ऑगस्ट २०२३
या अंकात एकूण
३६ पाने आहेत.

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'असूनी खास मालक घरचा'

डॉ. दि. प्र. पुराणिक

नुकताच म्हणजे दि. १५ जुलै २०२३ रोजी "World Plastic Surgery Day" सर्व देशात, जगभर विविध कार्यक्रम करून संपन्न झाला. सर्वसाधारण सर्जरीपेक्षा 'प्लास्टिक सर्जरी' ही विशेष अशी समजली जाते. पहिल्या जागतिक युद्धानंतर ही विशेष शाखा प्रसिद्धिस पावली. पहील्या महायुद्धाच्या काळात अनेक सैनिकांना चेहऱ्यावर (Face) झालेल्या जखमा आणि त्यामुळे निर्माण झालेले व्रण ह्यामुळे आलेली विद्रुपता दूर करण्यासाठी सर्जरीची ही विशेष पद्धत विकसित झाली. डॉ. हॅरॉल गिलीज हा प्लास्टिक सर्जरीचा जनक मानला जातो. डॉ. हॅरॉल गिलीज ह्यांनी Facial Reconstructive (संधान) Surgery ची विशेष पद्धत विकसित केली. प्लास्टिक सर्जन संघटनेचे अध्यक्ष डॉ. राजा सभापती ह्यांनी १५ जुलै २०१२ हा 'प्लास्टिक सर्जरी दिन' म्हणून साजरा करण्यास सुरुवात केली. त्यानंतर अमेरीकन प्लास्टिक सर्जन्स असोसिएशनने त्यास मान्यता दिली व तेंव्हापासून जागतिक पातळीवर १५ जुलै हा दिवस "Plastic Surgery Day" म्हणून साजरा केला जातो.

सुरवातीस प्लास्टिक सर्जरी ही जन्मतः असलेल्या विकृतींसाठी केली जात असे. " Cleft lip, Cleft palate, facial deformities, Breast and chest wall defects, Nose, Skin, Urogenital defects ह्या सारख्या विकृती दुरुस्त करण्यासाठी ही सर्जरी केली जात असे. आधुनिक सर्जरी जशी विकसित झाली तशी प्लास्टिक सर्जरीचेमध्ये नवीन क्षेत्र, वाटा विकसित झाल्या. आता Reconstruction Surgery आणि Cosmetic Surgery अशा ढोबळ मानाने दोन शाखा आहेत. एखादा अवयव, त्वचा, स्नायू ह्यांची कांही कारणाने हानी झाली असेल ती भरुन काढून त्याचे कार्य पूर्ववत करणे ह्या गोष्टी Reconstructive Surgery मध्ये केल्या जातात. विशेषतः भाजल्याने (Burns) झालेल्या त्वचेची हानी ह्यामध्ये ह्या पद्धतीचा उपयोग होतो. सौदंर्यवर्धनासाठी (cosmetic) प्लास्टिक सर्जरी करण्याचे प्रमाण अलीकडे खूपच वाढलेले दिसून येते. विशेषतः सिनेमा, नाटक, मॉडेलींग ह्यामध्ये असलेल्या कलाकारांना अनेक वेळा cosmetic surgery करुन घेणे अगत्याचे असते. इतकेच नव्हे तर ज्येष्ठ अथवा वृद्ध स्त्री पुरुषांमध्येही वय झाकण्यासाठी cosmetic surgery करुन घेण्याकडे कल वाढला आहे.

१५ जुलै २०२३ ह्या दिवशी **''आयुर्वेद जगताने'' आचार्य सुश्रुत जयंती** मोठ्या प्रमाणावर साजरी केली. ''जगताने'' म्हणण्याचे कारण म्हणजे आयुर्वेदास आता जागतिक पातळीवर मान्यता आणि स्विकृती मिळालेली आहे. अनेक आयुर्वेदीय रुग्णालये, शिक्षण संस्था आणि आता विकसित झालेले ''आयुष'' मंत्रालय ह्या ठिकाणी पूजा, यज्ञ, याग इत्यादी करुन सुश्रुत जयंती साजरी करण्यात आली. दिल्ली येथील ''अखिल भारतीय आयुर्वेद संस्था'' (All India Institute of Ayurved) येथे दि. १३ ते १५ जुलै २०२३ रोजी National Seminar "**AIIA Shalyacon 2023**" चे भव्य आयोजन करण्यात आले. विशेष म्हणजे अनेक लहान मोठ्या शस्त्रकर्मांचे प्रत्यक्ष (Live) प्रक्षेपण करण्यात आले. आयुर्वेदाच्या शस्त्रकर्मीनी (Ayurvedic Surgeons) आयुर्वेदीय संज्ञाहारक (Anaesthesiologists) तज्ज्ञांच्या सहकार्याने उत्कृष्ठ शस्त्रकर्मे केली. ह्या वेळी उपस्थित असलेल्या अर्वाचिन शस्त्रकर्मी (Modern Surgeons) आणि Anaesthesiologists ना देखील प्रशंसा करणे अपरीहार्य होते.

आचार्य सुश्रुत हे खऱ्या अर्थाने सर्जरीचे आद्य प्रवर्तक. हजारो वर्षापूर्वी ६०० बी.सी. सुश्रुताचार्यांनी विकसित केलेली विविध शस्त्रकर्मे, विशेषतः त्यांनी विकसित केलेली नाकावरील त्वचा संधान रोपण शस्त्रकिया आधुनिक सर्जरीला प्रेरणा देणारी ठरलेली आहे. त्यामुळेच आधुनिक वैद्यकीय जगत आचार्य सुश्रुत ह्यांनाच "Pioneer of surgery" म्हणून मान देते. परंतु आचार्य सुश्रुतांची परंपरा असलेल्या आयुर्वेदाच्या शस्त्रकर्मींनी शस्त्रकर्मे केल्यास त्यास विरोध करते. हा विरोधाभास अनाकलनिय असाच आहे.

मध्यंतरी म्हणजे दि. २० नोव्हेंबर २०२० रोजी Central Council of Indian Medicine ने एक माहितीपत्रक (Notification) काढून आयुर्वेदातील शल्य व शालाक्य विषयाच्या प्रशिक्षित पद्व्युत्तर पदवी धारकांना विशेष अशी ५८ शस्त्रकर्मे करण्याची परवानगी असल्याचे जाहीर केले. त्यावर इंडियन मेडीकल असोसिएशन आणि तमाम सर्जरी असोसिएशन्सने तीव्र प्रतिक्रिया देत ह्या परवानगीला आक्षेप नोंदविला. एवढेच करुन न थांबता त्यांनी सदर नोटीफिकेशनला सर्वोच्च न्यायालयात आव्हान दिले आहे.

Central Council of Indian Medicine (CCIM.) चे एकूण धोरण आणि निर्णय अनाकलनीय असेच म्हणावे लागतील. कारण दि. २० नोव्हेंबर २०२० रोजीच्या नोटीफिकेशनने त्यांनी सर्जरी करण्यास परवानगी देवून आयुर्वेदीय शल्यतज्ज्ञांना शस्त्रकर्माचे **'कवाड'** खुले केले. परंतु सन २०१६ पासून पूर्वी सुरु असलेला एम.डी. (संज्ञाहरण) अभ्यासक्रम खूपच मागणी असून धक्कादायकरित्या बंद केला. अनेक स्तरावर मागणी करुन देखील संज्ञाहरण एम.डी. अभ्यासक्रम पुनर्स्थापित (Restoration) केला नाही. एकप्रकारे शल्यतंत्रींसाठी शस्त्रकर्माचे **'कवाड'** २०१६ सालीच बंद केले आहे. कालांतराने ह्याचे दृष्य परीणाम सर्वांनाच भोगायला लागणार आहेत. आचार्य सुश्रुत हे आधुनिक शस्त्रकर्माचे जनक मानले तर शस्त्रकर्मे करण्याचा अग्रहक्क आयुर्वेदाच्याच शल्यकर्मीचाच आहे. परंतु त्यांच्या ह्या हक्कालाच आव्हान दिले जात आहे. त्यामुळेच **''असूनी खास मालक घरचा म्हणती चोर त्याला''** ह्या ओळी येथे समर्पक वाटतात.

Essential Approach Towards Research In Dravyaguna

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Ayurved focuses on Sukshma i.e. Gunadhar Adhyayana (characteristical studies), and when it is related with Dravya (substance) it is called as Dravyaguna; whereas contemporary science goes with Sthula Adhayana i.e. Bhautikwad (physical entity), hence its focus goes on the structure. Gunadhar adhyayan paves way for the utility and application of the Dravya; and its processing is also with respect to Gunas.

The concept of Raspanchaka i.e. Ras, Guna, Virya, Vipak and Prabhav is the base of Dravyaguna, which is the basis of the action and the potency of the Dravya, and are mentioned in the classical literature for various Dravyas, but the method and the technique of working it out for other Dravyas is unavailable; therefore to work in this dimension is of prime importance. In the present era, the use of concepts and appliances of the contemporary science for the purpose needs coordinating (not correlating) the matter with chemical, biochemical, physical, biophysical and so on principles or recordable physical behaviour of the biological specimen, since these appliance work on these principles. Working in this dimension needs coordinating subjective parameters (qualitative) of Ayurvedic (Dravyaguna) back ground with objective (quantitative) parameters of the contemporary science. The experiments in this regard in the initial stage need in-vitro designing and working along with in-vivo, parallelly or as the subsequent step. The same can be studied as measuring the metabolic rate, thermal studies, disappearance of chemical constituents of the Dravya, appearance of metabolites, behaviour of or physical changes in the treated specimen. (Some experiments in this regard have been performed).

Identification and standards of the Dravya is another current burning problem. In ancient time the Acharyas and their Shishyas (disciples) use to visit the natural habitat of the Dravya with identification then and there only in natural condition, in suitable season for collection, where the whole and entire plant was available along with the surrounding environment; and the same taught today to the students; whereas the fact is that today the Dravya (Prayojyanga) is actually purchased from the market. This situation raises several questions regarding its standards as identity, maturity, season of collection, storage condition and duration, authenticity, adulteration, wild or cultivated, hybrid, chemically treated for preservation, heavy metal or toxic content (as absorbed from polluted soil or water), exhausted, microbial contamination et c. Modern analytical techniques are the only way to overcome this situation. The Ayurvedic Pharmacopoeia of India has monographs for standards of Dravyas, which need addition of further few more parameters with respect to the above situation.

As mentioned above regarding studies related to Raspanchaka become essential with respect to Anukta Dravya, since this natural treasure of herbal medicine remains untouched and unused with respect to Ayurvedic context in the current situation of heavy demand of herbal medicine. Whereas the modern world is already attracted and attached to herbal medicine and further exhaustive studies as pharmacognocy, phytochemistry, histochemistry, tissue culture of the part useful in medicine, isolation of the active principal, reverse pharmacology, identification and isolation of bioactive molecules et c. are in progress with tremendous speed. Another point to be kept in mind is the continuous use of the same and the same plant from the nature has resulted and will result further exhaustion of such plant from the nature making great loss of herbal wealth. It is off course a medicine and an important part of ecology. The problems of extinct and endangered species are already known. At the same time hybrid and genetically modified herbs are also coming; the question is do they have the same Raspanchak as described in the classical literature? Studies have shown that their photochemistry differs from each other and further shelf life has been also observed to be different, the general observation is that their difference in Roop, Ras, Gandh, Sparsh is indicative of the difference in Raspanchak.

Further the environmental changes, natural or due to human artificial or unnatural activities as industrialisation, deforestation, civil construction, mechanical activity, mining, use of chemicals as fertilisers, pesticides, disinfectants, radioactive wastes, undegradable polymers, industrial effluents et c. resulted in environmental pollution, global

warming, ecological imbalance, with respect to fauna, flora and micro flora, which affects availability of nutrients, absorption of toxic materials, resulting change in plant physiology as adaptation for changed environment and finally its reflection is on Raspanchak, qualitative and/or quantitative. Along with the conditions as described above, the situation of increasing demand of herbal medicine has forced to go for cultivation of the medicinal plants with commercial intention. Which are mainly concern with the appearance and the yield with negligence towards medicinal quality, mainly as that is required as per Ayurved, as improvement (change) in taste, smell, et c. It is nothing but change in Raspanchak. Hence once again the focus goes on how study with respect to Raspanchak can be brought on the track of current era? It is applicable for the plants which are already described in the classical literature and available today are also growing in the changed environment.

As the world has accepted the medicinal potential of herbal medicine, even the modern system of medicine is attracted towards it, and now it is highly involved in researches in the field of herbal medicines but with respect to its own principles in modified form as, "unisolated active principle" i.e. that the extract (but the concern is the molecule), the other part of it is the "reverse pharmacology". It is definitely enrichment of modern "Materia Medica". But under this practice of reverse pharmacology, the Ayurvedic concepts and principles of Dushya, Desh, Prakriti, Agni, Tridosh, Raspanchak, Balabal, Aam, Sevan-kal, Anupaan, Sahpaan, Pathyapath, Vayah, Satmya, Sattva, ahar et c. has no place, whereas here the activities are described in modern pharmacological terminology, the contemporary scientific track. The question arises whether such herbal medicines are to be used by keeping the Ayurvedic concepts, as mentioned above in mind or as per the action as shown by reverse pharmacology; the two together are mismatching. Another approach now a day is seen that researches are going on to find the antimicrobial activity of herbal extracts; so many reports showing positive results are available, the question is, whether a single antibiotic has been replaced using herbal extract? Treatment by antibiotics is not Ayurvedic concept, though microbes (Krimi) and Krimighna are mentioned in the Ayurvedic literature; but the basic treatment is that to get Samagni and Samdosh, hence the subject is called Kaychikitsa (treatment of Agni). It is to be kept in mind that the microbes can grow only in environment suitable for them. It is also being talked now a days that antibiotics with herbal extract are more potent and a diminished dose of antibiotic is as effective as full dose if given with herbal extract; while reporting this why we forget the basic principle that as the potency of drug increases, the toxicity also increases, i.e. the damage caused by antibiotic will also be increased. Due to biased mind set, only favourable results are reported. Antibiotic means against life, whereas Ayurved means knowledge of and for life.

'आरोग्यदीप' दिवाळी अंक २०२२ ला रोटरी क्लब, लोकमान्यनगर व पर्वती शाखांतर्फे आयोजित दिवाळी अंक स्पर्धेमध्ये आरोग्यविषयक श्रेणी मध्ये प्रथम पुरस्कार प्राप्त.

राष्ट्रीय शिक्षण मंडळ संचलित 'आयुर्विद्या' मासिकाच्या **आरोग्यदीप दिवाळी अंकाला** रोटरी क्लबच्या लोकमान्यनगर व पर्वती शाखांतर्फे आयोजित करण्यात आलेल्या दिवाळी अंक स्पर्धेमध्ये आरोग्यविषयक श्रेणी मध्ये २०२२ सालाचा प्रथम क्रमांकाचा पुरस्कार मिळाला. सदर पुरस्कार, इन्स्टिट्यूट ऑफ इंजिनिअरिंग, पुणे येथे आयोजित समारंभात माजी साहित्य संमेलनाध्यक्ष श्रीपाल सबनीस आणि रोटरी क्लबचे पदाधिकारी यांचे हस्ते प्रदान करण्यात आला. सदर पुरस्कार आरोग्यदीप दिवाळी अंकाच्या कार्यकारी संपादक डॉ. अपूर्वा संगोराम, तसेच समिती सदस्य डॉ. मिहिर हजरनविस, डॉ. सरोज पाटील यांनी स्वीकारला. डॉ. दिलीप पुराणिक हे या दिवाळी अंकाचे प्रधान संपादक असून डॉ. विनया दीक्षित या उपसंपादक आहेत. उपरोक्त यशामध्ये आयुर्विद्या समितीच्या संपादक मंडळाच्या सर्वच सदस्यांचा समावेश आहे. टीम 'आयुर्विद्या' चे अभिनंदन!

पुरस्कार स्वीकारताना
आयुर्विद्या समिती सदस्य –उजवीकडून –
डॉ. मिहिर हजरनविस, डॉ. अपूर्वा संगोराम, डॉ. सरोज पाटील
मध्यभागी श्री. श्रीपाल सबनीस.

Recent Advances In Anukta Dravya

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Introduction - India and China are two of the largest countries in Asia, which have the richest arrays of registered and relatively well-known medicinal plants. The Indian subcontinent is well known for its diversity of forest products and the age-old healthcare traditions.

Information on the uses of plant species for therapeutic purpose has been passed from one generation to the next through oral tradition, this knowledge of therapeutic plants has started to decline and become outdated as a result of a shift in attitude and ongoing socio-economic changes.

The indigenous knowledge on the use of lesser-known medicinal plants is also rapidly declining. Through the realization of the continuous erosion in the traditional knowledge of many valuable plants for medicine in the past and the renewal interest currently, the need existed to review the valuable knowledge with the expectation of developing the medicinal plants sector.

Anukta drugs - Literary meaning of word Anuktas .न–उक्त i.e., un-said. Nokta or Anukta is a drug which is not included in Ayurvedic Samhita or Nighantus. Uundocumented or unexplored drugs are known as Anukta Dravya (extra pharmacopeial drugs). The term Anukta Dravyas means that the drugs, which are available in the universe, have to be studied in terms of their identification, morphology and provide scientific validation.

Why it is essential to think / study about anukta - It is generally said that "the only constant is change". These changes may be positive or negative but they ultimately affect the health of society. Many new drugs are searched by the researchers same way new diseases are also the gift of uncontrolled urbanization and population growth. As an Ayurvedic scholar/practitioner we have to understand, analysed and application of new drug to find out the solutions for treat the new immerging diseases [1].

Need of Anukta Dravya - India has different biodiversity zones with different medicinal flora and hundreds of medicinal plants are available which are therapeutically important. These plants are used by folklore in day-to-day life for major and minor ailments are not included in Ayurveda.

Many important medicinal plants have been red listed and many are on the way. Anukta dravyas may solve the problem of scarcity of medicinal plants. We are in era of newly emerging diseases, anukta dravyas may help in finding their solution. It can pave a way to the discovery of novel compound.

Ethno-botanical studies carry a great importance in Ayurveda. Acharya Charak clearly directs to collect information about known and unknown dravyas from forest dwellers, shepherds, tribes etc. Their serious studies may expand our knowledge of herbs.

Therefore, it is necessary to identify, name these plants and then analyse them scientifically in terms of Ayurvedic attributes, chemical compositions and therapeutics potentials and documented for future reference. [2]

Above all, it is our duty to keep introducing new dravyas in Dravyaguna Vigyan so as to maintain the everlasting feature of Ayurveda.

अनेनउपदेशेननानौषधिभूतंजगतधिधित्द्रव्यंउपलभ्यतेतांतां युक्तिमर्थंचततंतंअभिप्रेत्य। (च.सु.२६/१२)

There is no single drug in the universe, which is not Aushadha or which is useless. Every plant is useful for one or the other purpose. [3]

Methods for evaluating new drug and anukta dravya in ayurvedic pharmacopoeia

Field survey and documentation - Document indigenous uses of medicinal plants, collecting primary information about the anuktadravya through folklore and extensive study of literature [4].

Extensive study of literature - Review from Ayurvedic classical texts, Nighantus, of various medical databases like Pubmed, Dhara etc, related to Anukta Dravy.

Nomenclature - Naming to the plants as per criteria laid down by different Nighantus esp. Raj nighantu [5].

Authentication - Identification with the help of botanical and Pharmacognostical studies.

Dravya Pariksha Vidhias per Charaka Samhita- Acharya Charaka has given guidelines for drug standardization, which are as relevant in today's era too [6].

Evaluation of Rasapanchak- Evaluation of characteristics of Anukta dravya which contributed towards the biological actions such rasa (Taste), guna (Property), virya (Potency), vipaka (Metabolism) and prabhava (Specific action) in healthy volunteers.

Chemical analysis - Involves series of process of identification, quantification and separation of active constituents present in the plant.

Bio Assay - The Bio assays are performed by In Vitro and In Vivo methods to confirm Pharmacological actions, toxicity studies and or unexplored pharmacological activities

Toxicity studies in animals - Toxicological studies are carried out to confirm the Toxicity, Lethal dose, Therapeutic effective dose by animal experimentation

Clinical studies - Evaluation and validation of ethno botanical claims. To confirm safe and effective use of plants material for human being

Inclusion in Ayurvedic pharmacopoeia of India - After through research, there is need to inclusion of anukta drugs in pharmacopeia.

Challenges and solutions - Anukta drugs may provide the best combinatorial constituents and possibly has answers to all diseases of mankind. Research on anukta plants have provided numerous clinically useful drugs. Development of suitable formats, establishment of pre-clinical models and clinical studies are still a challenging task. Searching of new drugs involve a multi disciplinary approach combining botanical, ethnobotanical, phytochemical and biological techniques. Plants continue to provide us new lead molecules for the development of drugs against various pharmacological targets. Drug discovery from medicinal plants has traditionally been so time consuming, faster and better methodologies for plant collection, bioassay screening, compound isolation, and compound development must be employed. Innovative strategies to improve the process of plant collection are needed.

Conclusion - The diverse genetic resources and associated rich traditional knowledge available in India form the strong basis for searching new plant drugs. Proper utilization of these resources and tools in bio prospecting will certainly help in discovering novel lead molecules from plants by employing modern drug discovery techniques and the coordinated efforts of various disciplines. There is need for new approaches and integrative solutions.

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Evaluation Of Rasa Of Anukta Dravya Kukkutnakhi (Aspidium cicutarium L.) With The Help Of Rasa Pariksha Based On Rasa Lakshana And Taste Threshold Measurment Method

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Introduction : Any Dravya is used in treatment on the basis of it's rasa, guna,vipak, virya, and prabhav. Rasadi gunas are its functional properties. This properties acts various ways on dosha dhatu mala of body. So these are used for treating ailments and maintaining health of a person on the basis of samanya vishesh sidhant! And all dravyas available in Universe are having medicinal properties[3],some are mentioned in Ayurvedic Granthas and some are untold but are in use by traditional healers!

So multiple exotic plants exists in India which are not mentioned either in classical literature of Ayurveda (Samhitas, Nighantus or Ayurvedic texts are commonly referred as Anukta dravya (undocumented/ Extra-pharmacopeial)in Ayurveda. The complete description of such plants in terms of their some pharmacognostical characters, pharmacodynamics, phtochemical properties and rasa, vipak, virya, guna, etc. may not be available in Ayurvedic texts. Therefore it's a need of time to evaluate the Extra-pharmacopeial dravyas for Rasapanchak scientifically. But all gunas of every anukta dravya couldn't be evaluated but we can select these Anukta dravyas on the basis of determination of Rasa and as per Rasopadesh[2] Vipak and Virya can be understood! So it is necessary to evaluate Rasa of Anukta dravya on priority basis.

But only by Rasa lakshanas feel by volunteers are not helpfull to conclude the rasa as its a subjective criteria which depends on the Rasa perception by each individual which is having more bias interpretation of Rasa so the scientific method of Rasanirdharan i.e. taste threshold method established by Vd. Shivacharan Dhyaniji[4] and Rasa Measurement method established by Dr. Meenal Lad[5](L.M., 2012) are used to determine the unbiased interpretation of rasa of this anukta dravya.

Aim : -To evaluate the Rasa of Kukkutnakhi (Aspidium cicutarium L) the Anukta Dravya with the help of Rasa lakshanas and Taste threshold measurement method .

Objectives :- 1) To evaluate Rasanishpatti of Kukkutnakhi (Aspidium cicutarium L) with the help of Rasa pariksha based on Rasa lakshana.

2) To evaluate Rasanishpatti of Kukkutnakhi (Aspidium cicutarium L) with the help of taste threshold method

3) To estimate Anurasa of Kukkutnakhi (Aspidium cicutarium L) if any.

Hypothesis :- Rasa can be determined by Rasa Pariksha based on Rasa lakshana and Taste Threshold and Rasa measurement method

Material and Methods :-

Material :- 1) Coded sample as X of Dravya i.e. was used in this study whose rasa is not mentioned in any classical texts a) Sample X :- Rhizome of Kukkutnakhi (Aspidium cicutarium L)

2) Gas 3) Beaker 4) Distilled water (Taste less)
5) Cotton swabs 6) Dropper 7) Pot 8) Filter paper
9) Ten Volunteer for each sample 10) Spoon
11) Grinder 12) Thermometer 13) BP Apparatus
B) 10 Healthy Volunteers of same age group

Plan of study :- Study was completed in three parts
a) Literary Review b) Collection and authentication of sample c) Voluntary Research

a) Literary Review :- Detail information regarding Kukkutnakhi (Aspidium cicutarium L), Rasa and Anurasa were studied from following -

1) Vedic(Ayurvedic) literature
2) Medieval literature
3) Modern literature
4) Concern websites
5) Related research articles published by authentic Research Journals.

b) Collection and authentication of sample

Sample No.	Latin name	Place of collection	Date of collection	Place of authentic-Ation
Sample X	Kukkutnakhi (Aspidium-cicutarium L)	Bhimashankar forest	13/02/2014	Botanical Survey of India , Pune

C) Trial on volunteers :- It is a single blind experimental voluntary trial.

Criteria for selection of volunteers-

Inclusion criteria :- 1) Ten healthy volunteers of 20 yrs age, of irrespective of sex &Religion was selected for testing the taste of Anukta dravyas.

2) The volunteers having good perception of taste.

Exclusion criteria :- 1) The volunteers addicted by the things like pan or tobacco or cigarette or gutkha.

2) The volunteers having any mouth(taste) problems.

3) The volunteers having digestion problems

Voluntary Research was done in three steps

1) Preparation of decoction by scientific method mentioned in Sharangdhara amhita[6]

2) Rasa pariksha based on Rasa lakshana[7].

3) Taste threshold measurement method[4,5]

A) Method of preparing decoction (kwatha) :- For making decoction-raw drug 200gms Coarse powder of trial dravya(X) i.e. Kukkutnakhi (Aspidium cicutarium L), mixed with 3200 ml water and boiled till water level remains to 800 ml earlier and then decoction was filtered and used for test.

200gms + 3200ml —Heat→ 800ml

Churna + Water —Reduce→ Kwath

Rasa pariksha based on Rasa lakshana :- 1) Raw drugs was cleaned properly and freshly prepared decoctions of SampleX, given in an amount of 1 ml to 10 healthy volunteers.

2) Volunteers was informed to hold decoctions in mouth for 2-3min for better perception of taste.

3) The Estimation of Pramukh Rasa was done with the help of Rasalakshanas which are related to Rasanendriya only because Rasa is perceived by Rasanendriya only after its direct contact i.e. NIPATA. So the above procedure was adopted.

4) Taste for Rasa is dependant on the direct contact of Rasana (Nipat) it was decided that to give the each trial drug on different day.

Taste threshold method:-1) 200gms of Dravays was taken, Decoction of Dravays was obtained as per above mentioned method.

2) 10ml of concentrated decoction was taken & it was filtered with the help of filter paper in beaker.

3) This decoction was mixed in 100ml of distilled water and the prepared solution was kept unstirred for 30 min.

4) Each volunteer was given 1ml of solution for taste perception with the help of Dropper and was informed to hold it for 1min in mouth for better perception of taste.

5) The solution was gradually diluted by adding distilled water in amount of 10ml to 50ml & taste was recorded at different dilutions.

6) The point at which solution became tasteless was noted and further dilution was stopped.

7) End value obtained from dilution of solution was noted which was the taste threshold measuring point of Sample X.

Thorough volunteer trial, rasa lakshana and taste threshod end point i.e. dilution value were measured and all the observations were recorded in tabular form.

Criteria for assessment : 1) Direct contact of the rasa with the rasana (toungue) is expected here and this particular process of the contact is called as rasanpratyaksha (organolaptic) for any dravya to understand its rasa and as per analysis of the perception it can be determine the specific rasa and anurasa so lakshanas feel by volunteer is the subjective criteria. (as per CRF)

2) Taste threshold and measuring unit of the Kukkutnakhi (Aspidium cicutarium L)

Place For Research :- Laboratory of Dravyaguna Vidnyana department, P.D.E.A.'s College of Ayurveda and Research Centre, Nigdi, Pune.

Preparation of forms :- For this study a special proforma was prepared, consisting pages which includes the page of consent form of volunteers taking part in study, case record form, table in which Lakshanas of Six Rasa related to Rasanendriya are mentioned in tabular form, also textual meaning of these Lakshanas was mentioned for the knowledge of Volunteers.Permission of IEC was taken before starting the trials.

Observations and Result :- Thorough volunteer trial, rasa lakshana and taste threshod dilution value were noted. All the observations along with proper statistical method were recorded and necessary charts and graphs were generated.

Rasa Pariksha For Madhur Rasa:

Sample No	**Madhur**					Proportional Arrangement of Rasa Lakshanas	Proportional Arrangement of Rasa Lakshanas(%)
Lakshanas	Snehana	Prinana	Alahadan	Mardav	Lipta jivha		
Sample X	0	0	0	0	2	0.04	4%

This is table of lakshana of Madhur rasa shows shows 4% Madhur rasa is present in sample 1 that is Kukkutnakhi.

Rasa Pariksha For Amla Rasa:

Sample nos	**Amla**						Proportional Arrangement Rasa Lakshanas	Proportional of Arrangement of Rasa Lakshanas(%)
Lakshana	Danta-Harsha	Mukha-Strav	Mukha-Bodhan	Swedan	Asyakantha-Vidah	Akshibruv-Sankoch		
Sample X	0	1	6	0	0	0	0.11	11%

This is table of lakshana of Amla rasa shows shows 11% Amla rasa is present in sample X that is Kukkutnakhi

Rasa Pariksha For Lavan Rasa:

Sample No	**Lavan**				Proportional Arrangement of Rasa Lakshanas	Proportional Arrangement of Rasa Lakshanas(%)
Lakshanas	Mukhvidah	Shigharakledana	Shigharavishadan	Mardav		
Sample X	1	0	0	0	0.025	2.5%

This is table of lakshana of Lavan rasa shows shows 2.5% Lavan rasa is present in sample X that is Kukkutnakhi.

Rasa Pariksha For Katu Rasa:

Sample No	**Katu**				Proportional Arrangement of Rasa Lakshanas	Proportional Arrangement of Rasa Lakshanas(%)
Lakshanas	Mukhvidah	Toda	Nasasrava	Akshisrav		
Sample - 1	2	2	0	0	0.05	5%

This is table of lakshana of Katu rasa shows shows 5% Katu rasa is present in sample X that is Kukkutnakhi

Rasa Pariksha For Tikta Rasa:

Sample No	**Tikta**			Proportional Arrangement of Rasa Lakshanas	Proportional Arrangement of Rasa Lakshanas(%)
Lakshanas	Mukhvaishadya	Mukhshosh	Pralhad		
Sample 1	7	8	0	0.5	50%

This is table of lakshana of Tikta rasa shows shows 50% Tikta rasa is present in sample X that is Kukkutnakhi.

Rasa Pariksha For Kashay Rasa:

Sample No	**Kashay**				Proportional Arrangement of Rasa Lakshanas	Proportional Arrangement of Rasa Lakshanas(%)
Lakshanas	Vaishadya	Stambha	Jadya	Kanthbadhnativ		
Sample X	6	5	8	7	0.65	65%

This is table of lakshana of Kashay rasa shows shows 65% Kashay rasa is present in sampleX that is Kukkutnakhi.

Taste Threshold Chart : Chart showing Taste Threshold measurement Values for SampleX

The Basic Statistics like Mean, Standard Deviation & Confidence Interval Values are calculated for each sample at the end of the table.

The Confidence Interval is taken as 95%.

No. Of Volunteers	Sample 1
1	1730
2	1700
3	1780
4	1860
5	1755
6	1850
7	1810
8	1740
9	1765
10	1860
Avg. Taste Threshold Value	1785
Standard Deviation	57.4

The Average Threshold value of Kukkutnakhi is 1785.,With 95% Confidence Interval, the Confidence limits are (1743.9, 1826.1) which denotes the presence of Kashay as Pradhan Rasa and Tikta as Anurasa.

Graphical Presentation For Each Dravya :

X-axis: Shadrasa

Y-axis: Percentage for each Rasa.

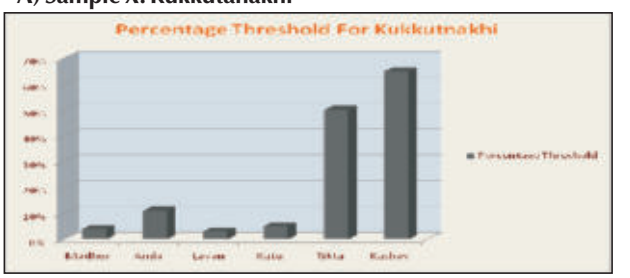
Result :-

The percentage of Rasa Lakshanas which was obtained by Volunteers are tabulated in the following table.

Results in Percentage

	Madhur	Amla	Lavan
Sample X	4%	11%	3%
	Katu	Tikta	Kashay
Sample X	5%	50%	65%

A) Sample X: Kukkutanakhi



Determination of PRADHAN RASA: As per the observations of Rasa Parikshan from Rasa Lakshanas, it is found that,5 volunteers presented the symptom of 'Vaishadya', 4 volunteers presented the symptom of 'Stambha', 7 volunteers presented the symptom of 'Jadya', 4 volunteers presented the symptom of 'Kanthbadhnativ' .

So the proportional arrangement of Rasa lakshana according to statistical analysis is 65% for Kashay Rasa. This value is more than any other Rasa. So it can be said that according to statistical analysis, Kukkutnakhi has consist of Kashay as its Dominant(Pradhan) Rasa

Determination of ANURASA: It shows 50% proportional value for Tikta, 11% for Amla, 5% for Katu, 4% for Madhur, 3% for Lavan; as other values are not significantly proved their relative rasa's presence in Kukkutnakhi except Kashay (highly significant) and Tikta (Significant) so it can be said that Tikta Rasa isAnurasa for 'Kombatnakhi Kukkutnakhi'.

Taste Threshold:

The Threshold value of Kukkutnakhi is 1785.

With 95% Confidence Interval, the Confidence limits are (1743.9, 1826.1) which denotes the presence of Kashay as Pradhan Rasa.

Discussion : Evaluation of rasa of anukta dravya with help of Rasapariksha based on rasa lakshana and Taste threshold Method was conducted by collecting sample of Kukkutnakhi from Bhimashankar Forest.

The volunteers during rasapariksha based on rasa lakshanas after holding kwath was hold in mouth for 2 3 min. and specific lakshana felt were marked on proforma prepared for research work and these marked lakshana has been considered for analytical work.

Kashaya rasa of the Kukkutnakhi was dominant, as stambha and vaishadya which are the actions of Kashaya rasa were seen prominently in most of the volunteers. It was followed by 50% lakshanas of Tikta rasa that are Vaishadya and shosh had seen because of it's vata vitiation properties(Laghu and Ruksha), so it can be said that Tikta as anurasa of Kombadnakhi.

The average threshold value of Kombadnakhi is 1785, with 95% Confidence Interval, the confidence limit are 1743.90 1826.1 which denotes the Kashay as Pradhan rasa.

As each dravya composed of panch mahabhautik compositionhence it contains all six rasa in tartamatwa bhava so few volunteers felt different rasa during rasa pariksha based on rasa lakshana[8].

Taste threshold measurement method is based on organoleptic parameter which is subjective it

creates volunteer bias but it is the only method to evaluate rasa of any dravya so it is need to form new technique as objective parameter to overcome this bias.

This research work proved that rasanishpatti of any anukta dravya and it is helpful to add the Anukta dravyas in nighantu.

Conclusion : The main rasa perceived by volunteers based on rasa lakshana and taste threshold method is Kashaya and Tikta is anurasa of Kukkutnakhi

Average taste threshold value of Kukkutnakhi is 1785 Units Kashya.

Limitation : Same study could be performed on more number of volunteers from various other localities and communities for better results.

Taste threshold method is based on organoleptic parameter which is subjective it creates volunteer bias but it is the only method to evaluate rasa of any dravya so it is need to form new technology to form objective parameter to overcome this bias.

Further Scope Of Study : The present study is about rasa nishpatti only, study of Vipak , Virya , Prabhav and Karma is also necessary for further scope.

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Dravyagunavijnan In Mahakashayas Of Charak Samhita

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The accurate diagnosis and apt selection and appropriate implementation of treatment modules, is a key to success in Ayurvedic Practice. This confidence in practice requires a profound foundation of thorough knowledge of Nidan, Dravyas, Bhaishajya Kalpana etc.

There are always multiple ways to study a particular subject and studying the specific topic in various ways leads to the deeper understanding of the subject. This must be a continuous and lifelong process. It surely gradually proves beneficial for the clinical practice.

The most prevailing way among students of B.A.M.S. course is to study the subjects as per the syllabus of the course which is very much obvious and necessary. However, as an Ayurvedic Physician he or she must keep on exploring another ways to study as well.

Studying the Dravyas from Nighantus is also a commendable way. However the Nighantus also are like Text Books of Dyavyaguna vijnan when compared to Ancient Classical Texts. Samhitas i.e. the Ancient Classical Texts are the reference Books with a vast knowledge hidden in them. Charak Samhita is the foundational Ancient Classical Text among them.

The fourth chapter in Sutrasthana of Charak Samhita named Shadvirechana-Shatashritiya and the fifty Mahakashayas incorporated therein is a treasure to study Dravyas for Scholars of Dravyaguna vijnan and Ayurvedic physicians.

Composition of Sutrasthana of Charak Samhita is peculiar. It contains 30 chapters divided in 7 Catuskas along with 2 Samgrahadhayay to complete it. Chatushka means a group of four. Each Chatushka is having four Chapters in it.

The first one is Bheshaja Chatushka. It's pretty clear from the name itself that this first Chatushka i.e. Bheshaja Chatushka imparts some knowledge about medicines.

Bheshaja is Karana - Before undertaking any venture a thorough examination should be

performed. Wise people commend initiation of all actions with prior knowledge.

ज्ञानपूर्वकं हि कर्मणां समारम्भं प्रशसन्ति कुशलाः। च. वि. ८/६८

This examination should be done with ten points stated in the eighth chapter of Vimanaasthana of Charaka Samhita. Kaarana, Karana, Karyayoni, Karya, Karyaphala, Anubandha, Desha, Kala, Prakruti, Upaya are the ten points. Karana is one of them. Kara?a means the instrument which serves as an equipment for the doer making effort for performing the action.

करणं पुनस्तद् यदुपकरणायोपकल्पते कर्तुः कार्याभिनिवृतौ प्रयतमानस्य ।। च. वि. ८/७०

Dhatusamya is the Karya (aim) for Ayurveda scholars and physicians. Actions taken for establishing Dhatusamya is the purpose of Samhita (Tantra).

.....कार्यं धातुसाम्यमिहोच्यते। धातुसाम्यक्रिया चोक्ता तन्त्रस्यास्य प्रयोजनम् ।। च. सू. १/५३

Bheshaja is the Karana i.e. instrument for the physician making efforts for establishing Dhatusamya.

करणं पुनर्भेषजम् । भेषजं नाम तद्यदुकरणायोपकल्पते भिषजो धातुसाम्याभिनिर्वृतौ प्रयतमानस्य । च. वि. ८/८७

Obviously, getting some knowledge about this Karana (instrument) in the beginning of the Samhita is important. It helps a student to develop interest in the subject and encourage further studies.

Hence Bheshaja Chatushka finds the first place in the Sutrasthana.

Antah-parimarjana Bhashaja and Bahih-Parimarjana Bheshaja have been included in Apamargatanduleeya and Aragvadheeya adhyayas, the second and third chapters respectively in Bhashaja Chatushka. The remaining unspoken and much needed Ubhay-Parimarjana Bheshaj has been prescribed in the fourth chapter i.e. Shadvirechanashatashriteeya.

The topics and sub-topics included in Shadvirechanashatashriteeya are -

Shad-virechanashata 600 formulations useful for Vaman and Virechana are only enlisted. The elaborate detailing is in the Kalpasthana.

Shad-Virechanashraya-Ksheera (exudate), Mula (Root), Twak (Bark), Patra (Leaf), Pushpa (Flower) and Phala (Fruit) are the six part of plants useful for preparing formulations for initiating Vaman and Virechana

Pancha Kashayayoni - MadhurKashay, Amla Kashay, Katu Kashay, Tikta Kashay, Kashaya Kashay.

Panchavidha Kashaya Kalpana Swaras, Kalka, Shruta, Sheeta, Phant.

Panchashat Mahakashay Fifty Mahakashayas.

Pancha Kashaya Shata Five hundred Kashayas. It is necessary to know the appropriate meaning of the scientific terms like Kashaya and others for better understanding of the topic.

Kashay - Madhur etc. Rasas are called Madhur Kashaya, AmlaKashay etc. However, in the real sense the substances where these Rasa are inherent are the Kashayas. The dravyas like Shatavari, Draksha, Chitrak, Ananta etc. are the Kashayas in true sense.

पञ्चकषायशतानीत्यत्र कषायशब्देन मधुरादीनां लवणवर्ज्यानां रसानां कषायत्वेन परिभावितानामाश्रयत्वेन औषधद्रव्यमुच्यते। सूत्र ३ आयुर्वेददीपिका

Kashaya yoni - Kashaya yoni means type of Kashaya. Madhura, Amla, Tikta, Katu, Kashaya are the types of Dravyas i.e. Kashayas. The same are called Kashaya yoni. Lavana Kashaya is not incorporated in here for some reasons.

कषाययोनय: कषायजाताय:। सूत्र ३ आयुर्वेददीपिका

Kashay Kalpana - Processing the Kashayas i.e. the Dravyas where Madhura etc. Rasas are inherent is Kashay Kalpana. This processing is done to prepare formulations useful for treatment purpose.

कषायाणां यथोक्तद्रव्याणां कल्पनमुपयोगार्थं संस्करणं कषायकल्पनम् । सूत्र ३ आयुर्वेददीपिका

Mahakashay - A group of ten Kashayas (Dravyas or medicines) serving the same purpose is named as Mahakashay. Such fifty Mahakashayas are illustrated in the Chapter. Obviously, each Mahakashay contains ten medicines. If each medicine is separately counted it makes five hundred Kashayas.

महाकषाया इति

दशसंख्यावच्छिन्नस्यैककार्यकरणार्थोपात्तस्यौषधगणस्य संज्ञा। आयुर्वेददीपिका

Some important guidelines for thorough study of the Mahakashyasin the view of Dravyaguna vijnanare as follows -

1) The Mahakashayas are prescribed for defining (Lakshan) and illustrating (Udaharan). Lakshana is understood by the purpose achieved by or the work performed by all the Dravyas included in the particular Mahakashay. Jeevan Karma is achieved by all the Jeevak etc. ten dravyas. Hence Jeevaniya i.e. being beneficial for Jeevan is the Lakshana understood by their function.

2)The Maha kashayas are mentioned in Sutrasthana. The concise topics in Sturasthana are connected to Chikitsasthana, Kalpasthana, Siddhisthana etc. where one can find the detailed elaboration. The topics in Sutrasthana should be

studied in connection with the other sthanas. Each and every Dravya included in Mahakashayas should be studied in the same way.

3) These Maha kashayas are just examples. These groups of ten Dravyas are not specific combinations (Yoga) or formulations prescribed, taking in to consideration Synergy or antagonism or Prakruti-sama-samvetatva and Vikruti-Vishama-Samavetatva etc. factors. Hence the ten Dravyas altogether are not expected to be used for achieving the specific purpose as the result or the effect can't be predicted. However such a prediction about some Mahakashayas is possible and they are used in clinical practice in the form of Churna, Vati (Tablets), Siddha Tail, Siddha Ghruta etc. e.g. Jeevaneeya, Lekhaneeya, Varnya etc. It is not possible with some Mahakashayas like Kushthaghna, Stanyashodhan, chardinigrahan etc.

4) When used separately each and every Dravya from these Mahakashayas is capable of performing the action or achieving the purpose expected in the particular Mahakashay. Hence, it is said that five hundred Kashaya are incorporated in Fifty Mahakashayas.

5) Hence study of each Kashaya i.e. the Dravya with regards to Guna, Karma, Prabhav, action in various ailments, specific conditions, with respect to Kala, Bala, Prakruti etc., along with its formulations and the actual implementation in clinical practice is of utmost importance.

6) A comparative study of the Dravyas in the Mahakashayas with each other with regards to Rasa, Veerya, Vipak, Karma etc. is also an important tool to understand the Dravya and the Karma thoroughly.

7) An extensive study of the references in Samhitas of use of these Kashayas (Dravyas) singly or in combinations of two or three or five etc. with respect to disease, Kala, Bala etc. should be carried out. Analysis of the huge data will certainly be a guide to precise use of these Dravyas in clinical practice.

8) The number 'TEN' of the Kashayas i.e. the Dravyas in each of the Mahakashay is neither very big nor very small. Too much expansion or too much conciseness has been avoided while illustrating.

9) Proper knowledge of the ten Dravyas included in each Mahakashay is enough for the Vaidyas who are not very intelligent. Thus number suffices the requirements is day to day clinical practice for them.

10) However intelligent Vaidyas should not limit themselves to whatever is prescribed in the Samhitas. They are capable and are expected to expand it with the help of their talent. In this case of Mahakashayas for example, they can, taking in to consideration the Gunas of the Dravyas in the Mahakashay, add to the number. Also, they can think and form new Mahakashayas like Atisarhar, Vatashaman, Pittashaman Mahakashaya etc.

11) It is said that five Hundred Kashayas are incorporated in Fifty Mahakashayas. However the number five hundred does not fulfil as it is observed about some Dravyas that they are mentioned in more than one Mahakashay. Hence, the actual number is less than five hundred. The answer to this contradiction is given by Revered Sage Atreya. The same Dravya gets various names when it is doing various functions. Hence it should be counted separately. Thus, it completes the number i.e. five hundred Kashayas. It is important to note that the same Kashay (Dravya) is capable of performing these various functions with the same efficiency.

12) It is important to remember that the fifty Mahakashayas and five hundred Kashayas are mentioned in Sutrasthana. As stated earlier knowing them only from Sutrasthana cannot be sufficient for clinical implementation. For being a good Physician it is important to know the appropriate selection and designing various combinations or formulations, implementation in clinical practice considering Bala, Kala, Prakruti etc. factors, appropriate internal and external implementation etc. This can be achieved by extensive study of these Mahakashayas and Kashayas with respect to other sthanas and a huge clinical experience.

तेषां कर्मसु बाह्येषु योगमाभ्यन्तरेषु च । संयोगं च प्रयोगं च यो वेद स भिषग्वरः ।। च. सू. ४/२९

बाह्येषु प्रलेपादिषु, आभ्यन्तरेषु वमनपाचनादिषु।
संयोगं द्रव्याणामुचितं मेल (कं) नं ।
प्रयोग कालप्रकृत्याद्यपेक्षया योजना। सूत्र २९ आयुर्वेददीपिका

In some traditions the students are made to remember the Mahakashayas by heart. This method is certainly helpful in the practice. However studying the Mahakashayas in the abovementioned way and implementing in clinical practice accordingly makes the knowledge stable. Patha, Avabodha and Anushthana are the three ways or steps to get the long lasting knowledge.

Now, a study based on abovementioned points about one of the Mahakashayas will be put forth as an example in brief -

Deepan Mahakashay -

पिप्पलीपिप्पलीमूलचव्यचित्रकशृङ्गवेराम्लवेतसमरिचाजमोदाभ ल्लातकास्थिहि हिङ्गुनिर्यासा इति दशेमानि दीपनीयानि भवन्ति

॥ च. सू. ४९ (६)

Pippali, Pippalimula, Chavya, Chitrak, Shrungavera, Amlavetas, Marich, Ajamoda, Bhallatakasthi, Hinguniryas, are the ten (Dravyas) which are Deepaniya.

Deepan Karma - It is necessary to understand Deepan Karma with all its aspects in details before discussing Deepan Mahakashay. However Deepan Karma is not the main subject of this article. Hence a very brief review about Deepan Karma is taken here.

Important points worth considering in this regard are as follows - Agni is the basis or source of Life, Complexion, Strength, Health, Energy, Nutrition of the body, Ojas, the body heat, and other Agnis. The death is sure if the Agni ceases. A person lives a long life if Agni is maintained well. The impaired or defiled Agni becomes a cause of Diseases.

Agni is basically of three types; Jatharagni (1), Dhatvagni(7) and Panchabhautik (5) Agni. The Jatharagni i.e. the fire which digests food is the Supreme among them. The Dhatvagni and Bhautik Agni are dependent on the Jatharagni. If the Jatharagni is kindled they also get kindled and if the Jatharagni is diminished they also diminish.

अन्नस्य पक्ता सर्वेषां पक्तृणामधिपो मतः। तन्मूलास्ते हि तद्वृद्धिक्षयवृद्धिक्षयात्मकाः ॥ च. सू. १५ ३९

The impairment of Agni is grossly of two types; Agnimandya (Diminished fire) and Ati Deepta Agni (Excessively ignited fire). Agnimandya (Diminished Agni) can become the cause of most of the diseases or Agnimandya can be there at some stage in the course of disease. In clinical practice the physician has to treat Agnimandya much more often than Ati-deept Agni. These facts underline the importance of understanding Deeepan Karma appropriately.

The range of means or ways for Deepan Chikitsa is very broad. The mean for Deepan must be selected in accordance with the cause of Agnimandya.

It is not possible owing to the word limit of the article to put forth elaborate discussion about each and every Kashay (Dravya) from the Deepan Mahakashay. Hence one of the ten Dravyas is selected as an example -

Hinguniryas - Hingu is mentioned in other two Mhakashayas; Shwasahar and Sanjnasthapan.

Hingu is the best performing actions viz. chedan, Deepan, Anuloman, and pacify Vata and Kapha.

हिङ्गुनिर्यासश्छेदनीयदीपनीयानुलोमिकवातकफप्रशमनानां श्रेष्ठः। च. सू. २५/४०

Rasa - Katu Vipak - Katu Veerya - Ushna. Gune - Laghu, Ruksha. Action on Doshas - Pacify Vata and Kaph, Vitiate Pitta

Karma - chedan (Cutting), Vibandhaghna (Breaking Obstruction), Deepan (Kindling Agni), Pachan (Digestive), Rochan, Shulaprashaman (alleviate pain), alleviates Anah

From the references about Hingu from the Classical Texts it is observed that Hingu is mainly prescribed in various formulations in Atisar, Arsha, Grahani and Gulma.

Atisar, Arsha and Grahani most of the times become a cause of each other. They originate when then Agni is diminished and never arise if the Agni is well kindled. This is true with Gulma also.

अर्शोतिसारग्रहणीविकाराः प्रायेण चान्योन्यनिदानभूताः। सनेऽनले सन्ति, न सन्ति दीप्ते रक्षेदतस्तेषु विशेषतोऽग्निम् ।।
अ, ह्. चि. ८/६४

Thus, Deepan Chikitsa is most important in the treatment course of these diseases.

Hingu along with other medicines including the dravyas from Deepan Mahakashay is prescribed in various combinations and formulations in the treatment course of these diseases.

Atisar - Prescribed in Vataj, Kaphaj and Vatakaphaj Atisar. Churnas prescribed to be consumed apt anupan or as a condiment while preparing Yavagu, Vilepi, Khada, Yusham Mamsarasa, Odan and various other food recipes.

Purpose or expected functions - Agni Deepan, Pachan, Pacifying Vata and Kapha, Shulaprashaman (alleviating abdominal pain), Rochan (enhancing taste in mouth).

Arsha - Prescribed in Vatakaphaj Arsha. Churnas are prescribed to be consumed with hot water or Liquor or Takra (Buttermilk). Some combinations (Yogas) of medicines containing Hingu are prescribed to be used as condiments while preparing Mamsarasa (meat soups), Shaka (Vegetables),Yusha, Rice and other food recipes used as Vyanjana. Hingu is one of the ingredients of some Ksharas like Hingvadi Mahakshara.

Purpose - Medicines or food items or drinks or other means by which obstructions are broken, Vata is made to flow in appropriate direction (Anuloman), which kindles the digestive fire should be consumed or used or followed regularly by the patient of Arsha. Obviously, Hingu becomes a drug of choice owing to its attributes and functions.

यद्वायोरनुलोम्याय यदग्निबलवृद्धये। अन्नपानौषधद्रव्यं तत् सेव्यं नित्यमर्शसैः ॥ च. चि. १५/२४७

भित्वा विबन्धमनुलोमनाय यन्मारुतस्याग्निबलाय यच्च। तदन्नपानौपषधमर्शसेन सेव्यं, विवर्ज्यं विपरीतमस्मात् ।।
अ. ह. चि. ८/१६३

Grahani - Pescribed for Vtaj and Kaphaj Grahani. Churna, Siddha Ghruta, Siddha Taila, Gutika (tablets), Kshara are the formulations prescribed. Some combinations (Yoga) are prescribed to be used for preparing recipes light to digest viz. Yavagu, Vilepi etc..

Purpose - Grahani is the disease arising on account of defiled Agni. Hence Kindling the Agni (Agni Deepan) and then strengthening it is of prime importance in the treatment course. The abovementioned formulations containing Hingu used aptly fulfil the purpose.

Gulma - Prescribed for Vataja and KaphajGulma. Formulations are Siddha Ghruta, Churnas, Gutika etc. The Churnas are prescribed for the use in various recipes as condiments. The Churnas and Gutikas prescribed for Vataj Gulma are prescribed to be used for Kaphaj Gulma with doubled quantity of Kshara, Hingu and Amlavetas.

Purpose - Gulma increases when Agni is diminished and decreases or alleviates when Agni is well ignited.

मन्देऽग्नौ वर्धते गुल्मो दीप्ते चाग्नौ प्रशाम्यति ।। च. चि. ५ ११२

Hence Hingu and other Deepan Dravyas are prescribed.

Gulma is the accumulation of Doshas in the form of a tumour. Hence chedan, Bhedan and Anuloman treatment is required. Hingu is capable of cutting and penetrating. It is Vataanuloman. These attributes and functions are required more in Kaphaj Gulma. Hence the quantity of Hingu, Kshara and Amlavetas needs to be doubled.

Various Combinations of Dravyas in Deepan Mahakashay as they appear in the Classical Texts -

Trikatu - Shunthi, Pippali and Marich together

Panchakol - Pippali, Pippalimul, Chavya, Chitrak and Shunthi together

We get lots of references of Trikatu and Panchakol used separately and in various formulations in Classical Texts. Chaturushan (Trikatu along with Pippalimula) and Shadushan (Panchakol along with Marich) are mentioned in Nighantus.

However there are, in the Classical Texts, many other combinations of Dravyas from Deepan Mahakashay where 2 or 3 or 4 or moreare put together. **For example -** In the treatment course of Arsha when Agni is diminished and there is pain and oedema at anus various combinations and formulations are prescribed.

Chitrak with Shunthi should be consumed with Sidhu (Liquor prepared from Sugarcane Juice).

सनागरं चित्रकं वा सीधुयुक्तं प्रयोजयेत्। च. चि. १४/६८

Takra- Tarpana containing Chavya and Chitrak should be offered to the patient.

दधित्थबिल्वसंयुक्तं युक्तं वा चव्यचित्रकैः। भल्लातकयुतं वाऽपि प्रदद्यात्तक्रतर्पणम् । च. चि. १४/६९-७०

Chitrak, Hapusha and Hingu should be mixed with Takra as a remedy.

चित्रकं हपुषां हिङ्गुं दद्याद्वा तक्रसंयुतम्। च. चि. १४/७१

Hingu, Ajamoda, Trikatu, and Chitrak along with other medicines are the ingredients of Hingusauvarchaladya Ghruta prescribed in the treatment of Vataj Gulma. It alleviates pain, Anah, and of course is Agni Deepan.

हिङ्गुसौवर्चलाजाजीबिडदाडिमदीप्यकैः।

पुष्करव्योषधन्याकवेतसक्षारचित्रकैः।।

शटीवचाजगन्धैलासुरसैश्च विपाचितम्।

शूलानाहहरं सर्पिर्दध्ना चानिलगुल्मिनाम्।।च.चि.५/६९-७० (वातजगुल्म)

Many other such references can be gathered and many such formulae can be designed as per the requirement of the condition.

Formulations of Dravyas from Deepan Mahakashay mentioned in the Classical Texts (Esp Charak Samhita) - One can get abundant references of the basic formulations i.e. Panchavidha Kashaya Kalpana and the advanced and complex formulations derived from the basic formulations in which Dravyas from Deepan Mahakashay are used.

Various formulations prepared from one or two or three or four etc. Dravyas from Deepaniya Mahakashay combined together which are prescribed in Samhitas are as follows - Avaleha, Churna, Gutika, Khala, Kshara, Siddha Mamsarasa, Siddha Odan, Shadav, Shaka, Siddha Jala (Paneeya), Siddha Ghruta, Siddha Tail, Takrakalpa, Vilepi, Vyanjana, Siddha Yamakasneha, Yavagu, Yusha. The precision is there in Samhitas while prescribing them with regards to the disease, the condition and the variables related to the patient. The Physician after a thorough study can choose appropriately taking in to consideration these factors.

The Kashayas (Dravyas) from Deepana Mahakashay appearing in other Maha kashayas -

Pippali - Kanthya, Truptighna, Asthapanopag, Shirovirechanopag, Hiccanigrahan, Kasahar, Sheetaprashaman, Shulaprashaman.

Pippalimul - Shulaprashaman

Chavya - Truptighna, Arshoghna, Shula prashaman.

Chitrak - Lekhaneeya, Bhedaneeya, Trupti ghna, Arshoghna, Shulaprashaman.

Shrungavera - Truptighna, Arshoghna, Stanya shodhan, Trushnanigrahan, Sheeta prashaman, Shulaprashaman.

Amlavetas - Hrudya, Shwasahar.
Maricha - Krimighna, Shirovirechanopag, Shula prashaman.
Ajamoda - Shulaprashaman.
Bhallatakasthi - Kushthaghna, Mutra sangrahaneeya (Bhallatak).
Hinguniryas - Shwasahar, Sanjnasthapan.

Any Dravya when employed is most of the times expected to serve more than a single purpose. It is implemented in a specific condition for multiple causes. For example - Pippalimula is Deepan. It is Shulaprashaman as well. Also it is a best remedy for Anah caused by Ama and accompanied by Agnimandya. Hence, it can perform multiple functions very much efficiently at the same time viz. Deepan, Pachan, Anaha Prashaman and Shula prashaman.

पिप्पलीमूलं दीपनीयपाचनीयानाहप्रशमनानां श्रेष्ठम्। च. सू. २५ ४०

In the treatment course of Arsha when the Agni is lowered and there is pain and oedema at anus a specific Churna is prescribed. It is a remedy for Arsha, Grahani, Shula (Pain in abdomen) and Anah. It Kindles the Agni (Digestive fire) and alleviates pain and oedema at anus.

गुदश्चयथुशूलार्तं मदन्दग्नि पाययेत्तु तम्।
त्र्यूषणं पिप्पलीमूलं पाठां हिङ्गु सचित्रकम्।।
सौवर्चलं पुष्कराख्यमजाजीं बिल्वपेशिकाम्।
विडं यवानीं हपुषां विडङ्गं सैन्धवं वचाम्।।
तिन्तिडीकं च मण्डेन मद्येनोष्णोदकेन वा।
तथाऽर्शोग्रहणीदोषशूलानाहद्विमुच्यते।। च. चि. १४ ६२-६४

Thus it is important to know in which multiple Mahakashayas the Dravyas are mentioned and the other attributes and functions of it.This helps us to understand better how the formulae in the Classical Texts are designed with highest accuracy. Also this gives us the guidance about implementation of Dravyas and designing formulae with precision in clinical practice. Many important points like comparative study of the Kashayas in the Deepan Mahakashay couldn't be covered here owing to the word limit of the article.

However, the aim of the article is to bring forth different ways of studying the Dravyas and understanding Dravyas thoroughly. One of such a ways is studying the Mahakashayas. It is illustrated here. Hopefully, the article throws some light in this regard and it would be helpful to the scholars of Dravyagunavijnan and Ayurveda and Ayurvedic Physicians.

References - 1) CHARAKA SAMHITA with the AYURVEDADIPIKA commentary by Chakrapanidatta, Edited by Vaidya Yadavji Trikamji Acharya, Publication Chaukhamba Surabharati Prakashan, Reprint and Edition - 2013.
2) ASHTANGAHRUDAY by Vagbhat with SARVANGASUNDAR and AYURVEDARASAYAN commentaries, Edited by Pt. Hari Sadashiv Shastri Paradakar, Publication - Chaukhamba Surabharati Prakashan, Reprint and Edition -2011.

कालो भेषजयोगकृत्।

वैद्य सौ. योगिनी पाटील, सहयोगी प्राध्यापक, रसशास्त्र विभाग, टिळक आयुर्वेद महाविद्यालय, पुणे

प्रस्तावना– कालो हि भेषजस्य योग्यतामादधाति। इस (अ.सं. सू. २३) आप्तवचनके अनुसार भेषज इस चिकित्सा चतुष्पादके प्रमुख अंगकी योग्यता निश्चित करनेमें 'काल' इस द्रव्य का महत्त्वपूर्ण योगदान है। संक्षेपमें 'काल' का विचार किस संदर्भ किया जाता है यह निम्न सारणीमें दर्शाया है।**(तक्ता १ देखिए)**

उपरोक्त प्रत्येक काल की सोदाहरण महत्ता प्रतिपादन अलग अलग विस्तृत 'लेख'का विषय है। सांप्रतके लेख में प्रथमतः कालविचार के संभव्य अवसर एकत्रित प्रस्तुत किये है।

मूलद्रव्य संग्रहकाल– आवाहनपूर्वक वनस्पती के प्रयोज्य अंग का समंत्रक उत्पाटन करनेकाभी विशिष्ट काल ग्रंथोमें वर्णित है । कुछ उदाहरणोंसे इस विचारकी व्यापकता स्पष्ट होगी।

* वर्ष– कार्पासमूल – ३ साल पुराना
* दिन – अर्कस्नु ही इनका क्षीर – प्रातः काल
* मास – आमलकी कृष्णचतुर्दशी
* वार – अपामार्गजटा कटिबंधन रविवासरे
* नक्षत्र – निशोत्तर मूल पुष्यनक्षत्रमें संग्रह
* ऋतु – शरद – सर्वकार्यार्थ, विरेकवमनार्थ – वसंतान्ते संचयकाल, शाखा – पत्र – वर्षा, वसंत, मूल – ग्रीष्म, शिशिर, सार – हेमंत

सवीर्यतावधि ध्यानमें रखतेहुए भेषजागारमें संग्रह/संचयका कालावधि निर्देशित किया गया है।

औषधि निर्माण प्रक्रिया – मूल द्रव्योंसे कल्पोंकी निर्मिती अनेक संस्कारोंके द्वारा की जाती है। शोधन संस्कारमें कितने समयतक स्वेदन, मर्दन, स्थापन आदि क्रिया करनी है इसका पूरा ध्यान रखना जरुरी है। जैसे सुधावर्ग के द्रव्योंका शोधन अम्लद्रव्योंके रसाक्वाथमें एक यास करनेका विधान है। भावना देते वक्तभी कालनिर्दिष्ट किया है। उदा पंचवक्त्र रस कल्प के लिए सात दिन. सूतशेखर रस के लिए भृंगराज रस की एक दिन भावना का निर्देश है। हिम कल्पनाके निर्माणमें रातभर जलमें द्रव्यके स्थापन का विधान है। औषधि कल्पनाके सिद्धि लक्षणोंकाभी विशिष्ट काल है। निर्मित रसयोगोंके एवं भैषज्य कल्पनाओंके सवीर्यतावधि निश्चित करते वक्त कालमर्यादा का विचार सूक्ष्मता से किया गया है।

अग्निप्रदानमात्रा एवं काल कें कतिपय उदाहरण–

- छर्द्यन्तक रस (यो. र.) – ३ प्रहर
- श्रीराज रस (भै. र.) – ४ प्रहर
- मृगांक रस (र. चंडांशु) – १० प्रहर
- अग्निकुमार रस (र. र. स.) – देढ दिन
- सर्वांगसुंदर रस (रसकामधेनु) – ४ दिन
- कामाग्निसंदीपन रस (भै. र.) – ६ दिन

कल्पस्थापन एवं काल –

- चतुर्भुजरस – धान्यराशिमें ३ दिन स्थापन (र. यो. सा.)
- मृगांकरस – जलाशयमें स्थापन – २ दिन (भा. मै. अ.)
- आमलकावलेह – भूमिमें स्थापन – १ वर्ष (चरक) पुराणघृत, महापुराण घृत, पैशाचिक घृत – घृतके दीर्घकाल स्थापनसे प्राप्त होते हैं।

औषधिसेवन काल – ● रोग की अवस्था नुसार – ज्वर के ५ वे दिन, ७ वे दिन ● कल्प के अनुसार विशिष्ट कालावधितक –१ मंडल सेवन– ४२ दिन ● वया नुसार योग्यता – नस्य ७ वर्ष के पूर्व ८० वर्ष आयुपश्चात् निषिद्ध ● सेवन का विशिष्ट काल निम्नोक्त सारणी–**(तक्ता २ देखिए)**

कल्प एवं सेवनकाल नियम – १) खनिज – अम्लरसात्मक – भोजनके पूर्व २) आमाशय शामक औषध – प्रातः रिक्तकोष्ठ ३) पाचक – भोजनोत्तर ४) दीपक – भोजनपूर्व ५) लोहयोग – भोजनोत्तर ६) अनुलोमन – भोजनोत्तर १–२ घंटोंके बाद ७) परिणामशूलहर औषध – सामुद्र काल ८) रेचन – प्रातःकाल ९) निद्राजनन – निद्रापूर्व आधा घंटा

सेवनकालकी विशिष्टता एवं कल्प – कतिपय उदाहरण

* अभक्त (निरन्न) – त्रिफला रसायन, गुडुच्यादि क्वाथ, महाकल्याणक वटी, नाराचचूर्ण, गुडभल्लातक
* प्राग्भक्त – स्फटिकाचूर्ण (प्रमेह) नाराचचूर्ण, (आनाह)
* मध्ये भक्त – धात्रीलोह (शूल) अविपत्तिकर चूर्ण (अम्लपित्त)
* अधोभक्त – हरीतकी, माषतैल (वातव्याधि) क्रव्याद रस
* अन्तराभक्त – शिलाजतु प्रयोग (प्रमेह) रसेंद्रवटी (मुखरोग) * सभक्त – अमृताद्य घृत (अम्लपित्त) मंडूरप्रयोग (पांडू)

(तक्ता १)

काल

मूल द्रव्य	**औषधि निर्माण**	**चिकित्सा**	
● औषधि संग्रहकाल	● शोधनादि प्रक्रिया कालावधि	● क्रिया काल –	● औषधि सेवन काल
● संचय काल	● निष्कासन काल		* दिनावेक्ष * रुग्णावेक्ष
● सवीर्यतावधि प्रक्रिया	● अग्निप्रदान काल		* व्याध्यवेक्ष * औषधावेक्ष
	● स्थापन काल		* जीर्णलिंगावेक्ष
	● सिद्धौषध संग्रहकाल		* ऋतुअवेक्ष (च.चि. ३०)
	● योग सवीर्यतावधि		

(तक्ता २)				
शार्ङ्गधर (५)	**अष्टांगहृदय (१०)**	**अष्टांगसंग्रह (११)**	**चरक (१०)**	**सुश्रुत (१०)**
(शा.सं.पू.खं २/१ १२)	**(अ.हृ.सू. १३)**	**(अ. सं. सू. २३/१२)**	**(च.चि. ३०/२९८)**	**(सु.उ. ६४/६५)**
१) सूर्योदय २) दिवसभोजन	१) अनन्न २) अन्नादौ	१) अनन्न २) अन्नादौ	१) प्रातः निरन्न २) प्राग्भोजन	१) अभक्त २) प्राग्भक्त
३) सायंभोजन ४) मुहुर्मुहुः	३) मध्ये अन्ने ४) अन्नान्ते	३) मध्ये अन्ने ४) अन्नान्ते	३) भोजनमध्ये ४) मध्यान्ह	३) अर्धाभक्त
५) निशि	५) कवलान्तरे ६) ग्रासे ग्रासे	५) कवलान्तरे ६) ग्रासे ग्रासे	भोजनान्ते ५) सायंभोजन	४) मध्ये भक्त
	७) सान्नं ८) सामुद्ग	७) सान्नं ८) सामुद्ग ९) निशि	पश्चात ६) मुहुर्मुहुः	५) अन्तरभक्त
	९) निशि १०) मुहुर्मुहः	१०) मुहुर्मुहः ११) अन्तरभक्त	७) सामुद्ग ८) भक्तसंयुक्त	६) सभक्त ७) सामुद्ग
		(समभक्त) सान्न	९) अन्तराभक्त	८) मुहुर्मुहुः ९) सग्रास
			१०) ग्रासग्रासान्तर	१०) ग्रासान्तर

* प्रथम ग्रासे – हिंग्वाष्टक चूर्ण (अग्निमांद्य) * सामुद्ग – प्राणदा गुटिका (अर्श)

* मुहुर्मुहु :– मृतसंजीवनी रस (जीर्णज्वर) रास्नादि क्वाथ (ज्वर) एलामषी (छर्दि)

* निशि (रात्री) – त्रिवृतादि मोदक (मस्तिष्करोग) त्रिफला (नेत्र बल)

Time of Dms Administration - Modern Medicine - The time of administration of medicines bears a close relation to the time of food, the condition of the stomach and the time of rest and exercise.

* Chronopharmacology can be correlated with Aushadhi - Sevan - Kala.

चिकित्सा– यथा ह्यन्नम् अकाले स्याद्विषं कालेऽमृतं भवेत्। तथौषधमकाले स्यात् विषं कालेऽमृतं भवेत्।।

चिकित्सा के उपक्रमका एवं औषधि के सेवन का काल (Time of Drus Administration) सफलता की नींव है।

औषधि सेवनकाल की विशिष्टता के संभाव्य कारण –

१) अन्न एवं औषध परस्पर परिणाम २) पचन की स्थिति

३) औषधी प्रभाव, तीव्रता ४) अग्निकी स्थिति

५) व्याधिबल ६) रुग्णबल ७) दोषदूष्य अवस्था

८) आमाशय रिक्तता ९) स्रोतस् संग १०) रसायन प्रभाव

चरक संहिता की विशेषता – जैसेकी प्रारंभिक चर्चामेंही चिकित्सा करते वक्त काल की अवेक्षा का चरकोक्त विवेचन (६ कालों में विभक्त) सारणीमें दर्शाया गया, उससे स्पष्ट है कि 'मात्राकाला श्रया युक्तिः। सिद्धिर्युक्तौ प्रतिष्ठिता।' इस वचन के अनुसार 'काल' द्रव्यपर सूक्ष्म समीक्षा होना आचार्योंकी अपेक्षा है। १) दिनावेक्ष –पूर्वा ह्ने वमन २) रुग्णावेक्त – बलवान रुग्ण – प्रातः निरन्न, अबलरुग्ण – पथ्यान्नै : युक्त

३) औषधावेक्ष – १० काल * प्राग्भोजनान्ते – विगुण अपाने,

* भोजनमध्ये – समाने, * प्रातः भोजनान्ते – व्याने

* रात्रिभोजनान्ते – उदाने– * ग्रासग्रासान्तरे – प्राणे,

* मुहुर्मुहुः– विष, श्वास, कास, तृषा * सामुदू – हिक्कारोगे,

* भक्तसंयुक्त – अरुचिरोगे अन्तराभक्त भैषज्य संयुक्त अन्न

४) व्याध्यवस्था –उदा – ज्वरे पेया कषायाश्च क्षीरं सर्पिर्विरेचनम्। षडहे षडहे देयं कालं वीक्ष्य आमयस्य च।

* व्याध्यवस्था विशेष काल – चय प्रकोपादि

५) जीर्णलिंगावेक्ष– क्षुद्वेग, लघुता, हृदयोद्गार विशुद्धि इ. औषध/अन्नजीर्ण लक्षणे

६) ऋतु अवेक्ष – वाख्वादि दोषोंका ग्रीष्मादि ऋतुओंमें होनेवाला चयप्रकोपप्रशम ध्यानमें रखते हुए ऋतुनुसार रस, अन्न, औषध सेवन नियम

विमर्श – उपरोक्त विवेचनसे अभ्यासकोंको शास्त्रोक्त काल के संदर्भ में अलग अलग प्रसंगोंमें वर्णित विषय एकत्र संकलित रुपमें प्राप्त हो गए हैं। योग्य औषध सही मात्रामें आवश्यक अनुपानके साथ लेकर भी औषधि सेवनकाल यथायोग्य नहीं होगा तो कार्यसिद्धिप्रद नहीं होगा। प्राकृत शारीरक्रिया, दोषधातुमलोंपर ऋतुचक्रके परिणाम, अग्नि एवं पाचनक्रिया की अवस्था, वय, रोगकी संप्राप्तिकी स्थिति ऐसी सभी सूक्ष्म बातें आचार्योंने इस संदर्भमें चिंतनमें रखी हुई प्रतीत होती हैं। कुशल चिकित्सक इन तत्त्वोंको युक्तिप्रमाणसे व्यवहारमें सफलतापूर्वक अनुभूत कर सकते हैं।

निष्कर्ष – 'काल' यह संस्कार करनेवाला, औषधि एवं चिकित्सामें परिणाम करनेवाला महत्त्वपूर्ण द्रव्य है। ● मूलद्रव्य संग्रह संचय, औषधि योग/कल्पना निर्माणमें काल संस्कार गुणान्तराधान करनेवाला हैं। ● चिकित्सा उपक्रमोंमें औषधिसेवनकालकी सूक्ष्मसमीक्षा की गयी हैं। ● सभी संदर्भोके आधारपर 'कालो भेषजयोग कृत् मतलब काल' यह भेषजको योग्यता प्रदान करनेवाला हैं। यह शास्त्र वचन पूर्णतः सिद्ध होता हैं।

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Application Of Artificial Intelligence And Ayurveda Plant Studies

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AI, or Artificial Intelligence, refers to the simulation of human intelligence in machines that are programmed to perform tasks that typically require human intelligence. It involves creating computer systems capable of learning, reasoning, problem-solving and making decisions, similar to how humans do. AI encompasses a wide range of techniques and approaches, including machine learning, natural language processing, computer vision, and robotics. The goal of AI is to develop intelligent systems that can perceive and understand the world, interact with humans in a natural and meaningful way, and exhibit behaviors that are considered intelligent. AI has numerous applications across various fields, including healthcare, finance, transportation, education, and entertainment.

In the context of plant studies, AI can be used for a wide range of purposes, such as:

• Plant Identification : AI algorithms can analyze plant images or sensor data to accurately identify and classify different plant species. This helps in tasks like species identification, biodiversity monitoring and conservation efforts.

• Disease Detection: AI can assist in detecting plant diseases and pests by analyzing images or sensor data. By identifying specific patterns or symptoms, AI models can help farmers and researchers in early detection and management of plant diseases.

• Crop Yield Optimization: AI techniques can analyze various environmental factors, historical data and crop growth patterns to predict optimal conditions for maximizing cropyield. This helps in precision agriculture, resource optimization and sustainable farming practices.

•Genetic Analysis: AI can be used to analyze and interpret genetic data related to plants. This includes tasks like genome sequencing, gene expression analysis, and identification of genetic markers associated with desirable traits or disease resistance.

•Plant Breeding and Trait Prediction: AI can assist in plant breeding programs by predicting traits, hybrid performance, or cross-compatibility based on genetic data. This helps in accelerating the development of new crop varieties with improved characteristics.

• Ecological Modeling: AI can analyze large-scale ecological data to understand complex interactions between plants, ecosystems and environmental factors. This aids in studying ecological processes, predicting species distributions and assessing the impact of climate change on plant communities.

• Plant Phenotyping: AI algorithms can analyze plant growth patterns, morphology, and physiological characteristics from images or sensor data. This enables researchers to study plant development, stress responses and phenotypic traits on a large scale.

Ayurveda considers plants from three perspectives: Nama Vijnana (nomenclature), Guna Vijnana (properties/characteristics) and Karma Vijnana (therapeutic uses and clinical applications).

These perspectives provide a holistic understanding of plants and their potential benefits in Ayurvedic medicine. Nama Vijnana involves the identification and classification of plants. Each plant is given a unique name, which helps in distinguishing it from others. In this article, we will explore how AI can play a vital role in accurately identifying and classifying Ayurvedic plants based on their visual features. This can assist researchers in studying the medicinal properties of specific plants and individuals in finding the right Ayurvedic plants for their health needs. Guna Vijnana focuses on understanding the properties and characteristics of plants. Ayurvedic texts describe the taste, smell, texture and other qualities of plants, which are believed to contribute to their healing properties. We will also discuss how AI can aid in extracting information from ancient texts and analyzing large data sets to identify the unique properties of Ayurvedic plants. This knowledge can help researchers and practitioners explore new potential uses for these plants and gain a deeper understanding of their therapeutic benefits. Karma Vijnana explores the therapeutic uses and clinical applications of plants. Ayurvedic texts provide detailed information about the conditions and diseases that can be treated with specific plants. We will explore how AI can assist in organizing and analyzing this vast amount of information, making it

easier to identify the right plants for various therapeutic purposes.

Objective:- 1) To examine the role of AI in enhancing the study and understanding of plants mentioned in Ayurvedic. 2)To assess the impact of AI on Ayurvedic medicine and health care practices.

Material and Method:- - Academic literature, research articles and databases related to Ayurveda, medicinal plants and artificial intelligence were primary sources of information.

- Relevant keywords and search terms were used to identify suitable sources from online databases, digital libraries and scientific publications.

-The findings were synthesized to provide insights into the effective utilization of AI in exploring Ayurvedic plant studies and advancing the field.

- The data will be presented in the form of -

- Presentations of Benefits, Apps using AI for Identification, Mechanism and illustration of known plants like Guduchi and Pippali, limitations of AI.

Results :- AI offers several significant benefits when applied to Ayurveda and the field of medicinal plants: **Efficient Plant Identification:** AI-powered plant identification apps and algorithms can quickly and accurately identify a wide range of medicinal plants. This efficiency saves time and resources for Ayurvedic practitioners, researchers, and enthusiasts who can focus on other critical aspects of their work.

Data Collection and Analysis: AI can process vast amounts of data, including information from traditional Ayurvedic texts, scientific research, and biodiversity surveys. This enables comprehensive data analysis, leading to better insights into medicinal plant properties and applications.

Precision in Formulations: AI's ability to analyze the chemical composition and pharmacological properties of medicinal plants aids in developing precise and effective Ayurvedic formulations. This ensures optimal therapeutic outcomes for patients.

Personalized Medicine: AI-driven tools can assist in creating personalized treatment plans based on individual patient characteristics, such as constitution, health history, and lifestyle factors. This tailoring of treatments enhances the effectiveness of Ayurvedic medicine.

Plant Conservation and Sustainability: Geotagging and AI-based data analysis help identify endangered or rare medicinal plants, leading to better conservation strategies. AI can also support sustainable harvesting practices and promote the cultivation of medicinal plants to reduce pressure on wild populations.

Quality Control: AI can be used to verify the authenticity and quality of herbal products through techniques like image recognition and spectral analysis. This helps ensure that Ayurvedic medicines are free from adulteration and meet safety standards.

Drug Discovery and Development: AI can assist in drug discovery by identifying potential medicinal compounds in plants and predicting their interactions with the human body. This may lead to the development of new and more effective Ayurvedic treatments.

Research Advancements: AI enables faster data processing and analysis, accelerating research in Ayurveda and medicinal plants. This promotes evidence-based practices and enriches the scientific understanding of traditional knowledge.

Global Accessibility: AI-powered tools and apps can be easily accessed and utilized worldwide. This facilitates the dissemination of Ayurvedic knowledge and expands its reach to diverse populations.

Enhanced Education: AI can aid in the education and training of Ayurvedic practitioners and students by providing accessible resources, interactive learning tools, and virtual simulations. The integration of AI contributes to the growth, validation, and wider acceptance of Ayurveda as a complementary and evidence-based healthcare system. AI-powered plant identification apps that can be useful in Dravyaguna studies and Namarupa Vijnana (identification of plants) in Ayurveda:

Plant Snap: AI-powered app for rapid and accurate plant identification based on images. Useful for identifying medicinal plants, enabling quick access to plant names and details for Dravyaguna studies.

Picture This: AI-based plant identification app with a wide range of plant species in its database. Valuable for identifying medicinal plants, providing insights for Namarupa Vijnana in Ayurvedic research.

Plant Net: Collaborative platform utilizing AI and user-contributed data for plant identification.

iNaturalist: Community-based app combining AI and human expertise for plant identification through user contributions.

Seek by iNaturalist: Family-friendly app using AI to identify plants, animals, and fungi in real-time.

Flora Incognita: Specializes in identifying wildflowers using AI algorithms, especially popular in Europe.

Leafsnap: AI-based app focusing on tree species identification through leaf images.
Plantifier: Community-driven plant identification app using AI technology and crowdsourcing.
Like That Garden: AI-powered app identifying plants, flowers, and trees through photos.
Pl@ntNet (Plant Net South America): Regional variant of PlantNet focusing on South American plant species. **Google Lens:** Most preferred and commonly used. These and similar AI-powered plant identification apps can be valuable tools for Ayurvedic practitioners, researchers, and students studying Dravyaguna and Namarupa Vijnana.
Review of medicinal plant databases - • IMPPAT: Indian Medicinal Plants, Phytochemistry and Therapeutics. This database ismaintained by the Indian Institute of Science, Bangalore. It contains information on over 4,000 Indian medicinal plants, including their phytochemical constituents, therapeutic uses,andchemical structures.
• **Medicinal Plant Database -** Botanical Survey of India: This database is maintained by the Botanical Survey of India. It contains information on over 1,900 Indian medicinal plants, including their scientific names, vernacular names, medicinal uses and images of herbarium specimens.
• **Ayurveda Knowledge Bank -** This database is maintained by the Ministry of AYUSH, Government of India. It contains information on over 8,000 medicinal plants used in Ayurveda, alongwith their properties, uses and dosage.
• **Siddha Medical Database -** This database is maintained by the Ministry of AYUSH, Government of India. It contains information on over 3,000 medicinal plants used in Siddha, along with their properties, uses and dosage.
• **Unani Tibb Knowledge Bank -** This database is maintained by the Ministry of AYUSH, Government of India. It contains information on over 2,000 medicinal plants used in Unani, along with their properties, uses and dosage.
• **Traditional Knowledge Digital Library (TKDL) -** This database is maintained by the National Institute of Science, Technology and Development Studies (NISTADS) on behalf of the Government of India. It contains information on over 35,000 traditional Indian medicinal formulations, including their ingredients, preparation methods, and therapeutic uses.
• **Indian Medicinal Plants Database (IMDB) -** This database is maintained by the Central Council for Research in Ayurveda and Siddha (CCRAS). It contains information on over 2,500 Indian medicinal plants, including their scientific names, vernacular names, medicinal uses and images of herbarium specimens.
• **Indian Medicinal Plants Inventory (IMPI) -** This database is maintained by the National Medicinal Plants Board (NMPB). It contains information on over 1,500 Indian medicinal plants, including their scientific names, vernacular names, medicinal uses and distribution.
• **Medicinal Plants of India (MPI) -** This database is maintained by the University of Delhi. It contains information on over 1,000 Indian medicinal plants, including their scientific names, vernacular names, medicinal uses and images of herbarium specimens.
• **Medicinal Plants in India (MPII) -** This database is maintained by the National Centre for Medicinal Plants (NCMP). It contains information on over 800 Indian medicinal plants, including their scientific names, vernacular names, medicinal uses, and images of herbarium specimens.
• **Database of Indian Medicinal Plants (DIMP) -** This database is maintained by the Central Drug Research Institute (CDRI). It contains information on over 700 Indian medicinal plants, including their scientific names, vernacular names, medicinal uses, and chemical constituents.
• **Medicinal Plants of Eastern India (MPIE) -** This database is maintained by the Botanical Survey of India (Eastern Region). It contains information on over 600 Indian medicinal plants from Eastern India, including their scientific names, vernacular names, medicinal uses, and images of herbarium specimens.
• **Medicinal Plants of Western India (MPIW) -** This database is maintained by the Botanical Survey of India (Western Region). It contains information on over 500 Indian medicinal plants from Western India, including their scientific names, vernacular names, medicinaluses and images of herbarium specimens. There are a number of medicinal plant databases that use AI. Some of the most notable example sinclude : • Plants DB uses AI to identify and classify medicinal plants. The database also includes information on the medicinal properties of plants, as well as their toxicity.
• Medicinal Plant Identification System (MPIS) uses AI to identify medicinal plants from images. The system is trained on a large data set of images of medicinal plants and can identify plants with a high degree of accuracy.
• Medicinal Plant Ontology (MPO) uses AI to create a knowledge base of medicinal plants. The MPO

includes information on the chemical constituents of plants, their biological activities and their traditional uses.

• Medicinal Plant Data Integration System (MPDI) uses AI to integrate data from multiple medicinal plant databases. The MPDI provides a single, unified view of medicinal plant information.

• Medicinal Plant Knowledge Graph (MPK) uses AI to create a knowledge graph of medicinal plants. The MPK includes information on the relationships between medicinal plants, their chemical constituents and their biological activities.

Discussion:- AI can be used in medicinal plant databases in a number of ways. For example, AI can be used to:

1) Identify and classify medicinal plants: AI can be used to analyze images of plants and identify their species. This can be helpful for researchers who are studying medicinal plants, as well as for people who are looking for specific medicinal plants.

2) Generate information about medicinal plants: AI can be used to analyze data about medicinal plants and generate information about their properties, uses and toxicity. This information can be made available to users of the database, which can help them to learn more about medicinal plants and to use them safely.

3) Predict the effects of medicinal plants: AI can be used to analyze data about the chemical constituents of medicinal plants and predict their effects on the human body. This information can be used to develop new medicinal products and to improve the safety of existing medicinal products.

4) Personalize recommendations: AI can be used to analyze data about a user's medical history and preferences and to personalize recommendations for medicinal plants. This can help users to find the most effective and safe medicinal plants for their individual needs.

As AI technology continues to develop, we can expect to see even more ways that AI can be used in medicinal plant databases. This technology has the potential to revolutionize the way that we access and use information about medicinal plants, and it could lead to new discoveries and treatments for a variety of diseases.

AI for Plant Conservation: AI has revolutionized various aspects of plant-related research and conservation. Here are six key areas where AI is making a significant impact:

1) Identifying Plant Species at Risk: AI plays a crucial role in spotting endangered plant species inremotelocations.Machinelearningalgorithmsanalyzeplantlocationpatterns, forms, structures, habitat traits and climatic patterns to classify these species. By leveraging AI, researchers can identify plants on the verge of extinction and prioritize conservation efforts.

2) AI in Plant Breeding: AI is employed to enhance plant traits and increase adaptability to changing environments. Genomic selection algorithms driven by AI are developed to identify optimal genome combinations for improved plant characteristics. This enables researchers to expedite the process of plant breeding and create more resilient and productive varieties.

3) Discovery of New Plant Species: AI is instrumental in collecting and analyzing vast amounts of data to discover new plant species globally. Platforms like iNaturalist utilize AI to facilitate real-time sharing of observations, enabling researchers to gather research-quality data and uncover previously unknown plant species. AI accelerates the pace of discovery and contributes to our understanding of biodiversity.

4) AI in Plant Disease Detection: AI models are deployed to detect diseases and stress in plants at a holistic level. Applications like Plant Village Nuru utilize machine learning tools to monitor and diagnose plant diseases. By analyzing plant health data, AI algorithms can identify early signs of diseases, enabling prompt interventions and preventing the spread of pathogens.

5) Anticipating and Detecting Forest Threats: AI is leveraged to anticipate and detect forest threats, such as wildfires and falling trees near power stations. Deep learning models evaluate high-risk areas and accurately identify trees that pose a danger. This proactive approach allows authorities to take preventive measures and mitigate potential risks to forests and infrastructure.

6) Automated Afforestation: AI aids in mapping suitable locations for afforestation and analyzing trends for restoration purposes. By integrating various data sources and analysis techniques, AI helps identify optimal sites for planting trees, assesses plant health remotely and contributes to large-scale ecosystem restoration efforts.

Ai to study Plant information in Samhitas

Lets think same for known examples like pippali and guduchi

- **Sanskrit term analysis:** AI recognizes Sanskrit terms, such as "Magadhi," and breaks them down into their root words. For example, "Maga" means" origin" or "place of origin," while "Adhi" implies "prominence" or "significance." This analysis suggests that "Magadhi" may refer to a plant of particular importance or associated with a specific origin, like the Magadha region.

1) Synonym Identification and Contextual Understanding:

-AI identifies various synonyms of Guduchi, suchas Chakralakshanika, Amrita, Avyatha, Chakrangi, Amrutvalli, Kundalini, Tantrika, Vishalya and Somavalli.

AI has the capability to identify and select the appropriate meaning of synonyms by considering various factors such as context, semantic relationships, and knowledge bases. Let's explore how AI can interpret the different synonyms provided for Guduchi:

अमृता (Amrita): AI recognizes that Amrita refers to something with qualities similar to nectar. In the context of Guduchi, AI understands that it signifies the valuable and beneficial nature of the plant.

अमृतवद् (Amrutvad): AI associates this synonym with the idea that Guduchi possesses everlasting qualities like that of nectar. It implies that the benefits and effects of Guduchi are enduring and long-lasting.

गुणकारिणी (Gunakarini): AI understands that Guduchi is characterized by its ability to generate positive attributes and beneficial effects. It recognizes the association between Guduchi and its capacity to enhance and promote well-being.

छिन्नरुहा छिन्ना अपि रोहति (Chinnaruha chinna api rohati): AI interprets this phrase as indicating the regenerative nature of Guduchi. It suggests that even when cut or pruned, Guduchi has the ability to regrow and flourish.

तन्त्रिका–तन्त्रयति या तन्त्रि कटुं म्वधारणे (Tantrika-tantryati ya tantrikatu katum mvadharane): AI recognizes the reference to the stem of Guduchi, which resembles a rope. It understands the physical characteristics of the plant and its resemblance to a twisted or coiled structure.

मधुपर्णी मधुमयानि पर्णानि यस्या (Madhuparni madhumayani parnani yasya): AI comprehends that when the leaves of Guduchi are crushed, they produce a sticky juice similar to honey. It associates this synonym with the sweet and viscous nature of Guduchi leaves.

वतदनी वत्सैः अघते, अद भक्षणे (Vatsadani vatsaih aghate, ada bhaksane): AI understands that the leaves of Guduchi are liked by calves, indicating their palatability to certain animals. It recognizes the association between Guduchi and its appeal to specific creatures.

कुण्डली कुण्डलाकरेण वर्धते (Kundali kundalakarena vardhate): AI interprets this phrase as describing the climbing nature of Guduchi, which ascends a supporting plant in a circular manner. It acknowledges the growth pattern and behavior of Guduchi as it climbs and spreads.

Analyzing the context, understanding the meanings of individual synonyms, and considering their associations, AI can effectively identify and select the appropriate interpretation for each synonym. This enables AI to grasp the nuanced characteristics and qualities of Guduchi as described by these synonyms.

2) Semantic Analysis and Plant Characteristics:

- AI conducts semantic analysis to explore the therapeutic indications and properties associated with Guduchi.

- Guduchi is recognized as a plant with diverse qualities, including heart-shaped leaves, elongated twining branches and the presence of phytochemicals like alkaloids and phytosterols.

- The synonym "Chakralakshanika" suggests that Guduchi possesses distinct characteristics that may be visually identifiable, possibly related to circular patterns or markings.

3) Botanical Description and Phytochemical Composition: - AI analyzes the botanical description of Guduchi, highlighting its deciduous nature, fruit characteristics and leaf morphology.

- The phytochemical composition of Guduchi includes alkaloids, phytosterols, glycosides and tinosporide.

4) Network Pharmacology Example : - AI, in conjunction with network pharmacology, explores the interactions of Guduchi's phytochemical components with biological targets and pathways.

- By analyzing the complex network of interactions, AI can predict the potential therapeutic effects of Guduchi and identify synergistic combinations with other herbs or drugs.

-This approach enables researchers to gain a comprehensive understanding of Guduchi's mechanisms of action and its potential applications in treating specific diseases.

5) Safety Considerations : - While Guduchi is generally regarded as safe, it is advisable to consult a qualified Ayurvedic practitioner or health care

professional before usingit.
-This is especially important for individuals with specific medical conditions or those taking medications.

6) Integrating Traditional Knowledge with AI : - AI revolutionizes our understanding of medicinal plants like Guduchi by integrating traditional knowledge with modern scientific advancements, such as network pharmacology.
- By combining the wisdom of Ayurveda with AI-powered analysis, we can unlock the full potential of Guduchi and harness its therapeutic benefits for the well-being of individuals and communities.

7) Traditional Medicinal Uses : - Guduchi has been used in Ayurveda for centuries due to its believed medicinal properties.
- Traditional Ayurvedic texts describe various therapeutic applications of Guduchi, such as boosting immunity, supporting liver health, promoting digestion and reducing inflammation.

8) Modern Scientific Research:
- Despite the traditional use of Guduchi, its effectiveness in treating certain conditions remains uncertain.
- Ongoing scientific research aims to evaluate the therapeutic potential of Guduchi through clinical investigations and laboratory studies.
- AI can assist in analyzing the existing scientific literature and identifying potential areas for further research on Guduchi.

9) Geographical Distribution : - Guduchi is indigenous to tropical regions of the Indian subcontinent.
- It is commonly found in areas with a warm climate, such as parts of India, Nepal and Bangladesh.

10) Formulations and Preparations : - AI analyzes Ayurvedic texts, such as the Charaka Samhita, to identify specific formulations and preparations that involve Guduchi.
- Examples of Guduchi - based formulations mentioned in the texts include Guduchi churna (powder), Guduchi kwatha (decoction) and Guduchi ghrita (medicated ghee).
- Understanding the different formulations helps in determining the appropriate method of preparation and dosage for optimal the rapeutic effects.

11) Combination Therapies : - Ayurveda often emphasizes the use of combination therapies, where multiple herbs are used together for synergistic effects.
- AI can aid in exploring the traditional combinations of Guduchi with other herbs and analyzing their potential interactions and therapeutic benefits.

12) Future Directions : - AI opens up possibilities for further research and development in the field of Ayurveda.

Discussion :- By integrating AI-driven technologies, such as machine learning and data analytics, with traditional Ayurvedic knowledge, we can enhance our understanding of medicinal plants like Guduchi and potentially discover new applications and formulations.

AI can analyze the characters and properties of known plants within a family and use that information to make probable predictions about other plants within the same family. This approach is known as transfer learning, where knowledge gained from one task (studying known plants) is applied to another related task (predicting properties of other plants in the same family).

For example, if AI has studied several plants in the Solanaceae family and learned their common characteristics, chemical compositions, and pharmacological actions, it can use this knowledge to make educated guesses about other plants in the same family. While the predictions won't be as accurate as studying each plant individually, AI can provide valuable insights and potential properties of the unstudied plants based on the shared characteristics within the family. Same logic can be applied for the study of plants like Meda (Polygonatum verticillatum), Mahadeda or endangered plants.

AI-powered plant identification apps have several limitations that users should be aware of. Some of the main limitations include: Ayurveda has explained "Vichitra pratyayarabdha" plants following this will be difficult to be considered in general pattern and results for specific action. AI results may very in such situation.

1) Accuracy: While AI algorithms have significantly improved in identifying plants, they are not infallible. There can still be misidentifications, especially for plants with similar visual features or in complex ecological settings.

2) Database Completeness: The accuracy of identifications depends on the size and quality of the database used by the app. Some apps may have limited plant species coverage, especially for rare or less commonly encountered plants.

3) Regional Variation: Plant appearances can vary significantly based on their geographic location, climate, and growing conditions. AI models trained on one region's data may not perform as well in

other regions.

- **Seasonal Changes:** Plants can look different during different seasons, making identification challenging if the app's database does not account for seasonal variations.

- **User-Submitted Data:** Some apps allow users to contribute data, but this can lead to inaccuracies if the submitted information is incorrect or mislabeled.

6) Non-Visual Characteristics: AI apps primarily rely on visual features for identification, but some crucial plant characteristics, such as taste, aroma, or specific biochemical constituents, cannot be determined through images alone.

7) Invasive Species and Cultivars: AI may struggle with identifying invasive species or cultivated varieties that have different features from their wild counterparts.

8) Rare and Endangered Species: Some rare or endangered plant species may not be adequately represented in the database, leading to potential misidentifications or lack of information.

9) Language Limitations: Some apps might be limited to specific languages, potentially hindering their accessibility for users in certain regions.

10) Dependency on Internet Connectivity: Many AI-powered apps require an internet connection to access their databases, which can be a limitation in areas with poor network coverage.

11) Privacy Concerns: Some apps may collect user data, including location information, raising privacy concerns that should be carefully considered.

12) Not a Substitute for Expertise: AI apps are valuable tools but should not replace the knowledge and expertise of botanists, ecologists, or Ayurvedic practitioners in critical situations.

Despite these limitations, AI-powered plant identification apps are continually improving, and they serve as valuable resources for plant enthusiasts, students, and researchers to learn more about the rich diversity of the natural world. However, it is crucial to use them responsibly and supplement the results with expert knowledge and other sources for critical identifications and applications in fields like Ayurveda.

Conclusion:- Ayurved also refers to take help from Apipa and Gopa for plant plant identification and local tribes. A similar logic with AI is used by team of "AIyurveda" Experts in Kerala to conceptualize all such benefits with AI. Such efforts will grow in recent future and will benefit more understanding of Ayurved. Plant database studies will play a crucial role in enhancing healthcare through Ayurveda. By harnessing the power of AI and advanced data analysis techniques, researchers will beable to explore and understand the vast array of plant species used in Ayurvedic medicine. This comprehensive database will provide valuable insights into the medicinal properties, therapeutic uses, and potential side effects of various plants. With this knowledge, healthcare practitioners can make informed decisions and develop personalized treatment plans, ultimately improving healthcare outcomes for individuals seeking Ayurvedic remedies.

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श्रीमती शैलजा हुपरीकर यांचे दु:खद निधन

श्रद्धांजली

श्रीमती शैलजा शशीशेखर हुपरीकर यांचे दि. १८ जुलै २०२३ रोजी वृद्धापकाळाने दु:खद निधन झाले. राष्ट्रीय शिक्षण मंडळाचे सचिव डॉ. राजेंद्र हुपरीकर यांच्या त्या मातोश्री होत्या.

आयुर्विद्या व रा.शि.मंडळाच्या वतीने श्रीमती शैलजा हुपरीकर यांना अश्रुपूर्ण श्रद्धांजली.

डॉ. म. पां. पलंगे यांचे दु:खद निधन

टिळक आयुर्वेद महाविद्यालयाचे माजी प्राचार्य व अगदतंत्र विषयाचे प्राध्यापक डॉ. म. पां. पलंगे यांचे दि. २८ जुलै २०२३ रोजी वृद्धापकाळाने दु:खद निधन झाले.

टिळक आयुर्वेद महाविद्यालय, आयुर्विद्या व रा.शि.मंडळाच्या वतीने डॉ. पलंगे यांना श्रद्धांजली.

अहवाल

टिळक आयुर्वेद महाविद्यालय ९० वा वर्धापनदिन समारंभ

२६ जून २०२३

डॉ. सदानंद वि. देशपांडे

दि. २३ ते २६ जून २०२३ या कालावधीत राष्ट्रीय शिक्षण मंडळाच्या शताब्दी वर्षानिमित्त व टिळक आयुर्वेद महाविद्यालयाच्या ९० व्या वर्षपूर्तीनिमित्त **'जाणा आपला आयुर्वेद'** या प्रदर्शनाचे आयोजन महाविद्यालयात करण्यात आले. महाविद्यालयाच्या प्रत्येक विभागाने प्रदर्शनामध्ये आयुर्वेदाची माहिती जनसामान्यांसाठी मांडली होती. प्रदर्शनाचे उद्घाटन **मा. डॉ. प्रदीपकुमार प्रजापती** – कुलगुरु, डॉ. सर्वपल्ली राधाकृष्णन आयुर्वेद विद्यापीठ, जोधपूर यांचेहस्ते करण्यात आले. समारंभाचे अध्यक्ष **डॉ. दि. प्र. पुराणिक** होते. डॉ. प्रजापती यांनी प्रदर्शनाला भेट दिली. यावेळी राष्ट्रीय शिक्षण मंडळ पुरस्कृत **'उत्कृष्ट शिक्षक पुरस्कार'** – डॉ. सौ. विनया दीक्षित यांना, **'उत्कृष्ट विभाग पुरस्कार'** – स्वस्थवृत्त विभाग उपप्राचार्य प्रा. डॉ. मिहीर हजरनवीस आणि त्यांचे सहकारी यांना पुरस्कार देण्यात आले. अध्यापकेतर वर्गातून **'कार्यकुशल पुरस्कार'** पदव्युत्तर विभागातील लिपीक टंकलेखक श्री. ओंकार नारकर तर **'कार्यतत्पर पुरस्कार'** श्री. आनंदा हुंबरे यांना प्राप्त झाला.

दि. २६ जून २०२३ रोजी टिळक आयुर्वेद महाविद्यालयाचा ९० वा वर्धापनदिन समारंभ मोठ्या उत्साहात आयोजित करण्यात आला. राष्ट्रीय शिक्षण मंडळाचे अध्यक्ष **डॉ. दि. प्र. पुराणिक** हे समारंभाच्या अध्यक्षस्थानी होते. **गोवा राज्याचे मा. मुख्यमंत्री डॉ. प्रमोद सावंत** हे प्रमुख पाहुणे व महाराष्ट्र आरोग्य विज्ञान विद्यापीठाच्या **कुलगुरु लेफ्टनन्ट जनरल (निवृत्त) डॉ. माधुरी कानिटकर** या विशेष अतिथी म्हणून उपस्थित होत्या. मान्यवरांनी **''जाणा आपला आयुर्वेद''** या प्रदर्शनास भेट दिली. डॉ. गौरी गांगल ह्यांनी

'जाणा आपला आयुर्वेद' प्रदर्शनाचे उद्घाटन. डावीकडून– डॉ. उजागरे, डॉ. देशपांडे, डॉ. हुपरीकर, डॉ. पुराणिक, डॉ. प्रजापती, डॉ. भागवत, डॉ. जोगळेकर.

'जाणा आपला आयुर्वेद' प्रदर्शनात पंचकर्म विभाग – डॉ. हुपरीकर मा. ना. डॉ. प्रमोद सावंत यांना माहिती देताना.

वर्धापनदिन समारंभ. डावीकडून– डॉ. हुपरीकर, डॉ. भागवत, डॉ. गांगल, डॉ. माधुरी कानिटकर, डॉ. पुराणिक, डॉ. सावंत, डॉ. देशपांडे, डॉ. हजरनविस, डॉ. उजागरे.

'नवोन्मेष' स्मरणिका प्रकाशन. डावीकडून– डॉ. संगोराम, डॉ. हुपरीकर, डॉ. गांगल, डॉ. भागवत, डॉ. कानिटकर, डॉ. पुराणिक, डॉ. सावंत, डॉ. देशपांडे, डॉ. हजरनविस, डॉ. उजागरे, डॉ. दीक्षित.

चित्रात डावीकडून– डॉ. गांगल, डॉ. हुपरीकर, डॉ. कानिटकर, सौ. रासकर, कार्यभूषण डॉ. रासकर, ना. डॉ. प्रमोद सावंत, डॉ. पुराणिक, डॉ. देशपांडे

चित्रात डावीकडून– डॉ. गांगल, डॉ. हुपरीकर, डॉ. भागवत, डॉ. कानिटकर, कार्यभूषण डॉ. संदीप आहेर, ना. डॉ. प्रमोद सावंत, डॉ. पुराणिक, डॉ. देशपांडे

चित्रात डावीकडून– डॉ. गांगल, डॉ. हुपरीकर, डॉ. भागवत, डॉ. कानिटकर, डॉ. कडधेकर, कार्यभूषण डॉ. शिल्पा कडधेकर, ना. डॉ. प्रमोद सावंत, डॉ. पुराणिक, डॉ. देशपांडे

चित्रात डावीकडून– डॉ. गांगल, डॉ. हुपरीकर, डॉ. कानिटकर, कु. रानडे, डॉ. ऐश्वर्या रानडे, कार्यभूषण डॉ. मंदार रानडे, डॉ. पुराणिक, ना. डॉ. प्रमोद सावंत, डॉ. देशपांडे

धन्वंतरी स्तवन सादर केले. व्यासपीठावरील सर्व मान्यवरांच्या हस्ते मंगलदीप प्रज्वलन करण्यात आले. मान्यवरांचा परिचय डॉ. सरोज पाटील यांनी करुन दिला. डॉ. देशपांडे यांच्या हस्ते मान्यवरांचा सत्कार कारण्यात आला.

समारंभामध्ये राष्ट्रीय शिक्षण मंडळ पुरस्कृत **'कार्यभूषण पुरस्कार'** या वर्षी १९९८ साली पास झालेल्या विध्यार्थ्यांच्या B.A.M.S. बॅच मधून **डॉ. संदीप आहेर, डॉ. शिल्पा कडधेकर, डॉ. समीर रासकर व डॉ. मंदार रानडे** यांना देण्यात आला.

समारंभात **'नवोन्मेष'** या स्मरणिकेचे प्रकाशन डॉ. प्रमोद सावंत यांचे हस्ते करण्यात आले. माहे जुलै २०२३ या **'आयुर्विद्या इंटरनॅशनल'** च्या जागतिक स्तरावरील शास्त्रीय नियतकालिकाच्या अंकाचे प्रकाशन विशेष अतिथी मा. डॉ. माधुरी कानिटकर यांच्या हस्ते झाले.

डॉ. प्रमोद सावंत यांनी आयुर्वेदाचे विपणन करण्याची गरज आहे व आजही आयुर्वेदाविषयी जनजागृती करावी लागते ही खेदाची बाब आहे असे नमुद केले. टिळक आयुर्वेदाने आयोजित केलेल्या आयुर्वेदाच्या प्रदर्शनाबाबत समाधान व्यक्त केले.

राष्ट्रीय शिक्षण मंडळाने प्रायोजित केलेले सन २०२२–२३ करीता वर्षनिहाय व विषयानुसार डॉ. शिवराम किरुमक्की व अन्य शैक्षणिक पुरस्कारांचे वितरण दि. २३ जून व दि. २६ जून रोजी गुणवत्ताधारक विद्यार्थ्यांना करण्यात आले. कु. सिद्धी भुजबळ या विद्यार्थीनीस फाईनल बी.ए.एम.एस परीक्षेमध्ये प्रथम क्रमांक मिळविल्याबद्दल गौरविण्यात आले. मान्यवरांच्या हस्ते टिळक आयुर्वेद महाविद्यालयाचे माजी प्राचार्य **डॉ. वि. वि. डोईफोडे, डॉ. भा. कृ. भागवत, डॉ. दि. प्र. पुराणिक व डॉ. र. ना. गांगल** यांचा व विद्यमान प्राचार्य **डॉ. स. वि. देशपांडे** यांचा महाविद्यालयात प्राचार्य म्हणून दिलेल्या योगदानाबद्दल गौरव करण्यात आला. ''जाणा आपला आयुर्वेद'' या प्रदर्शनामध्ये द्रव्यगुण विभागास प्रथम क्रमांक व बालरोग विभागास द्वितीय क्रमांक प्राप्त झाला.

डॉ. माधुरी कानिटकर यांनी इंटीग्रेशनची आवश्यकता आहे असे सांगून टिळक आयुर्वेद महाविद्यालयाने याबाबत पुढाकार घ्यावा असे म्हटले. समारंभाचे अध्यक्ष डॉ. दि. प्र. पुराणिक यांनी महाराष्ट्र आरोग्य विज्ञान विद्यापीठाला २५ वर्षे झाली व महाविद्यालयास ९० वर्षे झाली व राष्ट्रीय शिक्षण मंडळाचे शताब्दी वर्षे महोत्सव चालू आहे हा दुग्धशर्करा योग आहे असे म्हटले. डॉ. प्रमोद सावंत यांना **''प्राईड ऑफ आयुर्वेद''** उपाधीने गौरविले.

कार्यभूषण पुरस्कारार्थींच्या मानपत्राचे वाचन डॉ. मिहीर हजरनवीस, डॉ. योगिनी पाटील डॉ. मंजिरी देशपांडे, डॉ. अपूर्वा संगोराम यांनी केले. डॉ. इंदिरा उजागरे यांनी आभार मानले. डॉ. मिहीर हजरनवीस यांनी सूत्रसंचालन केले. राष्ट्रगीताने कार्यक्रमाची सांगता झाली.

Report

National Seminar on "Diagnostica" - Revolution in Health Care on 25th and 26th May 2023

Dr. Manjiri Deshpande

On occasion of Centenary year of Rashtriya Shikshan Mandal, **National Conference on Diagnostica Revolution In Health Care** Was jointly Organized by **Rashtriya Shikshan Mandal's Center For Post Graduate Studies & Research in Ayurved of Tilak Ayurved Mahavidyalaya, Pune and Academy of Rognidan (All India Association Of Rognidan Experts)** on Thursday And Friday 25th & 26th May 2023 at Tilak Ayurved Mahavidyalaya & M.E.S Auditorium. Total 356 delegates participated for the conference. On 25th may, 160 delegates presented their scientific papers and 59 delegates presented their posters in Tilak Ayurved Mahavidyalaya. These sessions were Hosted by Dr. Aishwarya Ranade, Dr.Vidya Naik, Dr. Darshana Ubhale.

On 26th may 2023, The National Conference was inaugurated at the hands of Honorable chief Guest **Dr. Mukul Patel,** Vice Chancellor, Gujarat Ayurved University, and Guests of Honour **Dr. Rakesh Sharma,** Chairman, BOER, NCISM & **Dr, Lt. Gen Madhuri Kanitkar,** Vice- Chancellor, Maharashtra University of Health Sciences, Nashik (Through online platform), Dr. Atul Varshney, Member, BOA, NCISM And secretary of Academy of Rognidan, Dr. Pawankumar Godatwar, Chairman of Academy of Rognidan, Dr. B. K. Bhagwat & Dr. Rajendra Huparikar, Vice president & Secretary of Rashtriya Shikshan Mandal, Dr. Sadanand Deshpande Principal, Tilak Ayurved Mahavidyalaya, Dr. Sunil Pandhare HOD Rognidan and Dr. Manjiri Deshpande.Mr. Shripad Wadodkar sang Dhanwantari stavan in his melodious voice. Hon'ble Dr. S.V. Deshpande Principal TAMV, Pune welcomed all the delegates & guests.

Dr. Manjiri Deshpande, organizing secretary, introduced the concept behind the conference & congratulated all delegates for giving overwhelming response for the conference. Dr. Priyadarshan Jogalekar hosted the whole proceedings.

Chief Guest Dr. Mukul Patel Congratulated Organizers for organizing National Conference on Diagnostica Revolution in Health Care, Hon'ble Madhuri Kanitkar joined through Zoom online Platform and addressed the need of integrated research in the field of health Science. Publication of the souvenir' Diagnostica- Integrated Approach to Health Care' was published at the hands of Dr. Mukul patel and the dignitaries on the dais. Dr. Rakesh Sharma addressed the need of published research evidences with integrated approach for the legal aspects. Best Paper, Best Paper Presentation and Best Poster awards were distributed to the winners.

Dr. Pawankumar Godatwar declared Prof. Dr. M. S. Baghel Memorial National Award for Best Thesis/ Dissertation in Roga Nidana for the year 2021-22 from Academy of Rognidan. Dr. Anindita Goswami from Kolkata, Dr. Awanish Jaiswal from BHU, Varanasi and Dr. Purti Vora from DY Patil college Pune received first, second and third rank respectively. They were felicitated at the hands of Mrs. Mridu Madhav Baghel.

In his Presidential address, Dr. Dilip P Puranik, President of R.S.M, Pune, mentioned the importance of research to upgrade the knowledge with recent advances in the diagnostics with their effective use.

The Inaugural function was concluded by formal vote of thanks by Dr. Sunil Pandhare.

Following the inaugural function, scientific

Release of Souvenir - from Right - Dr. Kini, Dr. Huparikar, Dr. Bhagwat, Dr. Godatwar, Dr. Patel, Dr. Puranik, Dr. Sharma, Dr. Deshpande, Dr. Varshney, Dr. Pandhare, Dr. Manjiri Deshpande.

session & panel discussion on various topics of Diagnostics were conducted.

Dr. Hrishita Dahilekar, Dr. Hemen Kalita discussed the Ayurvedic perspective cytopathology in Breast Cancer and pap smear.

In the key note address,Dr. Sevanti Limaye Medical Director, Oncologist from H. N. Reliance hospital discussed the role of Precision diagnosticsin Cancer Care.

Dr. Gopakumar spoke on Ayurvedic Diagnosis and Laboratory Investigations - A clinicians View.

Dr. Narendra Pendse discussed Scope & limitations of investigations in Ayurvedic practice. Dr. Harish Patankar discussed Evidence based Ayurveda and Diagnostic value addition through Technology in the field of Keshayurved.

Dr. Sanjay Desai enlightened the Recent Advances in Radio-Imaging techniques.

In the Panel discussion Dr. Suhas Erande, Dr. Amit Shirke, Dr. Pankaj Vanjarkhedkar, Dr. Chandrahas Godbole, Dr. Pawankumar Godatwarhad a fruitful discussion on the recent advances in Diabetology, Pathology, Oncology and Ayurved Diagnosis with modern diagnostics and effective treatment. National Conference concluded with valedictory function, Dr. Aishwarya Ranade & Dr. Darshana Ubhale hosted this function. All the organizing committee members, all the sponsors who made the conference financially strong were felicitated at the hands of Dr. Pawankumar Godatwar, Dr. Atul Varshney, Dr. Sadanand Deshpande. Dr. Jai Kini expressed formal vote of thanks. The conference was concluded with National Anthem.

Report

Workshop On Legal Aspects For Ayurvedic Practice - Part - III

Dr. Atul Kapdi

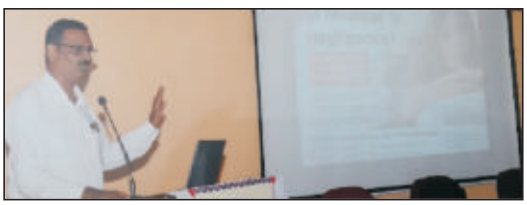
R.S.M.'s Research Institute of Health Sciences and Management, Pune conducted free workshop on legal aspects for Ayurvedic practice on 2nd July 2023 (Part II).

Dr. Supriya Phadke (Coordinator RIHSM) invited all the attendees. Dr. Rajendra Huparikar (President RIHSM) gave information about the importance and need of legal managment in day to practice.

Dr. Dhananjay Mhasade delivered the session on Medico Legal Aspects for general practice. He emphasised on the topics like importance of documentation, issuance of fit / unfit certificate, death certificate, case paper records, medico legal cases. He also discussed few cases studies relevant to the topics. The session was interactive and informative for audience. The session ended with question and answers.

Dr. Mandar Ranade delivered lecture on the topic "Legal scope and limitations for Ayurvedic practice". He gave insights of various Acts / Laws applicable to Ayurvedic practice. He also emphasized on the rights and provisions under IPC for doctors in case of Medico legal cases. The session was very informative and ended with questions and answers.

39 registrations were done out of which 25 participants attended the workshop. All participants appreciated for conducting such informative workshop and were extremely delighted to be part of this. Dr. Atul Kapdi (Secretary RIHSM) delivered the vote of thanks. He expressed his gratitude towards collaborative efforts of all participants. On behalf of the RIHSM, he expressed his appreciation for the support and encouragement provided by everyone to make this workshop successful. The program marked it's conclusion by 2.00 pm followed by linch.



Dr. Dhananjay Mhasade delivering lecture

Dr. Mandar Ranade delivering lecture

Dravyaguna Vidnyan - A Backbone of Ayurved

डॉ. अपूर्वा संगोराम, कार्यकारी संपादक

Bhishak, Dravya, Upasthata and Rugna are the four pillars of Ayurvedic treatment modalities. Out of these pillars, Dravya is one of the most important parts of the Chikitsa. Without 'Dravya', Chikitsa is not possible.

In ancient times, vaidyas used to collect the medicinal plants which they had planted in their premises for preparation of the medicines and to get the genuine and pure plants. Now a days due to a huge population, there is scarcity of medicinal plants. As few farmers cultivate these plants, there is disproportionate demand and supply, which has resulted in a big problem in getting the medicinal plants.

For any medicinal plant, identity, quality and purity are the key factors. They should be identified properly having the quality parameters and should be pure without adulteration.

Due to globalisation, consumerism, adverse effects of modern medicines and self medication practices, the whole world is in need of medicinal plants. However the out of proportion demand and supply has resulted in their scarcity. Hence the qualitative and pure material required for the medicines is extremely rare. Now a days there are many drugs available in the market which are not mentioned in the Ayurvedic classics or pharmacopeias. They are called as Anukta Dravya. The appropriate uses of these dravyas is unclear to the Ayurvedic physician. Due to the scarcity of plants there are many controversies in the dravya. Many varieties share a common name all over India. National medicinal plant board (NMPB) along with its regional centres has tried to overcome all these problems.

Considering these challenges before Ayurved community, Department of Dravyaguna and centre for postgraduate studies and research in Ayurveda jointly organised a seminar 'Dravyasandeepan' Enlightening pathways towards Dravyaguna on 12th and 13th August 2023 at Tilak Ayurved Mahavidyalaya, Pune.

Eminent experts from the field of Dravyaguna, Botany, Phytochemistry have been called to share their views and experiences.

The seminar will act as a guide to help scholars in overcoming all such challenges. I extend my sincere and best wishes to the same and genuinely hope that the participants enjoy this feast of knowledge .

द्रव्यमेव श्रेष्ठम्..।

डॉ. सौ. विनया दीक्षित, उपसंपादक

आरोग्यदानासारखे महापुण्य दुसरे नाही. आयुर्वेद, होमियो किंवा ॲलोपॅथी कुठल्याही पद्धतीने रुग्णचिकित्सा करताना डॉक्टरांचा सर्व विश्वास हा औषधी द्रव्यावर असतो. त्याच्यातील औषधी गुणकर्मांनीच रुग्णास वेदनांपासून मुक्ती मिळते, स्वास्थ्यप्रस्थापित करता येते व पुढे स्वास्थ्यसंवर्धन करता येते.

'औषधी द्रव्याचे' सखोल अध्ययन नाम – रुप व गुण या तीन पद्धतीने आयुर्वेदातील सर्व संहिता तसेच निघण्टुंमधे विस्ताराने वर्णन केलेले आढळते. त्रिदोष सिद्धान्त असो वा पांचभौतिक सिद्धान्त कशाचेही पालन करुन योग्य रुग्णपरीक्षणानंतर 'औषधी द्रव्य निश्चित' करणे हेच प्रधान कार्य! त्यावरच बरचसे यश ही अवलंबून असते.

या औषधी द्रव्यांचे खनिज–प्राणिज व वनस्पतीज असे त्रिविध प्रकार जरी वापरात असले तरी प्राधान्याने 'वनौषधींचाच' वापर सर्वसामान्यतः दिसतो. या वनौषधी द्रव्यांचा वापर आयुर्वेदातील विविध कल्पांमधे व एकेरी द्रव्य चिकित्सेत प्रचंड प्रमाणात होतो. लोकसंख्या, औषधी कंपन्यांची असंख्यता व संपूर्ण जगात आयुर्वेदाची वाढती लोकप्रियता, विशेषतः ''हर्बल/नॅचरल'' टॅगनावाने चित्र विचित्र प्रत्येक वस्तूमधे होणारा यांचा उपयोग, जसे साबण, टूथ ब्रश पासून कॉस्मेटीकस् हेल्थड्रींक मिक्स पर्यंत सर्व काही यांनी युक्तच असते.

अशा परिस्थितीत मागणी व पुरवठा यांचे ताळतंत्र नक्कीच राखता येत नाही. मग प्रतिनिधी द्रव्य, वारेमाप जंगलतोड किंवा फसवणूक अशा घटना सर्रास आढळतात. इथेच शास्त्रीय विचारणीस व आयुर्वेदीय धार्मिक आचरणास धक्का पोहचतो. व्यापार व वैद्यकीय व्यवसाय यातील 'वनौषधींचा वापर' हा अत्यंत संवेदनशील व जीवनमरणाचा मुद्दा आहे. याकडे अनेक युगे सरकारी व सामाजिक स्तरावर प्रचंड दुर्लक्ष झाले आहे. काही नियम गेल्या काही दशकात निश्चितपणे आलेत जसे पुष्करमूळ, चंदन इ. चा वापराबाबत परंतु घडणाऱ्या घटना व ह्या नियमांचे प्रमाण फारच व्यस्त आहे. आयुर्वेदीय चिकित्सेचे प्रमुख आधार वनौषधीद्रव्य नैसर्गिक पद्धतीने शेती करणे, प्राप्त करणे, साठवणे व न्याय्य पद्धंतीने च वापर करणे ही काळाजी गरज आहे. मूळासकट वृक्षतोड कुठल्याच वैद्यवृंदास मान्य नाही. कुठलाच संप्रदाय पर्यायी औषधांचा नित्यवापर पुरस्कृत करीत नाही मग हे सगळं नक्की कसं चाललय. यात एक आयुर्वेदीय म्हणून आपली प्रत्येकाची जबाबदारी काय? याला उपाय शोधायचाच नाही का? मी वैयक्तीक स्तरावर काय करु शकेन? हा शास्त्राच्या अस्तित्त्वाचा प्रश्न नाही का?

या सर्व प्रश्नांना सामोरे जाणे व उत्तरांचा पाठपुरावा करणे हेच नैतिकतेला धरुन जगणे होईल. अन्यथा एक आयुर्वेदीय असे म्हणणे योग्य होणार नाही.

उपायांचा विचार केला तर हर्बल व आयुर्वेद वेगळे आहेत हे जनमानसांत प्रबोधन करणे. चुकीच्या भ्रामक जहिराती व माध्यमांतील हर्बल आरोग्य विषयक बातम्यांवर कडक बंधन हवीत. माफक व न्याय्य प्रमाणातच औषधी द्रव्यांचा उपयोग होण्यासाठी सर्वच स्तरांतून एकत्रित नियमबद्ध हालचाल हवी. वनौषधींची लागवड, राखण व संरक्षण या करिता वेगळा समाजगट सतत कार्यरत राहणे गरजेचे आहे. जुन्या दुर्मिळ औषधी वनस्पनींचे 'जेनेटीक मॅपींग' व प्रयोगशालेय निर्मितीशक्य आहे का याकरिता संशोधनास चालना देणे. सध्या उपलब्ध वनस्पतीज औषधींचा नव्याने अभ्यास करुन विविध आजारांसाठी व स्वास्थ्यरक्षणासाठी त्यातील टाकाऊ भागांपासून औषधे बनवणे ही 'युक्तीज्ञ' वैद्याची नैतिक जबाबदारी वाटते. जसे फलत्वक विविध बिया, आम्रसाल, मूळांपेक्षा पानांचा वापर इ. उदाहरणा दाखल सांगता येतील. या बरोबरच आधुनिक संशोधन पद्धती व रुग्णालयीन प्रयोग यांचा शास्त्रीय आलेख निर्माण करुन अपयुक्तता प्रस्थापित व्हावी. ''द्रव्यसंदीपन'' या राष्ट्रीय सेमिनारच्या आयोजकांचे अभिनंदन!

टिळक आयुर्वेद महाविद्यालय नेहमीच प्रगतीशील विचारांना कृतीतून पाठिंबा देत असते. भारतीय आयुर्वेदीय इतिहासात नोंद होईल असे संशोधन व समर्पित नियोजन येत्या काळात निश्चित पणे या संस्थेकडून येईलच. वनौषधींचे श्रेष्ठत्त्व सिद्ध करण्याची गरज नाही परंतु त्यांचे संवर्धन व संरक्षण करण्यासाठी यशस्वी नवी दिशा मिळो हीच श्री धन्वंतरी चरणी प्रार्थना!

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