebrated the profound accomplishments of our graduates by an auspicious occasion of the Graduation ceremony.

The graduation ceremonies are much more than the mere passage of time - they are the product of late nights, hard work, and true dedication. It is truly inspiring to observe the intellectual and personal growth of a batch from being students to an Eligible Graduates.

In the absence of Principal prof Dr Muraleedharan AK sir, vice Principal ,prof Dr Shaiju Krishnan sir ,HOD Dept of Panchakarma welcomed the gathering on a positive note. With all honours Prof. E. Kuhniraman sir ,Director- Mvr Ayurveda Medical College rendered the Presidential address and showered the words of wisdom.It was indeed our pride to have heard the Graduation address from Dr Gopakumar S sir ,Registrar Kuhs as he inspired all the graduates to fly out into a World full of opportunities.

We were indeed privileged to have had with us Col. Akhil Kumar Kulshreshta sir , Director, NIFT , Kannur who with great support inspired our graduates through the key note address.It was delightful to have heard Special address from Smt. R .Rajasree mam, 2022 Kerala Sahithya Akademi Award Laureate, who motivated the entire crowd to achieve the set goal and move forward in the direction of ones dream. Prof Dr Joshi George sir , Smt. Mini Nirmal maam(PtA representative), Dr Jahana sherin (president , Akyra House Surgeons Association) and Sandra jyothis (college union chairperson) felicitated the gathering. Graduate speech was rendered by Dr Krishnapriya Jayan (Programme Convener, Akyra House Surgeons Association) followed by distribution of Certificates and medals to graduates and Smt E Lakshmi Amma Gold Medals to the academic toppers from BAMS, B.pharm and B.Sc nursing .Two historical oaths ,Hippocratic as well as the Charaka oath were taken by our graduates under the guidance of Dr Gopakumar s sir , registrar KUHS and Dr Kesavan v sir(Hod dept of Samhitha Samskritha and sidhantha) respectively.Dr Arya Ramkrishanan , Secretary Akyra HSA delivered the vote of thanks.As a Social responsibility all our 59 Graduates showed their deepest respect and honoured the lost lives and the resilience of the community in Mundakkai , wayanad.

It was a pride to have officially announced that our graduates joined their hands with MVR Group of Institutions to have taken the decision to uplift the survivors by building a house as a token of respect and responsibility as all our thoughts are with the affected. The Event was ended by honouring the Nation through The National Anthem followed by Recession. On this momentous occasion I was reminded that the distinguishing quality of most successful people that I have come across is their sense of dedication and hardwork. Those tend to be the qualities of a true hustler , someone that is insanely dedicated, takes risks, creates opportunities and plays the long game and goes a long way.





EVENTS

OATH TAKING CEREMONY, MODEL MAKING AND EXHIBITION, AWARENESS VIDEO PRESENTATION BY RACHANA SHAREERA DEPARTMENT

INDUCTION PROGRAMME FOR NEWLY JOINED HOUSE SURGEONS ,CONDUCTED ON 03.09.24 AT ACADEMIC BLOCK AT 11:30 AM

MVR AYURVEDA EMPANELED WITH ECHS AND CGHS INAUGURAL FUNCTION

EVENTS

YOGA DAY CELEBRATION

BREAST FEEDING AWARENESS CLASS BY DR ANUPRIYA, ASSISTANT PROFESSOR, DEPARTMENT OF KAUMARABHRITHYA ON AUGUST 9, 2024 AT THALUVIL ANGNANWADI

WELLNESS SESSION FOR GIRLS BY DR AMRITHA RAJAN, ASSOCIATE PROFESSOR, DEPARTMENT OF PANCHAKARMA ON SEPT 05, 2024 AT PAYYANUR COLLEGE

EVENTS

Awarness class conducted By Dr. Prabhin , Assistant Professor Dept of Samhita Siddhantha at St.Marys higher secondary school, Dharamashala on the occasion of Doctors day celebration on 1st July 2024,

Bodhi

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