KERALA AYURVEDA VAIDYAM

A JOURNAL ON EVOLVING AYURVEDA

KERALA ayurveda
wellness, naturally

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AYURVEDIC EDUCATION IN GLOBAL PERSPECTIVE

PRIYAALAMAJJAADI YOGA

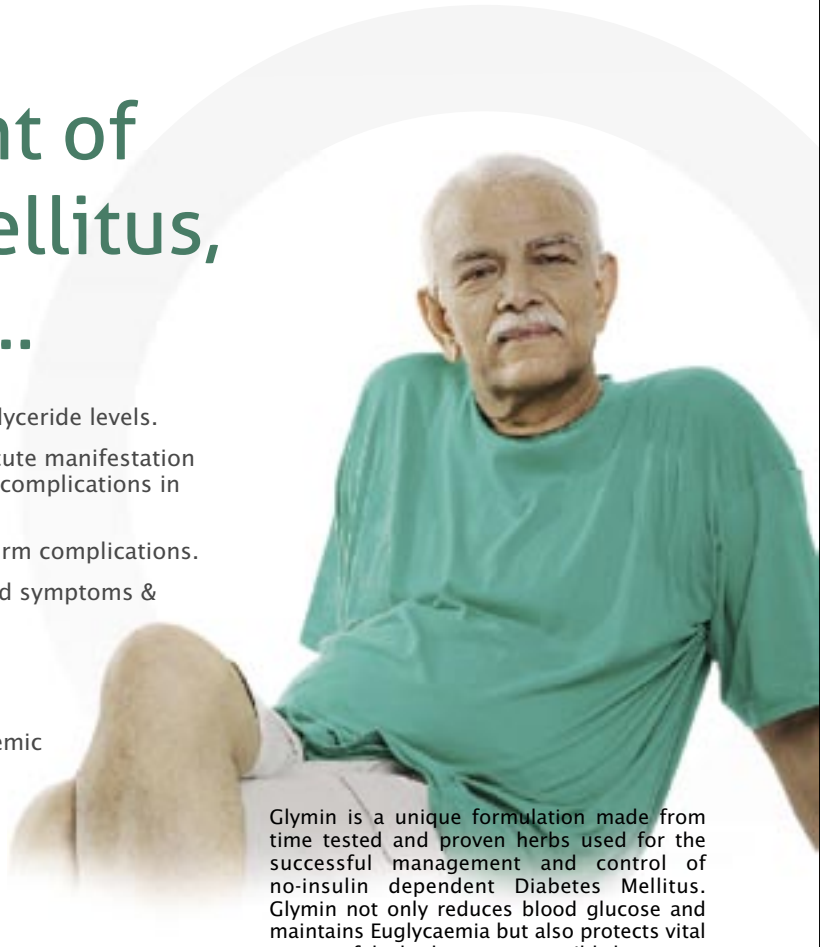
ROLE OF AYURVEDA IN HEALTH CARE OF WORKING WOMEN

THE AGGREGATE PERSON

CRATAEVA NURVALA A VALUABLE MEDICINAL PLANT IN THE TREATMENT OF BENIGN PROSTATIC HYPERPLASIA

UNCTION (Snehana) – AN OVERVIEW

Safest Management of Diabetes Mellitus, Natural too...



Reduces blood glucose and lowers triglyceride levels.

Maintains Euglycaemia and prevents acute manifestation & long term micro and macro vascular complications in NIDDM patients.

Protects vital organs and averts long-term complications.

Reduces hyperglycaemia and associated symptoms & complications.

Provides wellness and comfort.

Completely safe & non-toxic.

Have anti-oxidant and anti-cholestrolaemic properties.

GLYMIN

Glymin is a unique formulation made from time tested and proven herbs used for the successful management and control of no-insulin dependent Diabetes Mellitus. Glymin not only reduces blood glucose and maintains Euglycaemia but also protects vital organs of the body to avert possible long term complications of diabetes mellitus. It is also an anti-oxidant with anti-cholesterolaemic properties and is highly effective in training maturity onset diabetes.

Indication:
Maturity onset diabetes

Dosage:
1 to 2 tablets thrice daily or as directed by the physician

Presentation:
10 x 10 tablets in blister in a carton box

An anti-diabetic drug with a certain difference



Salacia oblonga (Peetika) 300mg. | Syzygium cumini (Jambu) 200mg | Pterocarpus marsupium (Asana) 200mg | Gymnema sylvestre (Meshasringi) 100mg | Tinospora cordifolia (Guduchi) 100mg | Emblica officinalis (Amla) 100mg | Curcuma longa (Haridra) 100mg | Silajit 30mg

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Ayurvedaachaarya Vaidyan
KGK Panicker
Founder of Kerala Ayurveda Limited

अवृत्तिव्याधिशोकार्ताननुवर्तेत शक्तितः
आत्मवत्सततं पश्येदपि कीटपिपीलिकम् ।।

अ.हृ.स. २:२३

Help the unemployed, the sick and the aggrieved according to your ability.
Always consider trivial creatures including ants as fellow living beings.

(A.H.Soo. 2:23)

People have an innate tendency to consider one self superior to others.
It is something like saying "I am Okay and you are not Okay".
This is the root cause of all social disagreements. To ensure
social health and harmony all should consider that all are equal.
This consideration of equality should be extended even to trivial
creatures. Our vision and mission is 'let all beings be happy'.

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AYURVEDIC EDUCATION IN GLOBAL PERSPECTIVE





Dr. K.Anilkumar
Executive Director KAL & Member CCIM

Students of Ayurveda should be inspired to aspire being global health workers rather than to settle down as a village doctor.

The global proliferation of Ayurveda has opened up new vistas to the science and its stake holders. But these new golden gates are not toll free. They demand optimal global standards from Ayurveda, especially from the field of Ayurvedic education. Till date Ayurvedic education was catering for the domestic needs, mainly to meet the demands of health services in Indian villages as an alternative system of medicine. Even WHO is viewing Ayurveda as a CAM to operate where there is no modern doctor. With all respects to WHO which has earnestly attempted to promote Ayurveda as a science right from its Alma-Atta declaration, it should not be overlooked that all these attempts have side tracked Ayurveda as a CAM. But the core competence of Ayurveda is as a self sufficient treatment system and we have to project Ayurveda globally as a main stream medical system. Ayurveda should not restrict itself as a secondary system operating where modern medicine is not available or ineffective.

Ayurvedic education should be remolded to achieve this target. Students of Ayurveda should be inspired to aspire being global health workers rather than to settle down as a village doctor. This means that they should be competent to meet global health demands. The global scenario is saturated with modern medicine. In this crowd the entry point of Ayurveda should be at appropriate slot, of course with appropriate dialogue. To start with, we will have to enter and master those arenas in health care where modern medicine is helpless.

This is not an easy task. Diseases not yielding to modern medicine are generally tough opponents to Ayurveda also. Taming them requires deep scientific knowledge, good experience and patience. Above all the doctor should be able to communicate effectively with the patient, his people, his doctors and even the government of the country. Then only he can have the patient for himself and subject him to long term therapy with drugs and procedures unfamiliar to them. Medical rules of every country are dictated by norms and convictions of modern medicine and naturally to satisfy them, the ayurvedic doctor should be able to explain facts supported by figures in those terms which are comprehendible to them. If not there will be immediate rejection as every ardent believer of modern medicine will be highly reluctant to approve anything against his convictions. Hence the Ayurvedic doctor abroad should be highly diplomatic in implementing his system and he should have deep belief backed by experience in the efficacy of Ayurveda. We cannot enforce things and ideas which we are not sure of. This is the relevance of remolding Ayurvedic education to cope up with global parameters.

Diseases of the world may be broadly classified into two viz; infections and degenerative diseases. Most of the infections are under the control of antibiotics and vaccines. A few more are still remaining to be promptly tackled by modern medicine. We may hopefully think that these also will be under reigns soon. The arena of degenerative disease is different. Modern medicine is usually helpless in this field. Diseases like Parkinsonism, Alzheimer's and multiple sclerosis are evidently mastering this area. Such diseases are really unaffected by the earnest efforts of modern medicine. Here is where Ayurveda has to prove its mettle. This again is not that easy.

An ayurvedic doctor should have experience in managing such diseases effectively. Our academies should have special programs for such specific diseases and at student level itself a doctor should be acquainted with managing such diseases and should develop assurance that they can be effectively brought under control. To begin with, there should be research orientation in the treatment of these diseases. We know that we do not have ready made remedies for these maladies. Hence we have to develop protocols for each degenerative disease and get convinced ourselves that such protocols really work. Students should witness the effectiveness of such systems so that they will gain

confidence in them. Only such seeded, confident Ayurvedic doctors could effectively propagate Ayurveda in other countries and establish Ayurveda as a mainstream system of medicine there.

Needless to say, such doctors should also be familiar with all the modern diagnostic gadgets and paraphernalia as the world expects them to utilize and comprehend such data before, during and after any scientific therapy. Hence the student of Ayurveda should be well trained in these diagnostic measures. Modern medical knowledge is very important for the students, if we are expecting them to practice out side India. Hence equal importance should be provided to modern medical knowledge in the syllabus and curriculum. There will be hues and cries from professional minded people from the modern medicine against this attempt, but the globe will not accept a doctor without modern knowledge. Hence the government should take steps in this direction if it really wants to export Ayurveda. But unfortunately all the authorities are always trying to keep Ayurveda as a fossil or museum specimen and not as a live practicing system of medicine. This attitude will not help Ayurveda at any rate. With all due respect to the past, remember that we are living in the 21st century. Even the modern aspects included in the present syllabus are not implemented or implemented for name sake. Biochemistry, modern pharmacology, surgery and midwifery are examples.

Another important aspect is to wean ayurvedic students from the breast of classical treatises. We are still clinging to the skirt of the mother of antiquity and are unable to bravely face the new world. With all reverence to the treatises, I would suggest that they are not for the UG classes and should be reserved for reference and for post graduate research work. New texts should emerge for the needs of under graduate studies. These texts in English should extract all relevant data from the treatises and put them straight to the mind of students unambiguously and without any mystification.

We are not living in the era of Caraka and Susruta. What we want is the Ayurveda of today and tomorrow.

We should also be bold enough to discard irrelevant and unscientific data even if they are mentioned by the most respected seer of the past. What is the fun of learning that there are 360 bones including nails and teeth or 300 bones when we really know that there are only 206 bones in a human body? The information may have historical importance. But such information finds no application even in those classic texts where such enumerations are postulated.

Importance of practical training should be emphasized. Presently the weightage given to practical training is very less. All our seers have mentioned that practical training is equally important as imparting theory. Due to the lack of proper practical training, new graduates are not having confidence to practice independently or they get trapped in some catalogue for treating diseases. But if the doctor has to end up in a catalogue of medicines and procedures, why should we waste five and a half years to study Ayurveda. The catalogue could be mugged up in a week or so. The out standing uniqueness of Ayurveda is its flexibility in treatment. When we are clinging to catalogues, Ayurveda becomes identical with modern medicine which is very rigid and does not permit any personal freedom to the doctor in prescribing. Simulating the methodology of modern medicine in prescribing will highly limit the possibilities of Ayurveda.

Total exposure to various sectors of Ayurveda, especially clinical exposure is minimal today. This results in the production of half cooked doctors. Out from the academy they are unable to practice properly. Hence many have to study everything again under some good practitioner.

Ayurveda academy should be able to inculcate research mentality in students even at the undergraduate level so that they will be equipped to undertake research projects of their own in their personal practice. We need not wait for them to acquire postgraduate title to start with research. The students should be taught to look at each and every case coming to them with a research perspective. This will aid the ability of proper observation, investigation and documentation in their practice and will in long term assist the development of Ayurveda.

The academy should encourage students to ask proper questions at proper points. Remember that all classical treatises and Indian sciences were written as answers of the questions of pupils. Genuine doubts posed as questions have always provoked thought of seers. Proper questions invited proper answers. Hence questioning is a method of scientific inquiry.

We are not living in the era of Caraka and Susruta. What we want is the Ayurveda of today and tomorrow. To achieve it, we should sore from the classics to further heights. The seed of this development is to be sown in the academy itself. Students should be encouraged to think free so that new ideas can emerge in Ayurveda. We have to interpret ancient ideas in the light of new knowledge so that the ancient wisdom will be acceptable to the modern world. For this exercise we have to put in more hours in the study of biochemistry, biophysics and phytochemistry.

We should be able to explain the mode of action of our procedures. For example, if somebody asks us how *sirovasti* is acting, we should be able to explain it convincingly. At present we are not able to do so. Academic research should aim at finding out answers for such questions.

Teamwork is an essentiality in education and research. We should be able to communicate effectively in these fields. Students should be encouraged to work in teams and to recognize the strength of teamwork.

Postgraduate studies have brought in subject specialization. But unfortunately many specialists are working as general practitioners. This means that the money poured into postgraduate education is down the drains. As far as possible we should permit postgraduates to practice in their specialty.

Now a new syllabus is on the anvil of CCIM. This syllabus is envisaged with emphasis on the global perspective of Ayurveda and is more practical oriented. Let us hope that when it is an actuality, it will considerably solve most of the problems of launching Ayurveda globally ■

PRIYAALAMAJJAADI YOGA

IN GROWTH AND DEVELOPMENT OF CHILDREN



Dr. LEKSHMI M.K.



(Excerpts from the thesis submitted to the University of Kerala by Dr.Lekshmi M.K. under the supervision of Dr. S.K.Ramachandran MD (Ay.) Professor & Head, Department of Kaumarabhṛtya, Govt. Ayurveda College, Thiruvananthapuram, in partial fulfillment of the requirements for the award of the degree of Doctor of Medicine [Ayurveda]. This thesis bagged the **Gaveshakratna Award** of Kerala Ayurveda Ltd. in the year 2008.)



I. INTRODUCTION

The introductory part of the thesis deals with the need and significance of the study, aims and objectives of the study, hypothesis and contents of the thesis.

II. LITERARY REVIEW

This section has seven chapters viz. 1) growth and development, 2) Child nutrition, 3) Breast feeding, 4) Complementary feeding, 5) Growth and development – ayurvedic perspective, 6) Infant and young child feeding in Ayurveda and 7) Evaluation of the formulation under consideration.

Concept of breast milk supplementation and complementary feeding practices are well explained in the thesis without trailing the importance of breast feeding. The prime choice of breast milk supplementation explained in the science is breast milk through wet nurses. Instead of other solid or semi solid foods, milk of other animals such as cow or goat is prescribed for supplementation as it is more congenial than any other food. Vaagbhaṭa has advised the use of a special type of food preparation called *modaka*, which is a sweet ball with sugar as the major ingredient. The study assesses the efficacy of a classical formulation, *Priyaaḷamajjaadi modaka* mentioned in Ashṭaanga Hṛdaya (U.1. 38) in the context of pediatric care to be given as complementary feed. *Modaka* is a spherical confection. The name implies happiness as it is cherished by children because of its palatability. *Modaka* varies in size and weight from 20g to 100g. For this study the formulation was used as a powder and not in its spherical form.

INGREDIENTS OF THE FORMULATION

1. *Priyaaḷa* – kernels of seeds – *Buchanania lanzan Spreng*. syn. B. *latifolia* Roxb.
2. *Madhuka* – root – *Glycyrrhiza glabra* Linn.
3. *Madhu* (honey)
4. *Laajaa* (rice pops)
5. *Sitopala* (sugar candy)

PRIYAALA

Priyaala is an evergreen tree growing up to 15m high found throughout the country in dry deciduous forest. The seeds of the tree are sweet in taste, heavy, unctuous & spreading (*sara*) in property & non-hot (*anushna*) in potency and sweet in metabolic effect. The seeds are aphrodisiac and mitigate vaata and pitta. The kernel of its seeds contains Fixed oil – 51.8%, Protein – 21.6%, Starch – 12% and Sugar – 5%.

The kernel oil contains amino acids, carbohydrates, protein, maleic acid, linoleic acid, myristic, oleic, palmitic, stearic and arachidic acids.

FORMER STUDY ON *PRIYAALA*

Products of certain plants given to mothers after child birth or to invalids were studied for immuno-stimulant activity using the macrophage migration index (MMI) as a parameter of macrophage activation and cell-mediated immunity and haemagglutinating antibody (HA) titres and plaque forming cell (PFC) counts as parameters of humoral immunity. Feeding of *Prunus amygdalus* Batsch. (almond) and *Buchanania lanzan* Spreng. (*chirronji*) significantly stimulated both CMI and humoral immunity in BALB /c mice as evidenced by the enhancement of MMI, HA titres and PFC counts. Traditional healers of Chhattisgarh reported that water kept overnight in a bowl of *priyaala* is beneficial for persons with sexual complaints.

RESEARCHES ON LENOLEIC ACID

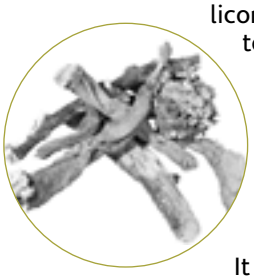
▸ Weise et al.(1958) reported that for the normal nutrition of infants, 4% of the calories has to be supplied by the Linoleic acid when fat provides about 30 – 40% of the calories in diet.

▸ Hensen et al. (1963) observed the development of a clinical syndrome of a skin rash (similar to eczema) in infants who received no essential fatty acids for several months.

▸ Same group has also investigated the effect of essential fatty acids on the growth infants. They found that the growth and general health of the infants were satisfactory when linoleic acid supplied 1.3 – 1.7% of the calorie intake. Linoleic acid comprises 4.5% of the calories in the human milk and 1.5 – 2% in the cow's, buffalo's and goat's milk. It may therefore be desirable to add vegetable fat rich in linoleic acid to infant foods based on animal milk in order to raise the Linoleic acid content to same level as in human milk fat.

IMPORTANT FORMULATIONS THAT CONTAIN *PRIYAALA* ARE *POOGA-KHANDA, PRIYAALA TAILA.*

MADHUKA



The common name of this drug is licorice. The plant belongs to the family fabaceae and occurs from Southern Europe to Arabia, Afghanistan and to the Himalayas, Myanmar and the Andaman islands. It is cultivated in various regions of India. Roots are used as drug. The roots contain glycyrrhizin in the form of glycyrrhizic acid which is 50% sweeter than sugar. Yellow color of the root is the presence of isoliquoritin (2.2%), a glycoside. A steroid estrogen is also present. The drug is sweet, heavy and unctuous, cold in potency and has sweet metabolic effect.

It mitigates vaata and pitta and increases strength and bulk of body, cures diseases of blood and throat, anemia, itching, burning sensation, cough. It is good for skin and improves complexion.It is aphrodisiac, analgesic, promotes intelligence, and reduces kapha. It is also a smooth muscle depressant, anti microbial, hypolipidaemic, anti atherosclerotic, anti-viral, hypotensive, hepato-protective, anti-exudative, spasmolytic, antidiuretic, antiulcer, antimutagenic, antipyretic, antioxidant, anti-inflammatory and expectorant.

MADHU (HONEY)



Honey contains sugars like fructose, glucose, sucrose, maltose, lactose and other disaccharides and trisaccharides, proteins, fats, vitamins, minerals, enzymes and amino acids, volatile aromatic substances, ashes and water etc. It is sweet and astringent in taste, heavy and dry, cold in potency and acrid in metabolic effect.

It is an instant energizer as it contains sugars, hygroscopic and cleans and accelerates healing of wounds, sedative, antioxidant and antibacterial. It is useful in bed-wetting. It softens the skin and gives young looks. Constant use of honey strengthens the WBC to fight bacterial and viral diseases. Honey is very good for eyes and eye sight. It quenches thirst. It dissolves kapha. It is antitoxic. It is used in hiccup, urinary tract disorders, worm infestations, bronchial asthma, cough, diarrhea, nausea and vomiting. As an additive in formulations it augments the action of the other drugs in the formulation.

LAAJAA (RICE POPS)

Rice pops are sweet and astringent in taste, light and dry in property, cold in potency and sweet in metabolic effect. It increases strength, mitigates pitta and kapha, relieves vomiting, diarrhea, burning sensation, bleeding diseases, diabetes, obesity and thirst. Rice pops are used to prepare porridge (*laaja-peyaa*) and drinking water (*laaja-manda*).

SITOPALA (SUGAR CANDY)

Sugar is sucrose. It is sweet, unctuous, light, cold in potency and sweet in metabolic effect. It provides energy. It is laxative and alleviates vaata and pitta. It is used in bleeding disorders, jaundice, flatulence, anemia, ascitis etc. It increases strength and valor, increases kapha, good for throat and diuretic.

THERAPEUTIC ACTION OF THE FORMULATION

The formulation is nourishing *(brmhana)* and generates satiety *(preenana)*.

REASERCH DESIGN

The study was designed as a randomized controlled clinical trial, in which simple randomization is used. Three groups were selected for the study and each group is divided into study and control clusters.

THE GROUPS

Group A – Just started weaning group. Children from four months onwards were admitted to the study and they are advised for the promotion of breast

feeding. The study proper starts in children who have completed five months and have not reached seven months of age and have started weaning. Twenty children were taken in this group, ten each for study and control clusters. 15g of the formulation once daily was administered to the children of the study group along with the advised diet. The control group had the same diet only.

Group-B – Established weaning group. The study proper starts in children of nine months of age, who had completed at least two months of weaning. There were twenty members in the group, ten each in study and control clusters. The study cluster received 15g of drug twice daily, along with advised diet. Control group had no drug but had the same diet. Children who had participated in group-A is not included.

Group-C – Established dietary group. Children who had completed at least four months of complementary feeding and continue to get breast milk are included in this group-C. Study proper started at twelve to sixteen months of age. The group had 15 children, eight in control cluster and seven in study cluster. The study cluster received 25g of drug twice daily, along with advised diet. Control group had no drug but had the same diet.Children who had participated in groups-A or B are not included.

Children were selected for the study from the immunization dept Govt. Ayurveda College Hospital for women and children, Poojappura, Thiruvananthapuram.

INCLUSION CRITERIA

1. Children who had started weaning
2. Maximum age limit will be up to 24 months (should continue to get breast milk)

EXCLUSION CRITERIA

1. Children of age below four months and twenty four months
2. Nutritional deficiencies associated with pathological conditions
3. Children with over nutrition
4. Children with congenital anomalies

Randomization – Simple randomization technique for each group.

Dropouts – Gr.A – nil. Gr.B -1 from control cluster. Gr.C - 4 from control cluster and 2 from study cluster. Reason not known.

Duration of study – 18 months, including the literary evaluation.

Preparation of study drug – the drugs were made into a sugar confection dried and powdered and packed in airtight plastic bags.

Mode of administration – Drug was mixed with milk as a porridge.

Data collection – data was collected by using a prepared clinical performa the efficiency of which has been tested.

Assessment criteria

Assessment was done before, during and after the study using the following nationally accepted parameters.

1. Measures of morbidity – Illnesses which occurred in the child were recorded using the following parameters of morbidity indices

a. Incidence rate

b. Period prevalence rate

2. Assessment of growth and nutritional factors

a. Weight

b. Length

c. Head circumference

d. Mid upper arm circumference

e. Chest circumference

World Health Organization, anthropometric software was used for calculations.

3. Assessment of development by muscle tone, Trivandrum Development Screening Chart etc.

OBSERVATIONS

Table 1 Age wise distribution of the participants

Age	Number	Percentage
4 to 6	20	36.4
7 to 8	20	36.4
10 to 12	2	3.5
13 to 15	10	18.2
16 to 18	3	5.5

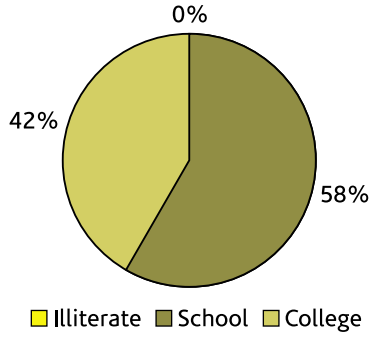
Table 2 Sex wise distribution of the participants

	Count	Percentage
Male	26	47
female	29	53
Total	55	100

Table.3 Domicile wise distribution of the participants

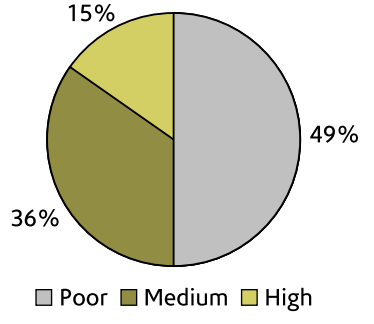
	Count	Percentage
Rural	14	25
Urban	41	75
Total	55	100

Table 4 & figure 1 Distribution of participants as per educational status of the parent



	Count	Percentage
Illiterate	0	0
School	32	58
College	23	42
Total	55	100

Table 5 & figure 2 Economic status wise distribution of participants



	Count	Percentage
Poor	27	49
Middle	20	36
High	8	15
Total	55	100

Table 6 Religion wise distribution of the participants

	Count	Percentage
Hindu	28	51
Muslim	14	25
Christian	13	24
Total	55	100

Table 7. Dietary habits wise distribution of the participants

	Count	Percentage
Vegetarian	12	22
Mixed	43	78
Total	55	100

Table 8. Initial month of complementary feeding

Age	Count	Percentage
4	22	40
5	20	36
6	11	20
After 6	2	4
Total	55	100

Table 9. First complementary feed given

Feed	Count	Percentage
Ragi	39	71
Tined food	9	16
Others	7	13
Total	55	100

Table 10. Food with vegetable in the first month of weaning.

Food with	Count	Percentage
Vegetables	16	29
No vegetables	39	71
Total	55	100

Observations Analysis and Interpretations of intervention

Data relating to the observations are tabulated separately in each group, analyzed and interpreted. Length, weight, head circumference, chest circumference and mid upper arm circumference were measured before and after treatment and the difference noted. The values are tabulated and graphically represented.

The results of the interventions on growth in the study and control clusters in all the three groups were evaluated by using statistical methods. The results are consolidated below.

In Group A, the study cluster showed a statistically significant difference in all the parameters taken in to consideration when compared to the control group. Length gain in the study cluster showed a statistically significant difference with P value 0.016 over the comparison. Gain in weight (P <0.001), head circumference (P 0.025), chest circumference (P 0.030) as well as mid upper arm circumference (0.015) showed statistical significance in the comparison.

In Group B only gain in length and weight of the study cluster showed statistically significant difference (P 0.18), when compared to the control cluster (P 0.48).

In Group C none of the parameters in the study cluster showed a statistically significant difference when compared to the control cluster.

Therefore, *Priyaaḷamajjaadi yoga* is having a significant effect on the growth of the children if administered in the initial phase of weaning, in which the other dietary additions are minimal. The formulation can be used up to 11 months for the enhancement of the weight and length of the children under one year of age along with an ideal dietary advice.

The effect of the formulation along with complementary feed was assessed on the development of the children using TDSC chart for assessing the developmental milestones. Only children having normal developmental pattern for the age were assigned to the study. After the completion, the same was evaluated and found that all the children in different groups attained the developmental milestones in time and had no difference between the study and control clusters in all the groups.

Assessment of weaning associated conditions such as loose stools, regurgitation, constipation, colic etc. were evaluated along with other morbidity conditions. Weaning associated conditions such as loose stools and constipation showed a considerable observed difference. During the intervention period in Group A, three participants in the study group showed loose stools, while none in the control group developed the condition. On statistical evaluation, the difference shown was not significant. A large sample may be necessary for a definite conclusion in this aspect. Single patients from Group B and Group C in the study cluster also developed loose stools. None in the control groups developed the conditions. The laxative effect of the *priyaaḷa* due to *sara* property may be the reason for this. However, considerable difference is noted in constipation in all the groups in the control and study settings. Five in the control cluster of Group A, six in the control cluster of Group B and two in the control cluster of Group C had developed constipation but none developed the condition in the study cluster of any of the three groups. In group A and Group B, the observed difference had a statistical significance too (with P values 0.039 and 0.017 respectively). One of the major problems associated with weaning is constipation that is not there in the study group received the *Priyaaḷamajjaadi yoga* along with the same diet that of the control group. The *saratva* property of the drug helps in this aspect and it is very valid too.

The study was able to satisfy its objectives quite comfortably. Sample size in each group were not sufficient. This has particularly affected the assessment of morbidity. No conclusions regarding the sustained efficacy of the intervention as the study proper in each group was only for two months and no follow up was done. The study says nothing about the duration of administration of the formulation as it considers only two months as the period of intervention.

Future research

The results may be reviewed with much larger samples, the duration of administration of the formulation may be considered along with a follow up for the sustained effect and the question of over nutrition and other ill effects if any, on prolonged administration may be considered. A multi disciplinary approach to make the formulation more stable and more user-friendly is to be considered. A detailed experimental research to evaluate the nutritive value of the formulation is to be conducted. .



Conclusion:

Priyaaḷamajjaadi yoga is having a significant effect on the enhancement of growth and development of the children during the first year of life. The effect is particularly evident in children in the initial stage of complementary feeding ■

CLINICAL YOGA FOR BRONCHIAL ASTHMA



Dr .K.V.DILIPKUMAR,
Professor, V.P.S.V Ayurveda College, Kottakkal

Asthma is characterized by paroxysmal and reversible obstruction of the airways. It is increasingly understood as an inflammatory condition combined with bronchial hyper-responsiveness. Acute asthma involves:

- Bronchospasm (smooth muscle spasm narrowing airways)
- Inflammation of the muscles surrounding the airway passage
- Excessive production of secretions (plugging airways)

The inflammation makes the airways smaller and therefore making it difficult for air to move in and out of the lung. In some cases, breathing may be so laborious that an asthma attack becomes life-threatening.

Asthma is associated with mast cells, eosinophils, and T-lymphocytes. Mast cells are the allergy-causing cells that release chemicals like histamine. Histamine is the substance that causes nasal stuffiness and constriction of airways in asthma, and itchy areas in case of skin allergy. These cells, along with other inflammatory cells, are involved in the development of airway inflammation in asthma that contributes to the airway hyper-responsiveness, airflow limitation and respiratory symptoms.

This creates the following symptoms:

- Cough
- Chest tightness
- Shortness of breath
- Wheezing

Symptoms can be brought on by a variety of triggers such as:

- Allergens (pollen, mold, animal dander, dust mites)
- Irritants such as smoke, strong odors
- Respiratory infections
- Weather changes
- Viral or sinus infections
- Exercise
- Stress
- Gastro Esophageal Reflux Disease (GERD)
- Medications
- Foods
- Emotional anxiety

TYPES OF ASTHMA

There are different classifications of asthma :

Allergic asthma: Caused by airway inflammation when exposed to allergens.

Exercise-induced asthma: Airways narrow when triggered by vigorous activity.

Occupational asthma: Related to working in a particular occupational environment. Symptoms are more severe while at work during the exposure.

ETIOGENESIS OF ASTHMA ACCORDING TO YOGA

Paroxysms of Asthma are initiated at *mano-maya-kośa*. Emotions like sorrow, fear and anger are triggered due to various extrinsic and intrinsic factors and alter the functional balance as breathing difficulty and cardiac dysrhythmia. Here after the *prāṇa-maya-kośa* is also affected. The imbalance in *praanamaya* in turn will



percolate to the *anna-maya-kośa* and manifest in the form of bronchospasm, inflammation of mucous membrane and secretion of phlegm. Genetic factors can be explained as the seeds of previous births that are embedded at *aananda-maya-kośa*. *Vijjnaana-maya-kośa* is involved with lack of discrimination in assessing the environment.

A similar situation is narrated in Patanjali's Yoga sutra in the description of the companions of *vikshepa* (obstacles caused by distractions). Certain symptoms like sorrow, depression, tremor and changes in respiration occur in association with vikshepa.

This may be further explained with an example. Mrs. Sarada, aged 40



Paroxysms of Asthma are initiated at *mano-maya-kosa*. Emotions like sorrow, fear and anger are triggered due to various extrinsic and intrinsic factors and alter the functional balance as breathing difficulty and cardiac dysrhythmia. Here after the *praana-maya-kosa* is also affected. The imbalance in *praanamaya* in turn will percolate to the *anna-maya-kosa* and manifest in the form of bronchospasm, inflammation of mucous membrane and secretion of phlegm.

years, a house wife. She is suffering from frequent episodes of bronchial asthma. She is allergic to house dust, smoke, paddy dust, cockroach etc. Her history reveals that from childhood she is an introvert *(aananda-maya-kosa)*. After her marriage she was send to a far away place from her parents. At her husband's house, she was forced to do all the house hold work under the supervision of mother-in-law. She could not express or share the feelings with husband. She developed anger towards mother-in-law and husband. Since she does not have the courage to express, she suppressed the emotions *(mano-maya-kosa)*. She was unable to take a decision and believed it as destiny *(vijjnaana-maya-kosa)*. Anger was later converted as hypersensitive reaction and sorrow turned as heaviness of chest *(praana-maya-kosa)*. Very soon, asthma is manifested with breathlessness, inflammatory changes and secretion of phlegm *(annamayakosa)*. Later this behaviour is conditioned subconsciously. Whenever she is reminded of those bad days with visual or olfactory stimulus, all those emotions are triggered in *mano-maya-kosa* and induced asthma.

MANAGEMENT THROUGH YOGA

Clinical yoga management is designed to address the asthma systematically at all kosa levels.

ANNA-MAYA-KOSA

Shat-kriyaa, loosening movements, *yogaasana* and yoga chair breathing are used to operate at the *anna-maya-kosa* level to remove the physical symptoms of the ailments.

1. *Kriyaa*

Jala-neti, sootraneti (Catheter *neti*), *kapaala-bhaati, agni-saara, vamana-dhauti* are useful. Procedures *(kriyaa)* help to clean the airway passage, tone up the functions of lungs and respiratory muscles, desensitize the hyperactive mucus membrane and enhance the internal awareness.

2. Loosening movements

Movements of all joints with slow rhythmic pattern help to relieve the stiffness of the joints, stretch and relax the muscles and improve the strength and stamina.

3. *Yogaasana*

In severe acute asthmatic attack, any exertion can further worsen the condition. Hence after overcoming the acute condition using medication, various yogic postures can be practiced as preventive and curative.

- Practice should include postures in standing, sitting, supine and prone positions.
- Emphasis should be given to the postures *(aasana)* that stretch respiratory muscles. (e.g., *ardha-cakraasana, paada-hastaasana, trikonaasana, sasaankaasana, ushtraasana, pascimottaanaasana, supta-vajraasana, bhujangaasana, dhanuraasana*.)
- Perform *aasana* in a slow and relaxed manner with awareness.

- Stay in the final posture effortlessly as long as possible.
- Avoid jerky movements and repetitions.
- Give adequate relaxation after every posture.
- At the end of the practice, *savaasana* should be performed at least for 10 minutes.

4. Yoga chair breathing

SVYASA, Bangalore has developed an effective technique to prevent episodes of asthma. Bronchial asthma patients could identify prodromal symptoms of an asthma attack. They should use a chair to practice chair breathing technique just before the attack starts.

PRAANA-MAYA-KOSA

Through the practice of proper breathing and *praanaayaama*, the imbalance of the *praanamayakosa* can be corrected. Generally asthma aggravates due to cold food and environment. Therefore *sooryabhedana praanaayaama*, the warmth generating *praanaayaama* should be practiced and cooling practices like, *seetali* and *seetkaari* are to be avoided.

MANO-MAYA-KOSA

Patanjali prescribes certain remedies to reduce the negative emotions. They are friendliness, compassion, satisfaction and indifference towards happiness, misery, virtue and vice. That means,

- One can reduce his emotions by sharing with good friends who are in pleasant mood.
- Another technique is by showing compassion to people who are suffering more.
- Avoid persons and situations that create negative emotions.
- Feel contented with what one possesses and not yearning for more.
- Learn to maintain an equipoise state of mind in gain and loss.

Devotional sessions like prayers, chants and bhajans are also useful in alleviating negative emotions.

Following three limbs of *ashtaanga-yoga* can directly operate at the level of *mano-maya-kosa*.

1. Culturing the mind by focusing *(dhaaranaa)*.
2. Relaxed dwelling at a single point *(dhyaana)*.
3. Continuing the process for longer period leading to the state of super-consciousness *(samaadhi)*.

Vijnaana-maya-kosa

Elimination of misconceptions is the important treatment at *Vijnaanamaya-kosa*. Analysis of causes that lead to the misery are to be done. The following measures are useful in this regard.

- Counseling
- Awareness classes
- Self study
- Spiritual discourses
- Psychotherapy
- Hypnosis

Aananda-maya-kosa

Aananda-maya-kosa is purified by practice of *karma-yoga* thereby minimizing the effect of *karma (karma-phala)*.

Breathing Practices

Good breathing habits harness the energies for systematic development of the body and mind. Respiratory system is a bridge between the conscious and the sub-conscious, voluntary and the involuntary or, in general, the body and mind. The system is voluntary as well as involuntary. Using the voluntary control we change the involuntary functions.

The objectives of the breathing practices:

1. Training for full utilization of all lobes of the lungs.
2. Normalize the breathing rate.
3. Make the breathing uniform, continuous and rhythmic.

The principles involved in regularizing the breathing are:

i. Ability to increase and decrease the breathing rate.

ii. Developing awareness of breathing through the movements of different parts of the body.

iii. Slow down exhalation so as to be longer than inhalation.

Posture *(sthiti): Taadaasana*

Practice:

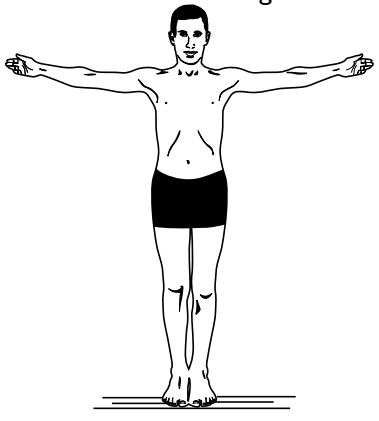
- Stretch out the arms in front, in level with the shoulders and bring the palms together.
- Inhale and spread the arms sideways in horizontal plane.
- Exhale and bring the arms forward with palms touching each other.
- Repeat 5 times, making the arm movements continuous and synchronizing with the breath flowing in and out rhythmically.
- Relax in *taadaasana*. Feel the changes in the breath and the body, especially the arms, shoulders and the back of the neck.

2. Hands Stretch Breathing

Posture: *Taadaasana*

Practice:

- Stand erect with feet together

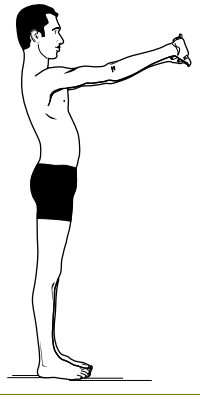


(heels together and toes 4 to 6 inches apart) and hands relaxed by the side of the body.

- Gently bring the hands in front of the chest.
- Interlock the fingers and place the palms on the chest.
- Collapse and relax shoulders.
- Close the eyes.

Stage 1 (Horizontal)

- While inhaling, stretch the arms straight out in front of the body so that the arms are at shoulder level (90°).



- At the same time twist the hands so that the palms face outwards.
- Fully stretch the arms, but do not strain.
- Now, while exhaling, reverse the process and bring the palms back on to the chest.

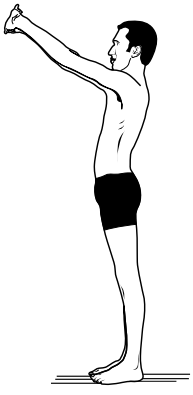
- Collapse the shoulders again.
- This is one round, repeat 5 times.

Stage II (At 135°)

- Repeat the same movements now stretching the arms above the forehead at an angle of 135°.
- Repeat 5 times.

Stage III (Vertical)

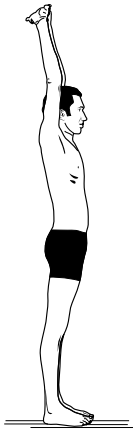
- Again repeat the same movements, this time stretching the arms vertically (180°) above the head.
- While moving up and down the palms should be close to the nose tip.



- Repeat 5 times.

Benefits:

1. Helps in opening the lower, middle and upper zones of the chest.
2. Awareness of the touch of air as it flows in and out.



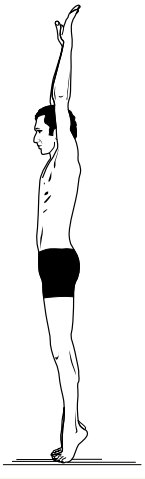
3. Awareness of expansion and contraction of airways in these three sections.
4. Trains the chest wall muscles for rhythmic breathing.

3. Ankle Stretch Breathing

Posture: *taadaasana*

Practice:

- Open the eyes and fix the gaze on a point on the wall ahead. Place the palms on front of your thighs.
- While inhaling, raise the hands and stretch the ankles. Feel yourself growing taller and firm.
- As you exhale, bring your hands and heels down.
- Repeat 5 times keeping the movement of hands and ankles, continuously breathing in synchronization. Feel the stretch from your ankles up to finger tips as you reach upwards.



- Relax in standing position, hands by the side of the thighs. Observe your breath and enjoy the stability for a few seconds.

Benefits:

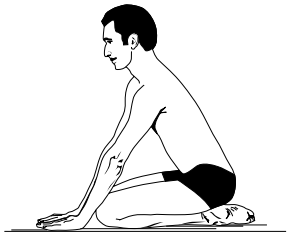
Awareness of expansion and constriction of airways in mid zone of the lungs.

4. Dog Breathing

Posture: *vajraasana*

Practice:

- Place the palms of the hands on the ground beside the knees.Make the spine slightly concave and fix the gaze straight ahead.



- The mouth is opened wide; the tongue is pushed out to its maximum.
- Practice rapid, forceful inhalation and exhalation, expanding and contracting the abdomen vigorously.
- Repeat the practice for 30 seconds.
- Relax in *sa<u>s</u>aankaasana*

Benefits:

1 Full diaphragm contraction empties locked up air in the alveoli of the lower lobes.

2 Rapid exhalation cleanses the lower and middle portion of lungs by expelling residual air and getting it replaced by fresh air.

3 Awareness of airway in lower and middle zone helps in relaxing the bronchii.

Note:

Since the dynamic nature of this practice is a form of hyperventilation, epileptics and high blood pressure patients should avoid it.

5. Rabbit Breathing

Posture: *vajraasana*

Practice:

- Keeping the knees together, bend forward and rest the fore-arms on the floor, keeping the elbows by the side of the knees and palms flat on the ground.
- Maintain the head at a distance of one hand length from the ground to chin. Open the mouth partially. Protrude the tongue partially. Touch the lower lip resting on the lower set of teeth.
- Pant quickly like a rabbit, using only the upper part of the chest. Feel the air moving in and out of the lungs.
- Feel the expansion and contraction of the chest muscles. Continue for 20 to 40 breaths.
- Close the mouth and relax in *sa<u>s</u>aankaasana*. Stretch the hands forward with the forehead resting on the ground.
- Feel the relaxation of chest and thorax.
- Allow the breath to return to normalcy.

Benefits:

1 One gets trained in effortless rapid breathing that is necessary during acute episode of asthma.

2 Very good practice to develop awareness of the airways that is necessary for voluntary control.

3 Mastery over diaphragmatic breathing by voluntarily increasing the speed of diaphragmatic movement.

Note:

Breath rapidly through the mouth only, using the thoracic muscles.

Make sure that the abdomen presses on your thighs, preventing any abdominal movement.

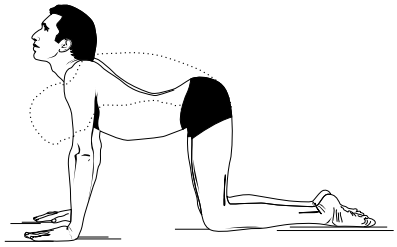
Do not drop your head on to the floor.

6. Tiger breathing

Posture: *<u>s</u>ithila-dan<u>d</u>aasana*

Practice:

- Come to *vajraasana*.
- Lean forward and place the hands flat on the floor in line with the shoulders with fingers pointing forward.
- Arms, thighs and heels should be about one shoulder width apart.
- While inhaling, raise the head and look at the ceiling.
- At the same time, depress the spine making it concave.



- While exhaling, arch the spine upwards and bend the head downward bringing the chin towards the chest.
- This constitutes one round of tiger breathing.
- Repeat 5 times.

Benefits:

1. Awareness and mastery over all three sections of the chest wall (lower, middle & upper)
2. Expansion and contraction of chest wall leads to harmonious functioning of muscles of respiration.

7. *Sasankaasana* Breathing

Posture: *vajraasana*



Practice:

- Take the hands behind the back.
- Hold the right hand wrist with the left hand.
- Relax the shoulders.
- While inhaling, bend backwards from the waist opening up the chest.
- While exhaling, slowly bend forward from the waist bringing the forehead on to the ground in front of the knees.
- Collapse the shoulders.
- While inhaling, slowly come up to the vertical position and then slightly lean backwards.
- This forms one round.
- Continue ten rounds slowly.

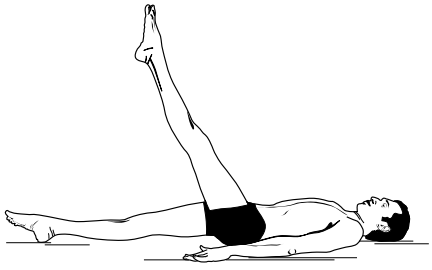
Benefits:

1. Expels air trapped in lower zone of lungs.
2. Trains in diaphragmatic breathing.

8. Straight Leg Raise Breathing

Stage I: Alternate legs

Posture: Supine Posture



Practice:

- While inhaling slowly raise the right leg without bending the knee, as far as comfortable (up to 90°, if possible).
- While exhaling return the leg to the floor as slowly as possible.
- Repeat the practice with the left leg.
- This is one round
- Perform 10 times.

9. Instant Relaxation Technique (IRT)

Posture: *savaasana*

Practice:

- Bring the legs together; join the heels and toes together and place the palms by the side of the thighs.
- Keep the face relaxed with a smile throughout the practice.
- Start tightening from the toes.
- Tighten the ankle joints and calf muscles.
- Pull up the knee caps.
- Tighten the thigh muscles.
- Compress and squeeze the buttocks.
- Breathe out and suck the abdomen in.
- Make fists and tighten the arms.
- Inhale and expand the chest.
- Tighten the shoulders, neck muscles and compress the face.
- Tighten the whole body from the toes to the head.
- Tighten..... tighten..... tighten.
- Release and let go the whole body instantaneously.
- Legs and arms go apart with the open palms facing the roof.
- Collapse the whole body.
- Enjoy the instant relaxation.

10 Yoga chair breathing

Bronchial asthmatics invariably know as to when they get episodes of airway obstruction. They are asked to resort to the yoga-chair-breathing technique when the attack starts. They are asked to pull nearby chair and start the following procedure without resorting to drugs.

Eight steps of Yoga Chair Breathing

1. IRT (relaxation using chair as support)

- Sit on the floor with legs stretched under the chair. Pull the chair towards the chest and hold onto it with the arms.
- Start IRT stretch and tighten the entire body from toes to the head.
- Start tightening from the toes, ankle joints and calf muscles.
- Pull up the kneecaps.
- Tighten the thigh muscles.
- Compress and squeeze the buttocks.
- Breathe out and suck the abdomen inside.
- Form the fists and tighten the arms.
- Inhale and expand the chest.
- Tighten the shoulders, neck muscles and compress the face.
- Tighten the whole body from the toes to the head.
- Tighten... Tighten... Tighten.
- Release and relax. Collapse the hole body. Legs go apart.
- Relax the whole body at once and rest the head and the arms on the seat of the chair as in *makaraasana* or simply relax the arms forward and head resting on the chair.

2. Neck muscle relaxation with chair support

- Neck movement (5 times)

Slowly move the head forward and backward relaxing the posterior neck muscles. You can either hold onto the edge of the chair or simply relax the arms forward with the head resting on the chair.

- Neck movement with breathing (5 times)

Inhale as deeply and slowly as possible while moving the head backward and exhale while moving it forward. Repeat 5 times.

- Neck movement with '*A'-kaara* (5 times)

Chant '*A'-kaara* in a low tone while bending the neck forward.
('aa..' as in heart)

3. Neck movement in *vajraasana*

(Sitting on heel without chair support)

- Neck movement only (5 times)

  Move the head forward and backward in a relaxed way.
- Neck movement with breathing (5 times)

  Inhale while moving the head backward, exhale while moving it forward.
- Neck movement with '*U'-kaara* (5 times)

Chant *U-kaara* in a low voice while bending the head forward.
('oo..' as in cool)

4. *Sasaankaasana*

- *Sasaankaasana* movement (only 5 times)

Bend forward and back ward from the waist region while sitting in *vajraasana* and hold the right wrist with the left hand behind the back.

- *Sasaankaasana* movement with breathing (5 times)

Synchronize the breathing with the forward and backward movement of the neck.

While inhaling, bend backward and while exhaling bend forward.

- *Sasaankaasana* movement with '*M'-kaara* (5 times).

Chant M-kaara in low voice while bending forward to sasaankaasana ('mm…' as in whim).

5. *Taadaasana* (standing posture)

- Stand in this posture for about a minute.

6. Neck movement in *taadaasana-*

- Neck movement only (5 times)

Move the head forward and backward slowly.

- Neck movement with breathing (5 times)
  synchronizes the breathing with neck movement.
- Neck movement with *M-kara* (5 times)

Chant *M-kara* in low voice while bending the head forward.

7. *Ardha-cakraasana, paada-hastaasana*

- Movement only (5 times)

From *taadaasana* move to *ardha-cakraasana* slowly and then shift to *paada-hastaasana*, allowing the hands to hang loosely down. This is one cycle. Repeat five times slowly and continuously.

Return to *taadaasana.*

- Movement with breathing (5 times)

Synchronize the movements with the breathing.

While inhaling, move to *ardha-cakraasana* and while exhaling move to *paada-hastaasana*.

Repeat the cycle five times.

- Movement with *M-kara* (5 times)

Chant '*M'-kara* in a low voice while bending forward to *paada-hastaasana*.

8. Quick relaxation technique (QRT)

Phase 1

Feel the abdomen movement. Observe the movement of abdominal muscles going up and down as you breathe in and out normally. Observe 5cycles.

Phase 2

Synchronize the abdominal movement with deep breathing. The abdomen bulges up with inhalation and sinks down with exhalation. Observe 5 cycles.

Phase 3

- As one inhales deeply and slowly, energize the body and feel the lightness. As one exhales completely, collapse all the muscles, release the tension and enjoy the relaxation. Observe 5 cycles.
- Chant '*A'-kaara* in a low pitch while exhaling. Feel the vibration in the lower part of the body.
- Slowly come up from either the right or the left side of the body ■



Note: Initially yoga chair breathing technique takes about 30 to35 minutes. With practice, the time required will be about 20 minutes.

During an attack of wheeze this technique can be used instead of bronchodilators. With this technique, one can learn to overcome the bronchospasm effectively.

ANEMIA *(Paandu)*



Excerpts of discussions with Padmasree Dr. K. Rajagopalan MBBS, DAM, FAIM

Conducted on 2nd, 9th and 23rd of June 2009

The pathogenesis of *Paandu* begins with the statement of the importance of pitta. If the disease is pitta predominant, the pallor in anemia cannot be accounted for. The color of pitta is devoid of pallor *(paandu)* and brown (*aruna*). Here pitta has importance, but it is not increased. Aggravation of humor need not essentially mean increase. It can even be decrease. In Ashtaanga samgraha *paandu* is included in the diseases of kapha. Here it is stated that in *paandu,* kapha enters blood. This means that there is some denature of blood with kapha. We know that normal blood contains the properties of all the five primordial elements. Hence influence of kapha can cause denature by changing some of the properties of blood. The same idea is implied by Vaagbhata in the pathogenesis of *paandu*.

In Ashtaanga samgraha *paandu* is included in the diseases of kapha. Here it is stated that in *paandu* kapha enters blood. This means that there is some denature of blood with kapha.

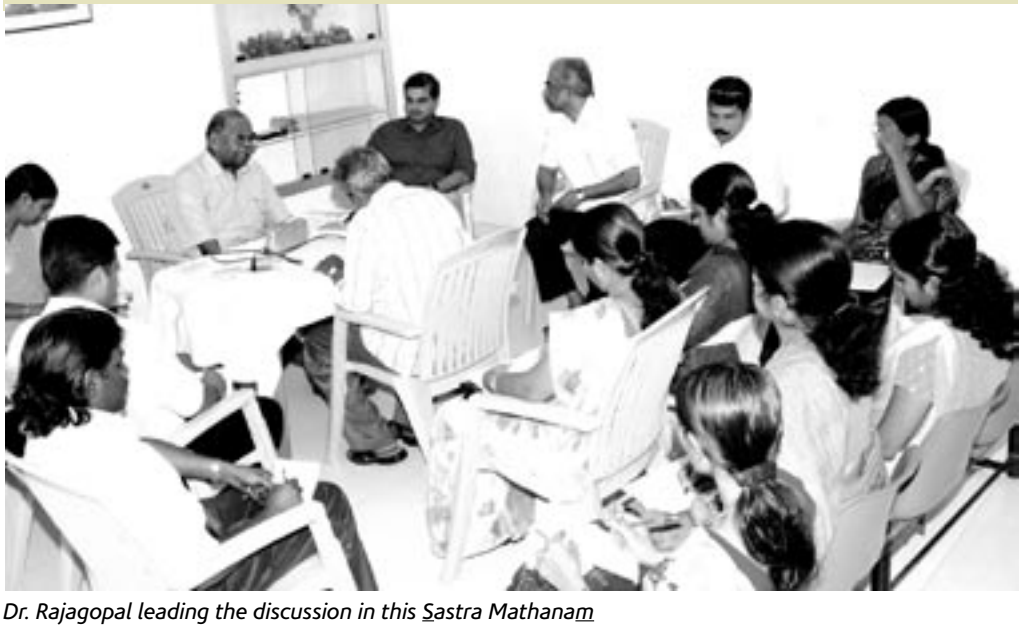
Kapha, skin, blood and flesh are polluted and the aggravated humors get lodged in between skin and muscles and causes various discolorations such as pale, deep yellow and green of which the pale color *(paandu)* is more and hence the name *paandu* for the disease.

We have to include all hematological disorders - blood dyscrasias, leukemia, myelodystrophy etc. under the title of *paandu*. Here all the three humors are aggravated. Though the importance in aggravation is for pitta, it is the powerful vaata located in heart *(vyaana)* that forcibly throws out the pitta from the heart. *Saadhaka-pitta* is the faction of pitta located in heart. This pitta is not a liquid. It provides us the strength to do what we desire. It is also to be noted that this pitta is going to heart *(hrt-gata)* and not located in heart. This means that it is coming from elsewhere. The humors from heart spread all over the body reaching the ten arteries. This means that the humors get mixed with blood.

Yoga-vaasishtha states that there are two *hrdaya* one in the head and another one in the chest. See, as in heart, there are ventricles in brain too. Actually the pitta that colors the blood is *ranjjaka*. It is situated in *aamaasaya*. Instead of mentioning the expulsion of *ranjjaka-pitta*, the text states that the pitta in heart is expelled. But *ranjjaka-pitta* depends on *aamaasaya* and it is not mentioned to reside there. The abodes of *ranjjaka-pitta* according to Susruta are liver and spleen. Vaagbhata's statement is also correct as we now know that there is an intrinsic factor for haemopoiesis which is in the gastro-intestinal tract. Extrinsic factor is from food. The *aamaasaya* mentioned in classical treatises is not only the stomach. It is said to be in between the breast and the umbilicus.

Coming to treatment, we basically think of medicines with iron and without iron. When we think in terms of perception, cardiology begins here. In all books of modern medicine, anemia is the primary sign of heart diseases. Hence there is no doubt that *paandu* is a disease affecting the heart. There is a type of anemia called pernicious anemia.

Saastra mathanam (churning of science) is a discussion program conducted at Kerala Ayurveda Hospital, Aluva on all Tuesday afternoons except the third Tuesdays. Padmasree Dr. K.Rajagopalan MBBS, DAM, FAIM is leading the discussions. Doctors of KAH, doctors of nearby KAL outlets and scientists of KAL participate in the discussions.



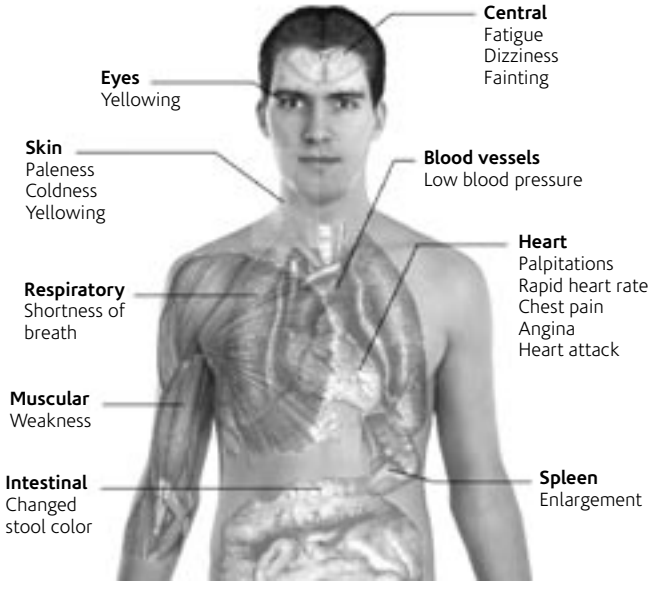
Dr. Rajagopal leading the discussion in this Sastra Mathanam

There we find the decrease of pitta as its properties are decreased. Its treatment formerly involved the injection of liver extract. Later it was understood that cyanocobalamin (B12) is the active principle in liver extract. Now they give B12. In the description of *paandu-roga*, *sanna-sakthi* is a symptom . This is the inability to walk and is not seen in ordinary anemia. It is seen only in pernicious anemia. B12 will relieve the condition. Perhaps *saadhaka-pitta* may be neuro-hormones. Neuro-hormones or humors as they are called, though are in minute quantity, are fiery liquids. Now it is understood that there are separate humors for every emotion.

Prevalence of anemia is high among the pregnant, and even among the commons in North India. In Kerala the condition is different.

We understand there is some denaturing of blood in *paandu*. According to our theory it is the *saadhaka pitta* that enters blood and denatures it. In the pathogenesis of bleeding diseases *(rakta-pitta)* Caraka says that the pitta is polluting the blood. In myelodystrophy, the defect is in the bone marrow and its cause is unknown. Bone marrow is a haemopoietic centre. Ayurveda also identifies bone marrow as a centre for blood production. It is mentioned that marrow *(majjaa)* contains blood. There are many factors here. Food, mental affects, stress etc. are playing a pivotal role. Such factors are increasing today.

It is advised that the treatment should start with administration of *Kalyaanaka ghrta* or other medicated ghees like *Panca-gavya*, *Mahaa-tiktaka* and *Aaragvadhaadi*. This implies that there is some relation with the brain. In *paandu*,



Kalyaanaka ghrta is given in pitta predominance. If vaata-kapha is predominant, *pancagavya* is ideal. *Aaragvadhaadi* is for kapha and *Mahaatiktam* is for vaata-pitta.

the majority of symptoms are of hypothyroidism. In ordinary *paandu*, only anemia and weakness may be seen. But in hypothyroidism, all these symptoms manifest. For example, falling of frontal hair. *Kalyaanaka ghrta* may not be administered in all cases. We should examine the predominance of humors. *Kalyaanaka ghrta* is given in pitta predominance. If vaata-kapha is predominant, *pancagavya* is ideal. *Aaragvadhaadi* is for kapha and *Mahaatiktam* is for vaata-pitta.

The pallor and other colors mentioned in *paandu* can occur also in myxoedema. The condition can be readily identified clinically without testing TSH etc. Periorbital edema is another important sign. All the signs and symptoms mentioned in *paandu* will not be seen in every case. In ordinary anemia the patient will be pale and if he is having worm infestation (hook-worm etc.), expel worms and the anemia will be corrected. But when there is a hematological problem, the condition is different.

Substances like bran can be given in B12 deficiency. Though such substances contain vitamins the concept of vitamins etc. is rather new and hence medicines according to such deficiencies are not specifically mentioned in our classics.

Hypothyroidism is now common in children. The present dietary pattern of children is conducive to increase of kapha. *Varanaadi ghrta* is a good medicine in hypothyroidism. It combats increase of fat, kapha and corrects weakness of bio-fire. *Guloocyaadi* is also useful in hypothyroidism. *Guloocyaadi* can also be given in hyperthyroidism. In our science, the indication does not differentiate hyper and hypo thyroidism. *Visaalaadi coorna* is a specific formulation to combat the depletion of bio-fire. It is to be taken with water. After drinking the medicine, honey is to be licked. This formulation is highly useful in various conditions which are complications of anemia.

Vyaana is that which pushes pitta out of heart. So we have to study the normal functions of vyaana. When vyaana is vitiated, many diseases occur. Among the features of *paandu*, reduction of blood and fat is mentioned. Reduction of blood may include reduction of red cells, white cell, platelets, volume etc. The statement of importance of pitta implies both reduction and increase of pitta. Either may happen.

Susruta classifies the disease into four viz. unihumoral (3 types) and trihumoral. According to Susruta even jaundice *(kaamalaa)* is *paandu*. In a way it is correct. In jaundice many changes occur – destruction of blood, obstruction of bile duct etc. Here, *alasa* is a synonym of *paandu*. In Ashtaanga-hrdaya the term is a synonym of *haleemaka*. Another one is *paanaka* or *apaanakee* and it implies the involvement of *apaana vaayu*. Dalhana the commentator of Susruta-samhitaa quotes a verse mentioning that *paandu* is of eight types including three unihumoral anemiae, trihumoral anemia, anemia due to eating of soil, two types of jaundice, and *haleemaka*. Here also jaundice etc. are included in *paandu*. Hemolytic anemia also is included. Even in modern medicine the same consideration is there. Iron and folic acid are at one side. There are other factors too. In some anemia even transplantation of marrow is necessary. In hemolytic anemia the released hemoglobin is converted to bilirubin. There are different types of hemoglobin too. There is even Hb-S. Deficiencies of all these come under *paandu*.

In Ayurveda, the differentiation of various anemias is made from case history. For example

bleeding piles may be a cause. Careful history taking will reveal this. Chronic malaria is another cause. Here, history will reveal repeated fever. The physician should identify the basic cause of anemia from case history.

Impotence is mentioned as a symptom in *haleemaka* in Ashṭaanga-hṛdaya. It is not mentioned by Suśruta. The symptoms of *paanaki* are quoted by Ḍalhaṇa. This is shown in parentheses in Maadhava-nidaana as an interpolation.

The reduction of blood may be of two types. One is the lack of transformation from *rasa* to *rakta*. Here the function of *ranjjaka pitta* is affected. In modern terms it refers to the lack of production of hemoglobin. Hemoglobin has two moieties- haeme and globulin. Hemoglobin itself is of various types because of the changes in these moieties. In thalassemia there is reduction of synthesis of hemoglobin. The next is the real reduction of quantity of blood due to bleeding etc. In pernicious anemia iron is not absorbed due to the defect of intrinsic factor. In hemoglobinopathies various defects of hemoglobin are met with. We have to study all these under the head of *paaṇḍu*.

To identify various types we should resort to laboratory investigations. In many conditions modern medicine has no treatment. They give steroids. It will culminate in enlargement of spleen. Then they do splenectomy. Yet the disease may linger. They have nothing to do then. It is then that the patients hopefully turn to Ayurveda. Some times we may be able to help the patient. We should consider the formulations prescribed by our seers with the specific intention. Many a cases can be effectively managed with our medicines.

Ayurvedic treatment can be done only from the perspective of Ayurvedic principles. Defects in the formation of proper hemoglobin should be understood as a defect of transformation and *agni* is responsible for it.

In such cases we should consider *agni-maandya* and correct it. Ayurvedic treatment can be done only from the perspective of Ayurvedic principles. Defects in the formation of proper hemoglobin should be understood as a defect of transformation and *agni* is responsible for it. Hence metabolic disturbances should be understood as *agni-maandya*. This should be corrected by enhancing bio-fire. Even *vaiśvaanara coornam* may be at times helpful. If the cause is defective nutrition proper nutrients should be supplied. Our seers have written the formulations after observation of the results. They are not mere intellectual exercises. Hence we should critically learn the relevance of the formulations in detail. Treatment of *paaṇḍu* is not only the mere supplementation of iron, or providing *lohaasava* or ferrous sulfate but there are various other angles also.

There are many hematological conditions coming under the purview of *paaṇḍu* such as increase of thrombocytes, increase of red cells – *polycythaemia rubra vera, thalassemia*, and a lot more. In the treatment of *kaamalaa* it is mentioned that the treatment should be combating pitta but should not be incompatible to *paaṇḍu*. After a few stanzas it is again mentioned that *kaamalaa* can occur even without *paaṇḍu*. Some more clarity can be attained if we note that the first 16 stanzas of treatment of *paaṇḍu* in Ashṭaanga-hṛdaya contain no iron formulation. But such treatment is not currently practiced.

Anemia may be an index of cardiac failure. That is why Ashṭaanga-hṛdaya concludes the treatment of *paaṇḍu* with a statement that the expert physician should utilize the medicines mentioned in *śopha* in the treatment of *paaṇḍu*. When we resort to research, all these should be comprehended. *Gokshuraadi*



guggulu and *Punarnavaa mandooram* are apt formulations for research in this arena. They are readily available in the market too.

In *Paandu* we should check the accompaniment of kapha and pitta. If kapha is more, pitta will be less and vice-versa. In appending of kapha the cell counts such as those of white cells and platelets will increase. If pitta is predominant they will be reduced. When both are accompanying we should try treatment that combats kapha and pitta. *Guloocyaadi* and *patolaadi ganas* mitigate kapha and pitta. The formulations *tiktaka* and *mahaatiktaka* are also useful. *Guloocyaadi* will also kindle the bio-fire. When this treatment is done we should periodically check the cell count. Single drugs are also useful. Bael leaves *(Aegle marmalos)*, holy basil leaves *(Oscimum sanctum)* and dhub grass *(Cynodon dactylon)* are used as single drugs.

According to research experience, *Daadimaadi ghrta* was found useful. Capsules containing the powder of the drugs of the formulation did not produce any significant result. Ghee is important. Research is not yet complete.

Bleeding piles will present as anemia. Here the treatment of anemia should be in view of the hemorrhoids. Similarly anemia will be present in menorrhagia and ascitis. There such diseases also are to be treated.

The classical indications of *Kalyaanaka ghrta* are broad spectrum. In Addison's disease, a rare disease of the adrenal glands, pigmentation occurs. When *Kalyaanaka ghrta* was administered good result was obtained.

Treatment is generally twofold –purification and mitigation. In *Paandu* severe purification is not mentioned. Initially intense internal unction is indicated. In clinical practice most physicians are not resorting to unction.

After unction, purification is to be done. Only emesis and purgation are mentioned as purification. Enemata are given in the beginning. Oil enemas are contraindicated in *paandu*. But at the end of the chapter in the treatment of *haleemaka* oil enema and milk enema are indicated.

Unfortunately we are not attempting classical treatment in *paandu*. If we try it we could relieve many grave conditions coming under the purview of anemia and hematological disorders.

In Kerala, formerly physicians were prescribing *Gandeerarasaayana* (Sahasrayogam Lehya 17) in serious cases of *paandu*. This is useful even for cancer. *Gandeera* is *aamragandhi (maangaanaari* – Mal.). Some people use citron fruits for this. *Maangaanaari* is better. If it is not available lemon can be used. Citric acid also will enhance absorption of iron. Citrate of Iron is absorbed better. Adding of lemon will generate ferrous citrate. Iron is added as iron filings. This is ground with the juice of the bark of black plum *(Syzygium cumini = Eugenia jambolina)* fried, sun dried and powdered. On this the iron will become a black powder. This is added to *arishta* etc.

It can be used in leukemia and all other malignancies.

Treatment is generally twofold –purification and mitigation. In *Paandu*, severe purification is not mentioned. Initially intense internal unction is indicated. In clinical practice most physicians are not resorting to unction.

Malignancies will generate anemia.

Diagnosis of malignancy is not a problem as most patients report with documents to prove so.

In South Kerala *Cinchaadi lehya* (S.Y.Lehya 23) is widely used. This also contains iron. *Daadimaadi* ghee (A.H. Ci. 16. 2-4) is an ideal medicine for many conditions. This can be utilized in cases of difficult delivery and in sub-fertility. In all uncommon types of anemia it can be tried. The first indication of the formulation is heart disease. The seeds of pomegranate are to be used in this formulation. The seeds contain some principle which has neurological action.

Next we find the usage of cow's urine and milk. Now research is going on cow's urine. The work is not complete. But there are evidences that cow's urine is a good medicine in many grave conditions.

After unction and emesis repeated unction is to be given. After this unction purgative medication with urine and milk is to be given. Even chebulic myrobalan ground in cow's urine can be given for this. (A.H.Ci. 16. 5,6,7.) Strong purgatives like Argemone *(Argemone mexicana)* and turpeth *(Operculina turpethum = Merremia turpethum)* can be given in cow's urine (A.H.Ci.16. 8). Iron also kept in cow's urine for seven days can be given (A.H.Ci.16. 9). Blood sugar level also will be reduced by cow's urine. Experience shows that sudden decreases occur in blood sugar level by drinking cow's urine. In cancer also cow's urine is used. But there is not much effect in cancer with secondaries.

Navaayasa has *vyoshaadi navaka* in it. These nine drugs are met with in four famous formulations. They are:

1. *Avipatti coornam* – with turpeth as a laxative drug.
2. *Navaayasam* – with iron in anemia.
3. *Vyoshaadi gulgulu* – with gulgulu in *vaata-vyaadhi*
4. *Mandooravataka* – with rust iron

Taapyaadi choornam is a similar preparation. *Silaajatu vataka* or *kautaja thriphalaa* is an important formulation. The *sivaa gutika* of the *Rasaayanaadhikaara* of Bhaishajya-ratnaavali is a modification of this formulation. The next formulation in A.H. is *draakshaadi lehya (drakshaaprastham)*. This is a famous formulation. It is palatable.

In hematological disorders we should look for the signs and symptoms of *haleemaka*. In *Haleemaka*, *yaapana vasti* is to be given. Milk enema also could be given. *Ksheera vasti* is mentioned in *udara and vaata-rakta*. Oil enema can also be given in Haleemaka. Buffalo's ghee medicated with Tinospora *(guloocee)* and milk is suggested. *Draakshaadi lehya* also may be given. *Draakshaarishta* and *Agastya-rasaayana* mentioned in *kaasa* etc. also are prescribed in haleemaka. *Agastya-rasaayana* can be given not only in cough but also in *haleemaka* and *kaphaja-hrdroga*.

Coming to minerals, pyrite *(svarna-maakshika)* also is mentioned. In *Rasendra-saara-sangraham (rakta-pitta adhikaara) abhraka bhasma* is suggested ■

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TIPS FOR HAPPINESS IN DAILY LIFE



Life is beautiful !!!!

Jayadevan AP

It is our attitude that makes us feel happy or unhappy.

So, have a positive mind. A positive mind anticipates happiness, joy, health and success in each moment.

Always look at what you have and not at what you don't have.

Think of solutions, not problems.

Accept what cannot be changed. This saves a lot of time, energy and effort.

Learn to forget and forgive. Nurturing ill feelings and grievances make you always disturbed.

Do something good for yourself each day. When you make someone happy, you become happy.

Do not envy people who are happy. Associate with them and try to learn from them to be happy.

Detachment will help you in keeping a balanced mind. It is the ability to think and judge impartially and logically.

Enjoy some good reading everyday. Listen to relaxing, uplifting music.

Learn to smile more often. Learn to be more patient and tolerant with people and events.

Concentrate on the present. Forget the past. Future depends upon what you do now.

Do meditation everyday. Your mind will get tremendous strength from that.

KERALA AYURVEDA ACADEMY



Training to students from Thailand in the Kerala Ayurveda Academy, Aluva

FEEDBACK FROM OUR STUDENTS

Ms. Sanhajutha Puangmala
101, M.19, Robveing, Moung, Chiangrai, Thailand

I am Sanhajutha Puangmala, a Thai who is interested in Ayurveda and had taken a course of three months in Ayurveda from Kerala Ayurveda Academy. I can honestly say that there is no other place like this, that I am aware of, in India. And I would like to offer my heartfelt gratitude to all the dedicated staff of the Kerala Ayurveda Academy.

I got the original way of ayurvedic treatment. The uniqueness of training here is that

I can learn and experience at the same time.

Every doctor gave me clear and easy to understand answers for all of my questions.

Classes are not crowded and teachers are very friendly.

Basically, I recommend this school to everyone who is interested in and want to make a good understanding of Ayurveda.

Ms. AYUMI
1-9-20, Irifune, Otanu, Hokkaido, Japan

It has been a month since I came to Aluva, Kerala, India.

On the airplane to Cochin, I could not imagine that such great things were waiting for me. I was so excited to stay in India where things are completely different from my country, Japan, for 3months. My Ayurveda course in this academy is of 3months of duration which aims for Ayurveda therapists. In first month, I have been through the basic principles of Ayurveda. Those are interesting and I like the part of mythical origin of the science. It is surprising that even though the study was born mysteriously over 5000 years ago, still the methodology works in modern life. While I am learning Ayurveda, I have been taking ayurvedic treatment as well. In Kerala, I enjoy new things other than Ayurveda - food, clothing, Malayalam language etc. I am grateful to the surroundings in Kerala, kind school staff and friends. They help me a lot. I expect that by the end of the days in India, I know more about Ayurveda and be healthier. Afterward in Japan, I would like to introduce Ayurveda and my Kerala experience to Japanese people so that they can treat themselves better.

PANEL CONSULTATION



Panel consultation is one of the out standing peculiarities of Kerala Ayurveda Hos pital Aluva which is conducted on Mondays and Tuesdays in the presence of Padmashree Dr. K Rajagopalan. A group of doctors discuss chronic and complicated cases for arriving at their accurate management. Panel discussion always helps to find and utilize deep resources of various treatises. Formulations from various texts are taken up for discussion and the most suitable one is selected for administration. In this manner we have utilized various rare and highly effective formulations



in specific conditions. At many occasions the discussions have helped us to find out new applications for existing treatment modalities.

Along with ayurvedic medicines, doctors qualified both in Ayurveda and modern medicine prescribe the optimal management for the patients under allopathic medicines. Infact, a controlled application of modern medicine for acute management along with ayurvedic medicines can raise the confidence level of the patient.



The discussion and study of Modern investigation methods like MRI, CT scan reports, sophisticated blood investigations etc are helpful to set the treatment protocol precisely.



More over, the discussion in panel consultation help to develop a research orientation in establishing the efficacy of ayurvedic therapies and drugs.

THE HUMAN TOUCH



Visit of Dr. David Frawley at Ayurvedagram

Dr. Manmohan
Medical Superintendent, Ayurvedagram.

When one becomes attached unduly, agony is not far behind. From the moment one is conceived, one is attached. The attachment is deep and the bonding so conditional that the very act of birth - a change of environment – and separation from a lifeline that was, is grossly traumatic. Comfort zones are what one yearns for and what one detests to leave, right from the stage of being a fetus. The initial trauma of being exposed to a strange environment gradually gives way to a series of unending attachments coupled with the quest to reach out to the most pleasurable of those attachments using the senses, starting with the search for the pleasant aroma and taste of the mother's milk and obtaining the same.

What ensues are unending waves of myriad attachments in equally different forms, shapes, color and so many different perceptions. It is a ride on the senses seeking more zones of comfort. Agony overcomes the seeker when such zones are not found. However, what the perceiver often fails to understand early is that each such states of agony makes him or her more aware of the state of being. A state which exists in absolute silence. Between each pangs of pain, in those fleeting moments of silence, one slowly but reluctantly becomes aware of it.

It is this silence a true healer will work on to heal the sufferer. Mother Teresa, one of the greatest healers mankind has ever seen, believed that "we need silence to be able to touch souls". There are few healers who appreciate this fact in its true sense. AyurvedaGram, an abode close to absolute silence, was privileged to have within its premises one such healer. Pandit Vamadeva Shastri, better known to the world as Dr. David Frawley, is one who believes that in order to accomplish the act of healing one need to perceive the silence in a suffering person. To comprehend that, the physician has to know the patient – his attitudes, lifestyle, food habits, likes and dislikes - over and above the disease that is troubling him. This, according to him, is the essence of Ayurveda.

Dr. Frawley is one of the few persons in the West who is acknowledged as a Guru by the learned in India. An Indologist and an expert in Ayurveda, Veda, Yoga and Tantra, he was instrumental in demystifying eastern spirituality. Dr. Frawley, the founder director of the American Institute of Vedic Studies in Santa Fe, California and who is associated with the Naimisha Research Institute of Vedic Studies in Bangalore, foresee the doom of modern civilization and envisages the ancient learning of the Vedas as the light to which the world has to look for in the time of darkness.

He turned certain pre-conceived and widely propagated ideas of western scholars on its head in his celebrated works Hinduism and the Clash of Civilization and The Myth of the Aryan Invasion. During the three days that Vamadevji and his partner Shambavi were at AyurvedaGram, they absorbed the energy of the pristine surroundings, relished the simple but tasty and nutritious cuisine and enjoyed the traditional Ayurvedic treatments that are unique to the centre. We are blessed to host a person of Vamadevji's stature, though for a short period, and to share his knowledge while he was with us ■

KERALA AYURVEDA HOSPITAL



A scene from the training programme to the Aircel staff by Dr. Sadath

TIE UP WITH AIRCEL

Under the leadership of Mr. Nandhakumar, KAL made a tie up with Aircel, one of the leading mobile companies of Kerala. According to the tie up KAL will provide free consultation to the employees and their knit and kins of Aircel on alternative Friday. Employees can also avail medicines and treatment from Ernakulam clinic with 10% discount. Aircel will provide space for consultation to KAL doctor.

As per the agreement Dr. Sadath of Ernakulam clinic delivered a class on Life style disease management on 23rd September. Around 30 Aircel employees were keenly listened the words of Dr. Sadath and underwent a check up on the same day. We are expecting more treatments and medicine purchase in the coming days. This is an on going programme of Ernakulam clinic and definitely fetches good results in the coming days ■

AIR PORT CHECK UP CAMP

Air Port Authority of India has invited Kerala Ayurveda Hospital team to conduct a talk on remedies of Stress management in Ayurveda and a free check up for its Employees on 24th and 25th September 2009. As per the invitation the team visited Air port Authority of India under the leadership of Dr. K Sasidharan & Mr.Vipin to spread the values of Ayurveda and very particularly the fragrance of Aluva Hospital.

Mr. T. F. Moosa the Air Port director whole heartily invited the team and promised that very soon KAL Aluva Hospital will be enlisted in the re-imbursement panel of Air Port Authority of India. Dr. K Sasidharan delivered a speech on stress management in Ayurveda and cleared the doubts and Querries of the participants. 50 employees underwent free check up in two days from 12 'O' clock to 3 pm. and carried the effective and highy quality medicines of KAL to their Homes ■



Training to Airport staff by Dr. Sasidharan



Students from U.S. Academy with Kerala Ayurveda Hospital staff

INDIA INTENSIVE

A team of students from Kerala Ayurveda Academy - US came to the Kerala Ayurveda Academy - Aluva for an intensive training program. Some of them are Ms. Parmelasawhney *(MD in LA)*, Ms. Diana Isabel Lurie *(Professor from Montana)* and Ms. Joanne Kemmerer *(Business woman from New York)*. The training was conducted jointly by the Academy and Hospital at Aluva, from 2nd to 10th December 2009. The students gained practical training with a team of KAL doctors under the leadership of Dr. Sasidharan M.D (Ay.).

The 10 days training included classes on different topics by the faculties of Kerala Ayurveda. Wellness Ayurveda, management of cancer, prenatal and post natal care etc. were the main themes of training. Apart from clinical exposure and practical demonstrations the students experienced various Kerala therapies.

They had an intellectual session with Research and Development team of Kerala Ayurveda. On a study tour to the herbal garden and factory of KAL they acquired first hand knowledge on herbs and manufacturing of medicines.

Also they had a chance to explore Kerala, the Gods own country and its traditions. They were flown to Ayurvedagram Bangalore, the wellness resort of KAL, on 11th December 09 for further training ■

RESEARCH & DEVELOPMENT



Dr. Jolly addressing the National seminar, Palakkatu

ANOTHER GOLDEN FEATHER FOR R & D

ICMR had organized a national seminar on Emerging Trends in Pharmaceutical Drug Development and Research at Grace College of Pharmacy Palakkad on 15th &16th of November 2009. Dr. Jolly had delivered a speech on the topic "Development and Standardization of a polyherbal formulation for Benign Prostatic hyperplasia". Research & development; Kerala Ayurveda Ltd participated in the poster presentation and bagged 1st prize on clinical study titled "Evaluation of Efficacy and Safety of a Polyherbal formulation Liposem in Reducing Serum Cholesterol Levels in Border line Hypercholesterolaemic Patients" which was presented by Mr. Bose R.C. and Mr. Manu Somanath.

TRAINING PROGRAMME ON QUALITY CONTROL TO MANUFACTURING UNITS



Concluding session of the training to quality control staff of ayurvedic industries

A training programme was conducted at Kerala Ayurveda Ltd., Athani., on "Quality control of Classical and Proprietary Ayurvedic products" which was organized by AMMMOI Ernakulam District Committee and R&D wing of Kerala Ayurveda Ltd. The training programme comprised on the various aspects of quality control right from raw materials to the final products and product development. The training was conducted for 5 days each to three batches from 15th November 2009 to 4th December 2009 to those who are working in the quality control department of various manufacturing units and even some of the chief executives also attended the training.

A meeting was held on 4th December 2009 with all the participants of the training programme. Dr. K. Anilkumar, Executive Director, KAL presided over the function and Mr. Krishnakumar, President, AMMOI Ernakulam Dist. Committee., was the chief Guest and Mr. Vijay Deo, CEO of Vaisali Industries, was a special guest. All of them emphasized the importance of collective and co-operative effort by the ayurvedic fraternity for the recognition of ayurvedic products in the global market. The chief guest appreciated KAL for their endeavour and the Special guest advised the trainees to implement the skills acquired from KAL in their organization. Dr. Jolly Scientific Advisor, KAL felicitated the meeting. The Certificates were distributed to the participants of the training programme.



Participants of the quality control training programme



Crataeva nurvala

A VALUABLE MEDICINAL PLANT IN THE TREATMENT OF BENIGN PROSTATIC HYPERPLASIA

Remya M.B, Manu Somanath, Santhosh N, Reshmi Manayat, Dr. Sarala Samuel and Dr. Jolly
R&D Division, Kerala Ayurveda Ltd

Crataeva nurvala Buch. Ham. DC. *(Capparidaceae)* (Syn. C. *magna* Lour) is a high-value medicinal tree that grows almost all over India, often found along streams, also in dry, deep boulder formation in Sub-Himalayan tracts. Trees with 3-foliolate leaves, flowers yellow or white with red stamens. Berry papillate. It is extensively seen in Western ghats, Coorg, Hassan, Mysore, North Kanara, Shimoga, South Asia and Indomalayasia.

The genus name *Crataeva* is derived from Crataevus, a Greek botanist. Its Sanskrit name *varuṇa* is mentioned in Vedic literature where it is therapeutically used as a blood purifier to maintain homeostasis. A decoction made out of the bark is a good remedy for renal calculus and hence the name *aṣmareeghna*.

Medicinal usage has been reported in traditional systems of medicine, such as Ayurveda and Unani, wherein the plant is frequently preferred in the treatment of urinary disorders that reoccur owing to development of antibiotic resistance by the infecting organism.

C. nurvala has also been used in the treatment of prostate enlargement and bladder sensitivity for long time. The plant is known to relieve and prevent kidney stones and promote their discharge. Scientists have identified, a pentacyclic triterpene lupeol isolated from the root bark, which has been shown to significantly minimize the deposition of stone-forming constituents in kidneys.

Investigations have also indicated the plant has anti-arthritic, hepato-protective, and cardio-protective actions. These multiple uses of *C. nurvala* along with erratic seed germination, destructive harvesting, and habitat loss from deforestation have endangered survival of the plant. As a result of this endangerment, in India the plant has been categorized as rare or vulnerable in the natural environment, making conservation of this plant crucial.

Properties according to Ayurveda

- Taste *(rasa)* : bitter, sweet, astringent
- Properties *(guṇa)* : light lakhu, *rooksha*
- Potency *(veerya)* : hot

The genus name *Crataeva* is derived from Crataevus, a Greek botanist. Its Sanskrit name *varuṇa* is mentioned in Vedic literature where it is therapeutically used as a blood purifier to maintain homeostasis.

Plant is indicated in vitiated vaata and kapha, renal and vesical calculi, asthma and bronchitis.

Vernacular names	
Sanskrit	- *Varaṇa*
Bengali	- Varuṇa
English	- Three leaved caper
Gujarati	- Vayvarno
Hindi	- Baruṇa
Kannada	- Bipatri
Malayalam	- Neermaatalaṃ
Marathi	- Haravarṇa
Oriya	- Baryno
Punjabi	- Barṇa
Tamil	- Maralingaṃ
Telugu	- Bilvaraṇi

What Does it Contain?

Stem bark

The stem bark contains (-)-epiafzelechin, (-)- epiafzelechin 5-O-β-D-glucoside, (-)-catechin, diosgenin, friedelin, betulenic acid, ceryl alcohol, glucocapparin, β-sitosterol, and lupeol. The alkaloids, cadabicine, cadabicine diacetate, and cadabicine Methyl ether have also been isolated from the stem-bark.

Leaf

The leaf contains L-stachydrine, rutin, quercetin and isoquercetin. The fruit contains ceryl alcohol, cetyl alcohol, tricontanol, tricontane, glucocapparin, and β-sitosterol.

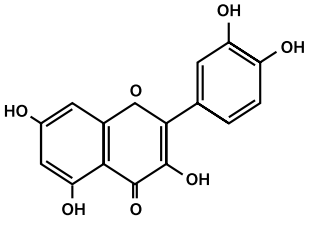
Root bark

The root-bark contains β-sitosterol, lupeol, varunol, β-sitosterol acetate, β-taraxasterol, β-epilupeol, lupenone, rutin and quercetin

Marker compound Quercetin in *Crataeva*

Quercetin may be the strongest of natural anti-inflammaty substances. Numerous studies have shown that it is effective in treating a wide range of prostate related problems. A recently published study demonstrates that quercetin provides long-term symptomatic relief, with few side effects, to men that are afflicted with nonbacterial prostatitis.

Structure of Quercetin



Parts used - Bark or root bark

Botanical Description

It is a moderate sized glabrous thin foliaged deciduous tree growing to about 10 m high with straight trunk and horizontal branches that are covered with rather thick smooth ash white soft bark having pink or light red blaze showing narrow zones of lighter pink. Leaves large, alternate, extipulate, odd pinnate, oblong entire more or less oblique caudate acuminate leaflets and large spreading sparingly branched terminal pyramidal panicles of small polygamous pale or yellowish-green regular flowers about 6mm in diameter followed by oblong smooth yellow or yellowish white drupaceous, one to three seeded fruits 3.8-5 cm or more long with an acidic rather harsh edible fleshy pulp.

OUR R&D LAB STANDARDIZES THE BARK IN ALL ASPECTS AS PER WHO AND AYUSH NORMS

PHARMACOGNOSY

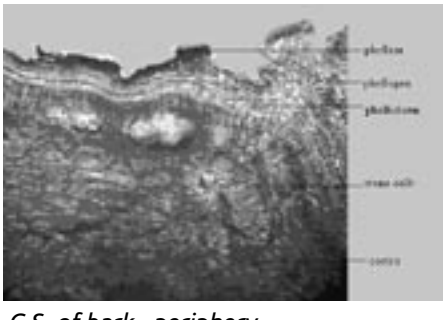
Morphology Of The Bark

The bark has a thickness of 1-1.5 cm. It is grayish to grayish brown in colour. Narrow slightly raised vertical or longitudinal rib-like ridges of varying length and 0.5 to 1 mm. width. The inner surface is smooth and cream white in colour. The fracture is short. Bitter in taste and no special odor is discernible.

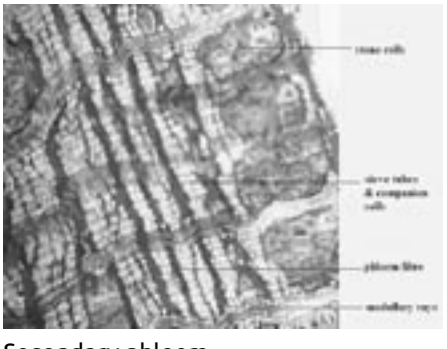


Crataeva - Bark

Microscopic Characters



C.S. of bark –periphery



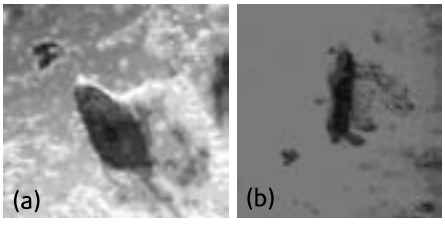
Secondary phloem

Histology of Bark

The outermost tissue is the cork which ranges in thickness from 200-350 µ. It has a light cream color and is composed of 22-30 rows of rectangular to tangentially elongated cells arranged in regular radial rows. There is a distinct phellogen consisting of a single row of narrow thin walled rectangular to slightly tangentially elongated cells. Some of the cells, phelloderm cells, contain starch grains. A few small groups of small sized stone cells each less than 35 µ in diameter are also found scattered in the phelloderm. The cortex is a fairly wide zone composed of comparatively elongated thin walled parenchyma cells and large groups of stone cells dispersed in 2 or 3 tangential rows. Each group is composed of several stone cells of different sizes and shapes. The inner bark which forms the major part of the bark consists of a large number of stone cell groups arranged in tangential series alternating with layers of thin walled phloem elements both being radially intercepted by a large number of medullary rays.

Powder Characteristics

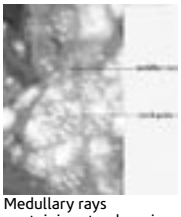
Powder is creamy in colour, odorless and bitter in taste. Microscopy reveals the presence of abundant starch grains with a diameter ranging from 3.125-12 µ. Several stone cells of different sizes and shapes are seen. The diameter of the smaller cells varies from 30-35 µ and that of the larger cells are about 80 X 150 µ. There are narrow elongated cells that measure from 15 X 150 to 30 X 240 µ. Elongated fibers are seen with length ranging from 1250-1600 µ.



Different types of stone cells (a & b)



Phloem fibre



Medullary rays containing starch grains

Phytochemistry

Quantitative Estimations

a) Alcohol extractive value	3.97%
b) Water extractive value	8.68%
c) Total Ash	6.48%
d) Acid insoluble ash	1.63%
e) Total Saponins	2.7%
f) Foreign organic matter	2%

Chromatography

TLC Identification of Flavanoids in Crataeva nurvala

Test Solution	:	Powdered drug (2g) is extracted with 10ml methanol under reflux. The filtrate is evaporated to about 5 ml, and is used as test solution for TLC.
Solvent System	:	Ethyl acetate : Formic acid: Acetic acid: Water (100:11:11:26)
Saturation time	:	20 min
Adsorbent	:	0.2 mm Pre-coated Silica gel 60/ UV 254 plates. (5*20cm).
Development time	:	25 min
Solvent front	:	8cm (minimum)
Visualisation	:	**After treatment with Ammonia vapour.**
Rf value	:	0.52 0.87
Color	:	Blue Yellow

What It Is Used For?

- Atonic bladder (lack of normal tone)
- Benign prostatic hyperplasia (increase in volume of a tissue or organ caused by the formation of and growth of new cells)
- Bladder tonic
- Chronic urinary tract infections
- Hypotonic bladder (reduced tone or tension) and incontinence and possibly enuresis (bedwetting)
- Prevention and treatment of kidney stones
- Anti-inflammatory and tonic effect on the smooth muscles of the bladder and the other urinary organ
- Possess 5-α-reductase inhibition with α-adrenergic blocking activity. 5α-reductase inhibition blocks the conversion of testosterone to dihydrotestosterone, the major sex hormone in the prostatic cells responsible for BPH.

Pharmacology

The water extract of crataeva bark reportedly displayed nicotinic actions on guinea pig ileum and dog tracheal muscle in *vitro*. The effect of this water extract on the bladder contractility of dogs has been studied. They found that the expulsive force of detersive contraction increases under the influence of crataeva. The alcohol ether extract of the bark has anti-inflammatory activity comparable to that of corticosteroids. Acute inflammations induced by histamine and carrageenin, and delayed (chronic) inflammation (in formaldehyde induced arthritis) are both inhibited. The water extract of crataeva leaves displays in *vitro* antibacterial activity against *Shigella* and *Salmonella*.

Deshpande has studied the clinical use of crataeva decoction on bladder emptying, chronic urinary infection and urinary electrolyte excretion. Crataeva decoction reduces the urinary excretion of sodium magnesium, shifting values from the lithogenic to the nonlithogenic zone. It was also found to increase the 'spontaneous' passage of renal and bladder calculi. In patients with prostatic hypertrophy, crataeva decoction increases the force of detrusor contraction, reducing the volume of residual urine. The action, through which stagnation of urine is reduced, combined with its anti-inflammatory property, may explain the antiseptic action of crataeva on the urinary tract.

Folkloric Remedies

1. Fresh leaves of crataeva bruised well with a little vinegar, lime juice or lime water, or hot water, and applied to the skin as poultice or paste act as a vesicant.

2. Fresh leaves and roots mixed with coconut juice and ghee are used as food to reduce corpulence.

3. Leaf smoked in caries of the bones of the nose, and the smoke is exhaled through the nose

4. A paste of the leaves applied to soles of the feet to relieve swelling and burning sensation.

5. A decoction of the bark of the tree is used in scrofulous enlargement of the glands under the lower jaw.

6. A decoction of the bark is also used for internal or deep-seated suppurative inflammation

Ayurvedic Formulations

- *Varanadi kvaatha*
- *Varanadi ghrtam*
- *Varanadi taila*

Ayurvedic Proprietory Formulation

- Prostate Tablet (PROSTACT)

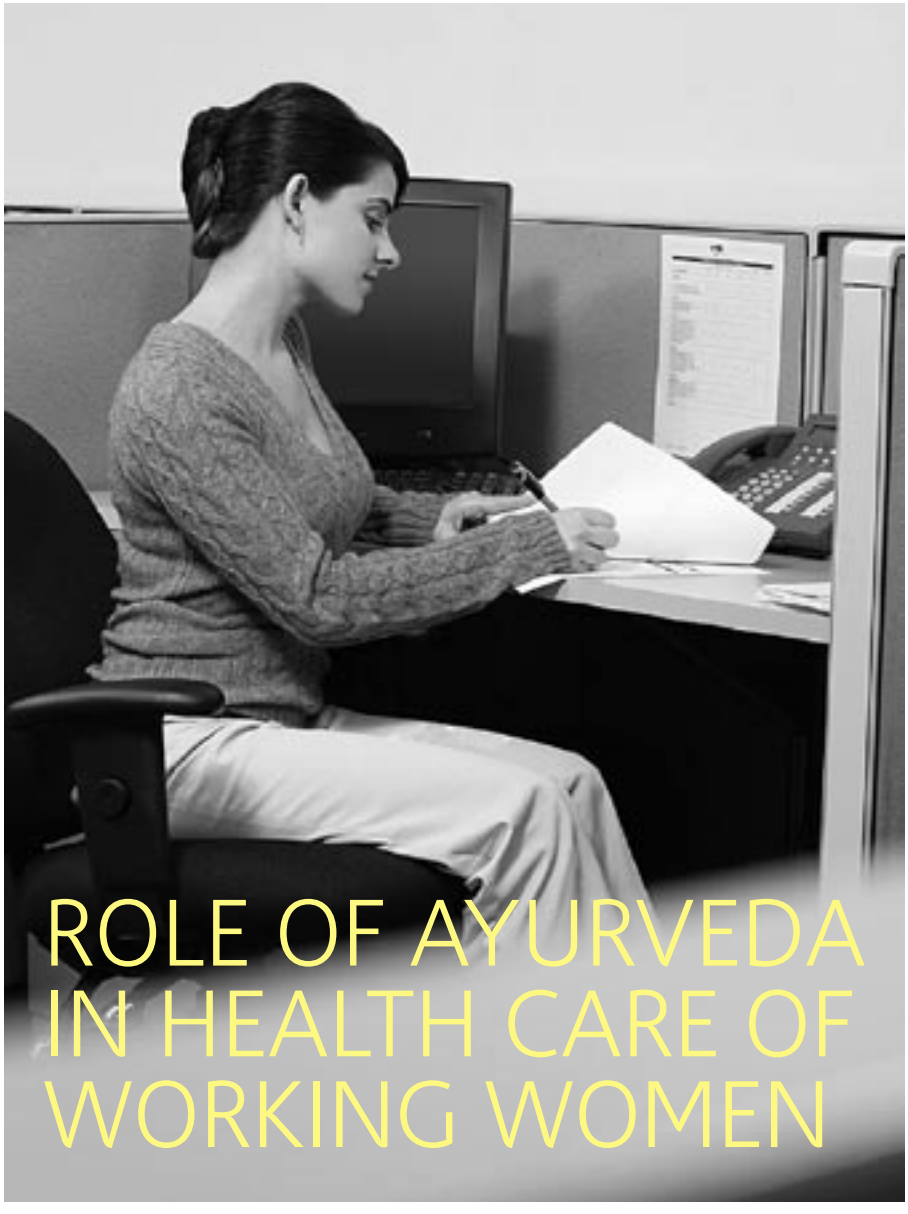
Dosage

- 5-10 mL/day 1:2 liquid herbal extract
- 15-25 g/day decoction of dried bark or root bark



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ROLE OF AYURVEDA IN HEALTH CARE OF WORKING WOMEN



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A working woman aged 40 years was suffering from toxic thyroid goiter. It was surgically removed. She developed acid peptic disorder (APD) and constipation, ulcer was healed after 3 years of treatment and case was finally closed successfully. After few days she developed diabetes mellitus and hypertension. All this went on for almost 10 years. At last her physician investigated her emotional state.

After globalization, a country like India has been developing rapidly. In India, now a day women play an important role for socio-economical development in their families equal to men. Most of the women working in various professions in such circumstances are facing repeated stress injuries (RSI) due to irregular dietary habits, sleeplessness during night, heavy work, professional problems causing anxiety and tensions leading to development of psycho-physio-social stress.

Depending on constitution, the non-specific responses to psychological stress may affect almost every system in the body and in the causation and course of disease.

- Stress related symptoms
- Stricture *(samkoca)*
- Stiffness *(stabdhataa)*
- Dryness *(rookshataa)*
- Dull ache *(vedanaa)*
- Weakness *(bala-haani)*
- Colic *(soola)*
- Burning sensation *(daaha)*
- Fatigue *(glaani)*
- Tingling sensation *(cimicima)*

Psychological stress that impacts various system

System	Disease
Digestive	Anorexia nervosa, APD, Irritable bowel syndrome (IBS)
Respiratory	Bronchial asthma
CVS	Hypertension
CNS	Insomnia, Tension headache
Endocrine	Diabetic mellitus (DM), Obesity
Integumentary	Urticaria, Psoriasis

Irregular diet:-

Premature food (eating when the previous food is not digested *–adhyasana*), starvation *(anasana)* and inconsistent food (untimely excess or less quantity of food) lead to development of dyspepsia *(agni-maandya)* causing diseases like *aamavaata*, diseases of fat metabolism *(medo-roga)*, indigestion *(ajeerna)* and constipation *(vibhandha)*. Lack of nutrition leads to anemia.

Psycho-physical stress in working women leads to marital disharmony, frigidity and vaginismus leading to infertility.

Psychological stress impact on nervous system, especially limbic system which controls the behavioural functions and stimulates various hormones are listed below: -

- Increased production of ACTH (adrenocorticotropic hormone) releasing factor in hypothalamus having detrimental effect on immunological mechanism.

- Increased corticosteroids along with GH (growth hormone). ACTH releasing factor is anti-inflammatory whereas

GH is pro-inflammatory. The opposing mechanism have an injurious effect on lymphoid and non lymphoid target cells resulting in the derailment of adaptation. Cumulative effect of derailment of adaptation predisposes the body to malignant tumors.

- Stress reduces life span of cells, memory, working efficiency and intellect. Increased free-radicals of RNA in the cells reduce the life span of cells and result in premature aging.

The basic concept of Ayurveda is to maintain and promote health by prevention and cure of diseases. WHO also defined health as a state of complete physical, mental and social well-being and not merely the absence of disease.

Caraka-saṃhitaa described three basic pursuits. 1. pursuit for life *(praaṇeshaṇaa)* 2. pursuit of money *(dhaneshaṇaa)* and 3. pursuit of life after *(paralokeshaṇaa)*. Since all these three pursuits depend on life, every one should try to preserve life and health.

In all the ayurvedic treatises detailed description is available regarding the method and approaches for maintenance of normal health. Everyone aspire to have long and healthy life to achieve the goals of life (the four *purushaartha*).

Caraka-saṃhitaa has provided comprehensive account of the mode of living and norms of ethical conduct to be followed by everyone desiring benevolent and happy life.

According to Suśrutha-saṃhitaa a man is healthy, if humors *(dosha)*, tissues *(dhaatu)* and bio-fire *(agni)* are in the state of equilibrium. Apart from this he should be mentally happy to maintain a psychic and somatic equilibrium. For this, he should follow the advices of Ayurveda.

For the maintenance of total health i.e., physical, mental & spiritual well being, Ayurveda envisages different regimens. Daily and seasonal regimens *(dina-carya and ṛtu-carya)* are recommended under the head of regimen for the healthy *(svasthavṛtta)*.

According to Caraka-saṃhitaa food, sleep and celibacy are the three pillars of healthy long life. Wholesome utilization of these three will give support the living body where as unwholesome use will cause disease. The observation of the regimen for the healthy is a simple way of attainment and maintenance of good health and prevention of disease. To prevent mental diseases, Ayurveda directs code of conduct *(sadvṛtta)* including suppression of unwholesome emotions and etiquettes *(aacaara-rasaayana)*.

So individuals can prevent themselves from psycho-physio-social stress caused by wrong action. The basic idea of good life should be so regulated that the body and mind may be free from disease.

All the above mentioned potential information from various Ayurvedic treatises help the working women to maintain good and healthy long life by following the regimen for the healthy.

Preventive Aspects

- Daily regimen.
- Seasonal regimen.
- Occasional occupational duties.
- Sexual hygiene.
- General rules of conduct for the well being of society i.e., ethical regimen.
- Conduct and practices to achieve self orientation.
- Personal hygiene which increases physical, mental & spiritual strength.
- Rejuvenation & invigorating agents; Increases immunity, improve mental faculties and increase vitality.
- Practice of Yoga & Meditation keeps both body and mind fit.

Curative Aspects :

For RSI

1. Carminatives *(deepana)*, digestives *(paacana)* and drugs that direct *vaata* in normal direction *(vaataanulomanaṃ)*.
2. Oil application *(abhyanga)* and sudation *(sveda-karma)*.
3. Irrigation therapy *(dhaaraa)*.
4. Brain tonics *(medhya-rasayana)*.

Drugs like Indian pennywort *(brahmee)* withania *(aśvagandhaa)*, Convolvulus pleuricaulis *(śankha-pushpee)* and Indian gooseberry *(aamalakee)*.

5. Regulate dietary habits.
6. Change the life style.
7. Women are advised to take nutritional diet.
8. Low caloric diet and exercises.
9. Treat according to condition and constitution of the patient ■

Shoe flower for the head!



Are you fed up with changing your shampoo which you purchase from the shop? Ready made shampoos are handy but costly. Here is the tip for your home made shampoo absolutely free of cost. The only inconvenience is that you cannot keep it for later use.

Collect a few leaves and flowers of shoe flower plant (Chinese rose = *Hibiscus rosa sinensis*) and grind it in a mixer. Mix with some water and filter through a muslin cloth. The filtrate is the ready to use shampoo which could cleanse your hair from all the dirt, dust and grease and free your scalp from dandruff and itching.

Shoe flower is an ingredient of many ayurvedic hair oils meant for preserving and conditioning hair and treating skin diseases especially of the scalp. Chinese rose is also known as Japan rose. It seems that the Sanskrit name *Japaa* has a relation with Japan. Shoe flower got its name from its another use – polishing shoes! Do you know? The flower smeared on a paper could convert the paper into blue litmus.

In case your yard is not having the Chinese, you can try the leaves of sida (*Sida cordifolia* or *rhombifolia*) in the same manner. It is a very common weed. Traditionally leaves of white lady plant (white rag plant = *Mussaenda frondosa*) are also used in the same manner. Now you are free to feel light headed and save some money.

Warning: Do not shampoo your head daily. Better let it be once in a week or so ■

UNCTION *(Snehana)* – AN OVERVIEW

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Unction *(snehana)* is the major preparatory procedure to be performed before purification therapy *(ṣodhana)*. The entire purification procedure depends upon the proper mobilization of humors from the tissues of the body *(ṣaakhaa)* which is achieved with the help of unction and sudation *(svedana)*. Out of these two, the unction is a major therapy which decides the whole outcome of purification procedure.

The unction intended for purification is practiced since ancient times as a pre-operative procedure. But the practices have been changed considerably in time. In different regions of India, the procedure varies in dose, duration and regimen. The dose & duration is individual specific. Digestive power, condition of the gut, constitution, humors or humors involved, strength and status of immunity, habituation, mental status, age etc. are variables to be considered in deciding the dose & duration for achieving adequate unction.

Unction therapy aims at (1) preparing the body for expelling the vitiated humors and (2) preventing the possible aggravation of vaata after purification.

In ancient treatises, brief description about internal unction is available. But we have to answer many relevant questions regarding the procedure. What should be the dose schedule with regards to the bio-fire and condition of the gut? Is the fat to be given in increasing or fixed dose? With which practice the signs of optimal unction will appear properly and timely? When to stop unction? These questions still remain without proper answers. However, indirect reference regarding the dose fixation according to the bio-fire is mentioned by Caraka. A piece of cloth absorbing water only up to its maximum is provided as an illustration. The fat digestion depends on the digestive power and any excess of fat ingested is left undigested (C.Soo.13.96). Aruṇadatta, the commentator of Aṣṭaanga-hṛdaya also has emphasized the importance of digestive fire in the context of the dose of fat to be consumed (on A.H.Soo.16.18).

Currently, physicians practice unction for purification by their own methods depending upon their experiences. If unction is done improperly, it will definitely affect the subsequent purification. Hence, it is obligatory to start and increase the dose of fat in an appropriate and judicious manner, considering the status of gut and digestive fire of the subject.

Currently physicians practice unction for purification by their own methods depending upon their experiences. If unction is done improperly, it will definitely affect the subsequent purification.

Now a day, physicians face difficulty in deciding the proper dose and duration of unction. Hence, fixation of dose and duration of fat



attains prime importance in discussion. It seems that *aacaaryas* have considered digestive fire as an index to define the dose schedule for intense internal unction and the condition of the gut as an index to decide its duration.

Unction for purification is the kind of unction therapy which is performed as a pre-operative procedure for the five operative procedures *(panca-karma)*. Purification therapy is intended for cleansing the body, by which the accumulated morbid humors responsible for disease are expelled out so that an ideal environment for proper functioning of body is produced.

In the treatment regimen, purification therapies are major procedures. They are known as main operative therapy *(pradhaana-karma)*. They are preceded by certain preparatory procedures known as pre-operative procedures *(poorva-karma)* and followed by certain recovery procedures known as post-operative procedures *(pascaat-karma)*. The entire purification procedure depends upon the proper mobilization of humors from the channels, which is achieved with the help of unction and sudation. Out of these two, unction is a major procedure which leads and decides the whole outcome of purification.

Dalhana explains that to bring the humors latent in the peripheral tissues *(saakhaagata dosha)* to the gut *(koshtha)*, unction is essential.

Unction *(snehana)* means oleation therapy, the therapy which provides the body unctuousness *(snigdhataa)* or oilyness. It also renders the vitiated humors easily extractable. It is a process of administering fat to achieve the desired effect in a precise duration prior to the procedures of emesis *(vamana)* and purgation *(virechana)*. Mere oral administration of fat irrespective of dose, time, duration, etc. will not suffice. Both internal *(aabhyantara-snehana)* and external unction *(baahya-snehana)* are to be attained. Both the types of unction are related with the pre-operative procedure for purification. The external unction is technically known as *abhyanga*. This is to be carried out along with sudation after the completion of internal unction.



The aim of the unction is to prepare the body for purification i.e. to bring the vitiated humors latent in peripheral tissues to the gut, so that they can be easily expelled (C.Soo. 28.31). This is achieved by the ability of the fat to increase the quantity of humors *(vriddhyaa)* and liquifying action *(vishyandana-karma)* (C.Soo. 28.33). It is mentioned in treatises that, attempts to eliminate humors without proper prior unction and sudation will damage the body. It is like attempting to bend a dry stick. Fat loosens the humors that are adherent to the walls of minute channels. Dalhana explains that to bring the humors latent in the peripheral tissues *(saakhaagata dosha)* to the gut *(koshtha)*, unction is essential.

Caraka provides the analogy that from a smooth container, contents can be easily poured out. Similarly humors such as kapha are easily expelled from the unctuous body (C.Si.6.11). Another analogy is of washing a cloth. Dirt mobilized by soaking in

oil (or soap) can be easily washed out with water. Similarly the adhering vitiated humors are mobilized by fat and can be driven to the gut by sudation (C.Si.6.13).

The etymology of the word *'sneha'*

The word *sneha* is derived from the root *'snih'*. It has two meanings viz. 1) rendering affection *(snih-preetau)* and 2) to lubricate *(snih-snehane)*.

In ayurvedic texts, the word sneha has different meanings in different contexts. It represents -

(1) A character, property or quality *(guṇa)* (Ḍalhaṇa on S.Soo.41.2)

(2) Essence *(saara)* (Cakrapaaṇi on C.S00.30.11, C.Ci.8.4 and C.Si.1.40)

(3) Affectionate (Ḍalhaṇa on S.Soo.5. 6)

(4) Colour or Chrome (Aruṇadatta on A.H. Saa. 3.14)

(5) One of the eight active principles (Su.Su.41/11)

(6) Any oleaginous substance like ghee, vegetable oil *(taila)*, tallow *(vasaa)*, marrow fat *(majjaa)* etc.

(7) Lubricator.

The term sneha implies a substance that brings oiliness or unctuousness. *Sneha* literally means oiliness, unctuousness, fattiness, greasiness, lubricity, viscidity, affection, love, kindness and tenderness [Monier Williams 1899 and Apte 1970].

Snigdha

Snigdha is a word to denote a property present in a substance *(dravya)* and indicates the presence of *sneha* in it. That which is capable of promoting strength, colour, charm, viscosity and softness in the body is called *snigdha*. According to Hemaadri, *snigdha* is a property capable of soaking the body (rendering *kḷedana* in the body).

Snehana

Snehana denotes a therapy which promotes mainly *snigdha* property in the body. In Śabdastoma-mahaanidhi, the term *snehana* is used only for external application of fatty substances on to the body but in Ayurveda it is often used for internal administration of fats.

Definition

Caraka-samhitaa defines unction *(snehana)* as the procedure by which unctuousness *(snigdhataa)*, secreting nature or liquidity *(vishyandana)*, softness *(maardava)* and soaking *(kḷedana)* are achieved (C.Soo.22.11).

This particular reference is of great importance regarding the internal unction for purification. These four signs and symptoms of optimal unction described by the seers are very important. These features can be brought by unction therapy only, and not by any other treatment.

According to Cakrapaaṇi, the secreting nature referred to as *vishyandana* in the Sanskrit definition refers to dissolution or diffusion *(vilayana)*. Once the optimal concentration of fat is attained in the body, the excess fat applied will ooze out and this diffusion, excretion and overflowing of fat is known as *vishyandana*.

The following four parameters should be considered as the tools for the assessment of unction procedures.

1. Unction is to be assessed by the unctuousness of the body, stool and skin viz. *Gaatra*, *Pureesha* and Twak *Snigdhataa*.



2. Secreting nature is observed by expulsion of fat with or without stool.

3. Softness is assessed by softness of the body.

4. Soaking is assessed by consistency of stool i.e., loose motion (not formed stools – *asaṃhata varcas*).

Importance of *Snehana*:

Unction is important not only in general medicine *(kaayachikitsaa)*, but it is also important in other branches of Ayurveda such as surgery *(śalya)* and treatment of head and neck *(śaalaakya)*. Ayurveda employs purification and mitigation to combat diseases. The diseases eliminated by purification therapy are unlikely to recur. To eliminate humors, they should be moistened and rendered fit for elimination. This stage of soaked humors is technically known in Sanskrit as *utkḷishṭa doshaavasthaa*.

1. Vaagbhaṭa has classified treatment into two categories. They are, addition threrapy *(santarpaṇa cikitsaa)* and reduction therapy *(apatarpaṇa cikitsaa)*. Drying or desiccation *(rookshaṇa)*, sudation *(svedana)* and lightening *(langhaṇa)* come under reduction therapy. Unction *(snehana)*, arresting *(sthaṃbhana)* and making stout *(brṃhaṇa)* come under addition therapy. All these six are called as six therapies *(shaḍupakrama)*, Since unction is one among the six basic modes of therapy, its importance in treatment could be well comprehended.

2. Lightening is again classified in to two viz. purification *(śodhana)* and mitigation *(śamana)*. Vomiting *(vamana)*, purgation *(virecana)*, nasal catharsis *(nasya)*, decoction enema *(nirooha)* and blood-letting *(rakta-mokshaṇa)* are the purification therapies.

Among these, the first four comes under the famous five therapies *(panca-karma)*. According to Caraka-samhitaa, the five therapies are vomiting, purgation, nasal catharsis, decoction enema and fat-enema *(anuvaasana)*.

3. In *Baala Chikitsaa*, the child is considered to be constantly subjected to unction, as they are fed mainly with fat rich food like breast milk, or cow's milk, ghee etc. So they can be directly subjected to mild purification without prior internal unction therapy when deemed fit.

4. Our body has a special affinity towards fat. That's why body is considered to be essentially fatty *(sneha saara)*. The body is originated from the gametes those are unctuous tissues of the body. Moreover, right from childhood, we are habituated to unctuous food. A person who is having comparatively sufficient fat may not be susceptible to diseases like tuberculosis *(raaja-yakshmaa)* resulting in or arising from fat deprivation. This fact has been pointed out by Susruta-samhitaa.

5. Pitta and Kapha are two Doshas which have unctuousness. Vitiation of Vaata especially by its dryness *(rooksha guna)* gets pacified by unctuousness.

6. Body fluid *(rasa)*, blood *(rakta)*, flesh *(maamsa)*, fat (medas), marrow *(majjaa)* and semen *(sukra)* tissues have unctuousness. Flesh and its subordinate tissue *vasaa* have the essence of fat. These tissues maintain the normal body functions by virtue of their unctuous moieties. There is a steady increase of unctuousness from the body fluid *(rasa)* to reproductive tissue. (Bone, the abode of vaayu is an exemption in this.) The final tissue becomes the most unctuous.

If purification is done without the unction and sudation, then severe exhaustion and weakness occur leading to the aggravation of vaata. So unction and sudation are advised before purification therapy.

7. The subordinate tissues *(upadhaatu)* namely muscle fat *(vasaa)*, breast milk *(stanya)* and immunity *(ojas)* too have unctuousness. Waste materials *(mala)*, mainly feces, urine, and sweat have unctuousness and its deficiency indicates disease. In a nutshell, Susruta-samhitaa pronounced that human being is essentially fat. Thus it is seen that unctuousness exists in humors, tissues and wastes which constitute our body. While describing the excellences *(saara)*, a consideration has been given to the strength of the particular tissue. Thus if a person is declared as skinny *(tvak-saara)* it can be generally said that, he is less likely to suffer from skin diseases in general, as compared to any other individual who has less excellence in the skin. It means that a skinny person has a better protective mechanism *(vyaadhi-kshamatva)* towards skin diseases.

8. Excellence *(saara)* denotes the optimum quality and quantity of tissue which has the capacity to resist diseases. It is evident that fat is an essential moiety of all the tissues, subordinate tissues and wastes and even the humors (excluding Vaata). Modern medical system also stresses upon the physiological importance of fat and similar substances. For the maintenance of life and health, fat and lipids or lipids such as cholesterol, phospholipids, glycolipids, stereolipids, and chromolipids are essential. Our body contains about 17 kgs of fat, by weight. The skin is having fat. The deposit of fat in the body is reduced in all diseases causing emaciation. But never disappears wholly from the body during life. The cells contain fatty material, which add the suppleness to the skin, and prevent undue evaporation and also absorption of moisture from outside. The lipids form essential components of the living cells. The fat content in different tissues varies from less than 0.1 % to over 90%. Fat also acts as physiological solvent of other lipids and vitamins.

9. The adipose tissues are found in the subcutaneous tissues, inter-muscular tissue, the omentum and mesentery and the surroundings of the organs such as lungs, heart, liver, kidneys, adrenals, ovaries and testes.

10. It is well known that the seat of the humors is throughout the body. Fat, by its minute property and soaking action, bring the humors to the gut from other pathways of diseases.

11. By its moistening action, it acts as a solvent of the morbid humors. By this action, most of the fat-soluble impurities in the body will be soaked.

12. Even after complete metabolism, fat will have lesser changes. Fatty acids and glycerol which are the constituents of fat ultimately remain as they are, in the form of finer elements.

13. It also seems to act as a preservative. From the evolution of pharmacy, it seems that the preservative properties of fats have prompted the ancient medical man to store herbs and organic materials in fatty substances like oil, ghee etc. Before the advent of chemical medicines, medicated oils and ghees happened to be the most widely used formulations.

14. Another specific quality of fat is that, it can be expelled out from the body easily even if it remains undigested.

Thus being the best suited material for the body, it is used before purification to bring the humors to the gut. If purification is done without the unction and sudation, then severe exhaustion and weakness occur leading to the aggravation of vaata. So unction and sudation are advised before purification therapy ■

SOLICITED

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PREVENTION OF UROLITHIASIS *(Mootra-asmaree)*

AN AYURVEDIC APPROACH

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"Etiologic factors can be adequately modified through diet and regimen. Avoidance of inappropriate diet patterns forms prime measure in prevention of diseases"

The etiological factors of urolithiasis are lack of regular purification therapy *(asamsodhana)*, suppression of urinary urge *(mootra-vega-dhaarana)* and perverted food and activities *(mithyaa-aahaara-vihaara)*.

Urolithiasis *(mootraasmaree)* is a multi-factorial disease. Though weeds in a lawn are removed, they germinate back within a short period. Similarly, people who suffered from renal stones once may have repeated attacks. About 10% of population suffers from nephrolithiasis during their lifetime; out of these, 70% develop recurrences. Hence prevention should be aimed at.

Renal stones are the consequence of an alteration in the normal crystallization conditions of urine in the urinary tract. Factors attributable for crystal formation are:

a) Super saturation of Calcium salts.

b) Nucleates that act as promoter substances.

c) Level of crystallization inhibitors (Citrate & Phytate).

Following factors which interfere with the above three factors constitute the base in the prevention of urolithiasis.

Avoidance of etiology *(nidaana-parivarjana):*

It is of prime importance in prevention of any disease. The etiological factors of urolithiasis are lack of regular purification therapy *(asamsodhana)*, suppression of urinary urge *(mootra-vega-dhaarana)* and perverted food and activities *(mithyaa-aahaara-vihaara)*. Hence these factors should be avoided.

Lack of Purification *(asamsodhana):*

If the periodic purification is not carried out, metabolic toxins accumulate in the body. Prolonged retention of these toxins may result in the impairment of excretory system.

Suppression of Urinary urge *(mootra-vega-dhaarana):*

Withholding the urine for a long time results in the increased concentration of urine. Longer the urine is retained in the bladder, it undergoes more alkalization and a suitable environment is built up for the occurrence of the renal calculi.

Role of food:

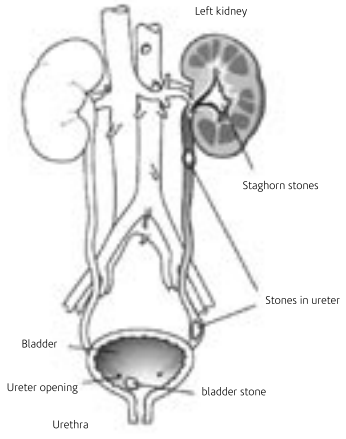
Urine composition is directly related to the consumed diet. Citrate and phytate are the crystallization inhibitors that can be taken through the diet. Hence modification of habitual diet patterns is an important measure in prevention of renal calculi.

Dietary risk factors are:

a) High oxalate rich foods.

b) Low Calcium intake.

c) Vitamin C supplementation.



Crystallization inhibitors are:

a) **Citrate:** Increased citrate excretion decreases super saturation of calcium salt due to its capacity to make complex calcium ions. But the urine pH should be monitored such that it must be between 6 and 7, as excessive citrate makes the urine more alkaline. This can be achieved by oral administration of alkalizers, citric fruits and fruit juices.

b) **Phytate:** Phytates inhibits calcium salt crystallization. It is mainly present in whole cereals and legumes like the sixty day rice *(shashtika)*, red rice *(rakta saali)* and barley *(yava)*.

Ayurvedic texts stipulate the intake of alkalies *(kshaara)*, gruel *(yavaagu)*, decoction *(kvaatha)*, milk and meals consisting of sixty day rice, red rice, barley and horse-gram *(kulatha)* along with medicines.

The key aspect in the prevention of urolithiasis is in liberal fluid intake. It affects both the urine concentration and the frequency with which solid micro particles are expelled. Water, cane sugar juice *(ikshu-rasa)* and coconut milk *(naarikela-jala)* mentioned in our science serve this purpose. A urine volume of at least 2 liters per day should be ensured. The diuretic

drugs like horse-gram, land-caltrops *(gokshura)*, asphalt *(śilaa-jatu)* etc. can be used for this.

Calcium Oxalate calculi *(Vaataja Aśmaree?)*

Calcium Oxalate Stones are made of calcium and oxalate and are frequently associated with a deficiency in the levels of crystallization inhibitors and hyper-oxaluria. As previously thought, cutting down on calcium increases the risk of stone formation. Most calcium in the diet remains in the gut where it binds to oxalate from food and the liver. The bound oxalate cannot be absorbed and is excreted in the feces. (Hence it never enters the bloodstream or the kidneys and never causes stones). Milk, which is much advocated in our classics, proves worth in this context.

In the context of *vaataja aśmaree*, Suśruta-samhitaa mentions Berginia ligulata *(paashaana-bheda)*, wild asparagus *(śataavari)*, land-caltrops *(gokshura)*, barley, horse-gram, clearing nut *(kataka-beeja)* and *ooshakaadi* group of drugs to be given with gruel, ghee and milk diet. The book also suggests powder of Indian nettle to be taken along with honey and goat's milk. Prime importance is given to milk of goat. Researches say that goat's milk is better than cow's milk as the former helps to prevent bone demineralization and maintains better levels of parathyroid hormone (PTH), a hormone that balances calcium level in the body.

Oxalate-rich foods are a risk factor for formation of calcium oxalates. Hence foods rich in oxalate content should be restricted. Chocolate, fruitcakes, raspberries, strawberries, beer, baked beans, green vegetables like spinach are of high oxalate content. This may be the reason why Bhaava-prakaaśa has mentioned vegetables as poor foods.

Sodium is one of the strongest contributors as it exchanges for calcium in the kidney. A diet high in salt puts more calcium into the urine. The obvious way is to reduce the salt intake. Rock salt *(saindhava lavana)* proves beneficial as it increases the potassium excretion in the urine rather than sodium.

The excess amount of acid in the body, which is created by Proteins, must be excreted by the kidneys. It results in extra calcium in the urine.

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Hence all meats and nuts, soy also should be restricted.

Ascorbic acid (Vitamin C) is an oxalate precursor. A human study was conducted on stone formers and non-stone formers. They were given 2000 mg of Ascorbic acid per day. There was increased urinary oxalate excretion in 40% of all participants.

Uric Acid Calculi *(Pittaja Aśmaree?)*

Diet rich in animal protein result in high uric acid excretion in urine and may cause a low urine pH. Uric acid solubility decreases at a urinary pH lower than 5.5, leading to formation of uric acid crystals. Uric acid crystals also act as a heterogeneous nucleant for calcium oxalate crystals.

Recommended diet intakes are liquid ingestion to produce daily urine volume above 2 liters and vegetarian diet predominant in citrate or bicarbonate ensuring urine alkalinization. Suśruta-samhitaa mentions drugs that mitigate pitta like sacrificial grass *(kuśa)*, thatch grass *(kaaśa)*, Berginia ligulata *(paashaana-bheda)*, wild asparagus *(śataavari)*, giant potato *(vidaari-kanda)*, roots of paddy *(śaali-moola)*, land-caltrops *(gokshura)*, hog weed *(punarnava)* and asphalt *(śilaajatu)* etc. in uric acid calculi *(pittaja-aśmaree)*.

Phosphate Calculi *(Kaphaja Aśmaree?)*

Intake of excessive citrate-rich products and carbonated beverages are the main risk factors for phosphate calculi. Calcium phosphate solubility decreases abruptly at pH values above 6, causing the formation of calcium phosphate crystals. They may act as heterogeneous nucleates for calcium oxalate crystals. In the context of *kaphaja-aśmaree*, Suśruta-samhitaa mentioned drugs that destroy kapha such as the *varunaadi* group, guggulu etc to be given along with goat's milk, gruel, vegetable soup *(yoosha)* and meals.

Cystine calculi

It is an autosomal recessive genetic disorder that causes increased renal cystine excretion. It produces recurrent urolithiasis due to the low solubility of cystine at low urinary pH values.

Recommended dietary intakes are high fluid ingestion (at least 4 Liters), urine alkalinization by citrates and a low methionine diet, as methionine is a precursor of Cystine.

Bans *(apathya)*

Food: dry, non-unctuous, made of flour *(pishtaanna)*, incompatible diet *(virud-dhaanna)*, dates, wood apple *(kapittha)*, black plum *(jamboo)*, and lotus.

Activities: day-sleep, suppression of physical urges, excessive exercise and excessive coitus.

Day sleep is one of the most contributing factors for obesity. Researches suggested that overweight; obesity-related food pattern and non-adjusted drinking habits are related to increased risk of calcium oxalate stone formation and other metabolic disorders.

Suppression of the urge for ejaculation leads to seminal calculi *(śukraaśmaree)*, as the stasis of semen in the reproductive system leads to its crystallization and formation of seminal calculi.

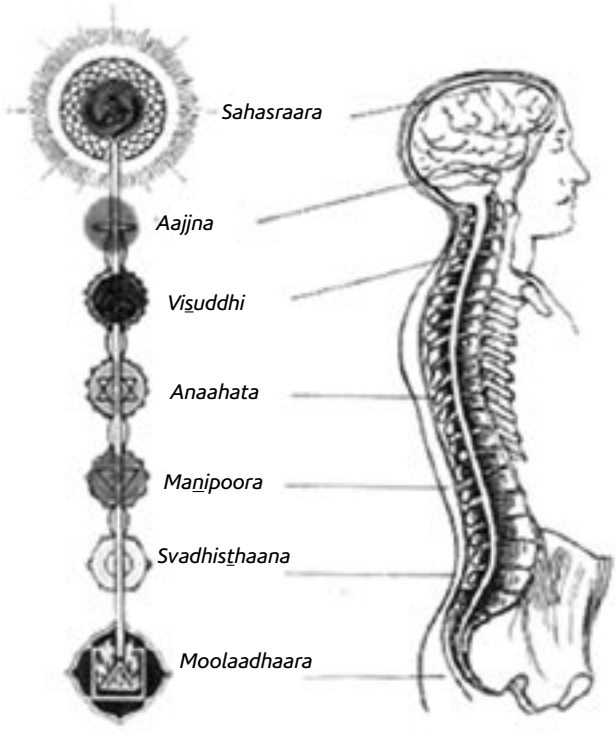
Conclusion

As per the guidelines from ayurvedic texts, the following measures can be advocated for the prevention of urolithiasis.

- Ensure Daily intake of adequate liquids (at least 2 liters /day).
- Avoid intake of excessive animal proteins and salt (Na Cl).
- Encourage Vitamin C supplementation.
- Consume Phytate-rich products like natural dietary bran, legumes, beans and whole cereals.
- Avoid usage of cytotoxic substances like analgesics, residual pesticides, organic solvents and cytotoxic drugs ■

TANTRA, MANTRA AND YANTRA

Kerala Ayurveda Vaidyam Desk



Ascent of *Kundalinee* Spinal cord

The three terms *Tantra*, *Mantra* and *Yantra* are very frequently used in Indian sciences, mythology, religion and occult practices. Usually mystic and mysterious meanings are attributed to them and because of this apprehension people both lay and scientific have a certain amount of misconceptions about them.

The term *tantra* has many meanings. When used with the name of an author it is a book. Agnivesa Tantra of Ayurveda is an example. When used as part of the name of a discipline, it is a branch of science. The terms *agada-tantra* (toxicology) and *salya-tantra* (surgery) exemplify this. Though Caraka-samhitaa, an authentic treatise of Ayurvedic general medicine, states that the terms *saastra* and *tantra* are synonyms (C.S.Soo.30.31) we could palpate a bit of difference in the terms. *Saastra* is a science based on theory and tantra is more akin to technology. It is like a practical manual. Coming to the field of philosophy, *tantra* is a system of philosophy with various sects and cults.

As a philosophical school, *tantra* stands apart from the vedic school and is regarded as non-vedic by those who are strict followers of the *Veda*. In fact the vedic and tantric schools are opposite, though both of them try to attain prosperity and liberation.There was a lot of antagonism between these schools in history. Later *tantra* tried to establish itself as a vedic school. But this was vehemently opposed by the vedic community which passed strict dictums against those learned elite *(brahmins)* who attempted to associate themselves with *tantra* and seek its path. This staunch opposition was mainly from the 'prior contemplators' on the vedic literature *(poorva-meemaamsaka)*, who held the theory of action. The Bhaatta School considers the tantrics as atheists who do not obey the Vedas. Kumaarila Bhatta, who propounded the Bhaatta School had written against those who fancy *tantra* and have heralded them to retreat back to the vedic cult.

The main allegation about the *tantra* system is that it stands for gaining mundane pleasures and is not meant for attaining metaphysical levels of liberation. The tantrics utilize alcohol *(madya)*, flesh *(maamsa)*, intercourse *(maithuna)*, fish *(matsya)* and symbols *(mudra)* as part of their rites. Though later these terms were interpreted as to have symbolic meanings, the five 'M' *(panca makaara)* is another reason for the aversion towards the system by others. The tantrics counter this argument by stating that in vedic rites too such practices are prevalent and that the many of the vedic rites are performed to obtain mundane pleasures. Even the attempt to attain heaven is the expression of seeking pleasures.

As a philosophical school, Tantra stands apart from the Vedic school and is regarded as a non-vedic by those who are strict followers of the Veda. In fact the Vedic and tantric schools are opposite, though both of them try to attain prosperity and liberation.

Tantrics also use mantras or hymns. These hymns are codified and only those who are instructed by preceptors or *Guru* could comprehend the inner meanings of the mantras.

In spite of the staunch opposition of the vedic cult, *tantra* flourished in India especially during the decline of Brahmanism in India during the flourishing period of Buddhism and Jainism. The philosophy of *tantra* is identified as *Paancaraatra* which considered as an unorthodox philosophy. This philosophy is part of Hindu religion, but is much different from the vedic Hinduism. Apart from the Hindu tradition of *tantra*, the Buddhist *tantra* is also a well developed branch of occultism. There are various books based on Buddhist tantra and Buddhist monks practice this.

We know that Hinduism accepts two mythological sources of knowledge. It is

from *Brahmaa* that all the Vedas emerged. The other source of knowledge is Lord Śiva. From a historic perspective *Brahmaa* represents the source of Aryan pool of knowledge and Śiva represents the source of Pre-Aryan or Dravidian pool of Knowledge. Presently we find that these two pools of knowledge are sufficiently mixed so that we cannot almost identify what is what. The term *Aagama* stands for Dravidian knowledge and *Nigama* stands for Aryan knowledge. *tantra* is typically Dravidian and the books of *tantra* are called *Aagamas*. Dr. S. Radhakrishnan, our former President and a noted philosopher has stated that "the living Hindu religion of today, from Cape Comerin to the remotest corner of Tibet, is essentially tantric. Even the few genuine vedic rites that are preserved and are supposed to be derived straight from the Vedas (e.g. the *sandhya*), have been modified by the addition of tantric practices."

The temples of Hinduism are functioning as per the direction of a *tantri* (an accredited authority on *tantra*). Though the *tantri* is a brahmin, he need not learn *Veda* because vedic rites have nothing to do with the traditional procedures of temples. Moreover, vedic rites do not utilize or need a temple for their performance. Though some vedic hymns are now utilized in Hindu temples too, it is the result of admixture of tantric and vedic cults.

There are three types of aagamas – *Śaakta*, *Śaiva* and *Vaishṇava*. *Śaakta aagamas* deals with the worship of the mother goddess *Śakti*. The *Śaiva* system worships Lord Śiva and *Vaishṇava* system worships Lord Vishṇu. Both *Śaiva* and *Śaakta* systems are primitive and Pre-Aryan. There are evidences to think so from the excavation sites at Indus valley believed to be of Chalcolithic age. There are three theories about the origin of *aagamas*. The first theory considers them coeval with *Brahmaṇa* period. The second theory is that they originated from archaic Upanishads. Upanishads are ideological and present the quest and *aagamas* explain the means to attain the result. Third theory that *aagamas* are independent and original is more acceptable. The other two theories may be due to the later effort to correlate *tantra* with Vedas. On precisely scrutinizing Vedas and *aagamas*, we could understand that they represent two different ideologies. The *aagamaas* are poorly studied in spite of the earnest efforts of Sir. John Woodroffe and Atal Behaari Ghosh. The lack of study is mainly due to the aversion to *tantra* prompted by two things viz. 1) *tantra* is concerned with black magic and 2) *tantra* is obscene and is unfit for gentlemen. But these are superfluous as in realty, *tantra* is spiritual and uses symbolism to attain spirituality.

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The word *tantra* is derived from the root *'tan'* meaning to spread and in a special sense by which knowledge is spread. Accordingly the *tantra* system enables the follower to purify the physical, vital and mental planes to achieve prosperity *(abhyudaya)* and liberation *(nisreyas)*.

There are three streams of *tantra* namely the right *(dakshiṇa)*, left *(vaama)* and middle *(madhyama)*. These represent the three major powers of Lord Śiva namely *satva*, *rajas and tamas*. The religion of *aagama* apparently developed through channels – exoteric and esoteric. The exoteric channel is of pure Śaivism and is aimed at salvation. The esoteric channel is of Śaktism which is aimed at gaining mastery over natural forces. Now the term *tantra* is more related with books of Śakti cult. It became so at the end of 5th century C.E.

The Buddhist *tantra* developed in the 7th century C.E. and there was exponential growth for it through three centuries. The Buddhist *tantra* has three distinct schools – the diamond path *(vajra-ayana)* the natural path *(sahaja-ayana)* and the time-cycle path *(kaala-cakra-ayana)*. These are supported by the philosophies of *maadhyamika* and *yogaacaara* schools of Buddhism. The diamond path and the natural path represent two aspects of the same Tantrism. Diamond path is more exoteric and the natural path is more esoteric. The term for Śakti or female principle in these sects is intellect *(Prajjnaa)*. The male principle is diamond *(Vajra)*. The natural path discards every kind of formalism and emphasizes the natural state devoid of all knowledge derived from outside. The time-cycle path was introduced to Bengal from outside India and it gives great importance to the time factor. Thus astrology and astronomy are related with its practice.

The seven rules of conduct *(saadhana)* closely connected with the three forms *(bhaava)* of *tantra* are *Veda*, *Vaishṇava*, *Śaiva*, *Dakshiṇa*, *Vaama*, *Siddhaanta* and *Kauḷa*. These are considered as seven stages. In the first stage cleanliness *(śauca)* of body and mind is cultivated. The second stage is that of devotion. The third stage is of knowledge *(jjnaana)*. In the right stage, the gains *(siddhi)* attained in the preceding stages are consolidated. The left stage is that of renunciation. In the sixth stage of final gain the conviction to adhere to the path of renunciation is obtained. In the last stage the absolute *(Brahman* or *Kauḷa)* becomes a reality. The first three belong to *aṇima (paśu bhaava)*, the fourth and fifth belong to heroism *(veera bhaava)* and the last two are divine *(divya bhaava)*. One who is really liberated knows all the seven stages grouped in three forms.

Symbolism is the hall mark of *tantra* and it is used as a means to clothe plain truth in imagery. Only one who is instructed to decipher the code of symbolism could enter the realm of tantric truth. Those who are not thus instructed tend to misinterpret tantric literature. To avoid this, strict stipulations for

imparting Tantric knowledge are made and it is considered that the knowledge should be attained only from an authentic *Guru*.

There are two types of Tantric practices. Both of them use symbolic images for worship. In one case the image is internal. In the more popular form the image is external. The former is of mental worship and the latter requires images for worship such as pictures or graphic representations. Both these practices use specific sound-symbols or mantras. *Yantra* is a pictorial representation of a Tantric concept. In idol worship the worshiper uses an idol representing the god of his choice. The idol is described in meditative stanzas *(dhyaana śloka)* in detail. In *tantra*, the image of worship is more abstract and symbolic. Such a symbolic and generally geometrical figure is called *Yantra*. The *Śree-cakra* representing the union of male and female principles causing the manifestation of the cosmos is a good example for *yantra*. There are innumerable Yantras for varied purposes.

The term *Yantra* means that which protects or limits. The root *'tra'* means to protect or limit. The term *yantra* is used in varying senses such as machine, instrument, support, barrier, blunt surgical instrument and equipment. In Ayurveda the equipment used in clinic and pharmacy are termed *yantra*. In medical practice there are instruments for diagnosis and treatment. The equipment for enema *(vasti yantra)*, forceps and pincers *(samdamsa yantra)* and scopes like proctoscope (*arśo-yantra)* are examples. Mills and crushing machines are also called yantra. In Ashtaanga hrdaya there is a statement about machine made sugar cane juice *(yaantrika rasah)*.

Mantra is from the root *tra*. '*Man*' in the term implies contemplation *(manana)*. Thus the mantra protects a person chanting it and contemplating its meaning. The general consensus that the mantras will protect the chanter or the person for whom the chanting is done, even if the meaning of the chanted words is not known is unfounded from this point of view. Mantras in *tantra* form cryptic literature to be deciphered. Each letter of the mantras has specific symbolic meaning. Some letters in a *mantra* may be concealed and will be advised to the student by his *Guru* only on satisfactory conduct of the student. For example, the last letter of the sixteen lettered *mantra (shodaśaaksharee mantra)* is usually kept as a secret. Mantras are mainly utilized in *tantra* for internal worship. Here the deity is represented in the *mantra* in a symbolic or cryptic form. Some mantras are not cryptic. Their meaning could be understood by taking their direct meaning. Such mantras are generally used to perform external worship.

The ultimate aim of *tantra* is said to attain union of the individual soul with the absolute. This is symbolically represented in the ascent and union of the *anima (Kundalinee śakti)* from nether base to the highest point through various stages. This concept is met with also in *Yoga*. *Kundalinee śakti* is residing in the form of coiled snake in a recess underneath the bottom most point of spinal cord. By tantric or yogic practice, the practitioner arouses this power to higher planes and on to bliss. There are six plexuses in-between the top and bottom points, and the highest plane is termed as the thousand petal lotus, representing the cerebrum. From bottom to top these plexuses or cycles *(cakra)* are the basic plexus *(moolaadhaara-cakra)*, the pelvic plexus *(svaadhishthaana-cakra)*, the hypogastric plexus *(manipoora-cakra)* situated at the level of navel, the solar plexus *(anaahata-cakra)* located in the region of heart, the pharyngeal plexus *(viśuddhi- cakra)* located in the region of throat and the commanding cycle *(aajjnaa cakra)* situated between the eye brows and which is the naso-ciliary extension of the cavernous plexus. The universal power twines up the spinal cord passing these six cycles. This is the symbolic representation of the cultural elevation of the practitioner to attain the ultimate level of culture to enjoy bliss by union with the absolute.

The concept of these cycles is formulated from a deep insight of human anatomy. The nervous system is termed *naadee-tantra* and nervous tracts are called *tantrika*. These terms acknowledge that the concepts of nervous system in Ayurveda are derived from *tantra*.

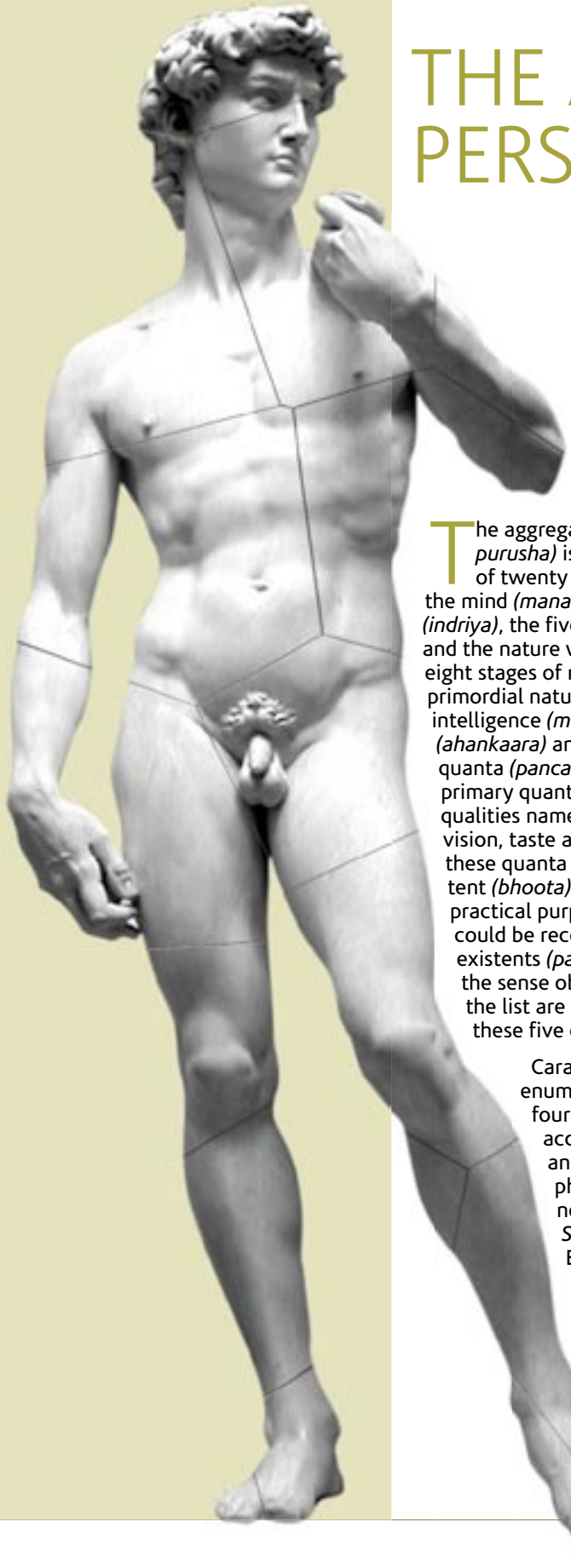


At junctions of life and death, where common scientific logic cannot help much, it is the rightful duty of a life science to turn the last stone to protect life. Hence when logical treatment reaches its limits the whole horizon of the mystic may help the patient as well as the physician a lot.

We have already seen that treatises of Ayurveda are called *tantra* and some branches of Ayurveda are also termed *tantra*. It is interesting to note that the humor vaata is the maintainer of the machine and mechanism of the living body. Caraka samhitaa states that *vaayu* is *tantra-yantra-dharah*. This single statement is sufficient to illustrate the relation of Ayurveda with *tantra* and *yantra*. The term *tantra* is also used in Ayurveda to denote specific stipulation. In Ashtaanga Samgraha, it is mentioned that no practice is to be made into a rigid schedule. Here the term *tantra* is used for fixing a rigid schedule *(Tantreekuryaat na tu kramam)*.

Ayurveda also uses mantras in treatment. Generally they are utilized when logic is at stakes. Thus when we are at the limits of logical treatment as part of providential treatment, we are instructed to utilize specific mantras. Even in general practice, many physicians suggest the purification of the prescribed medicines by chanting mantras. This is mainly practiced in mental diseases. In Agada tantra, where the patient is mostly in grave condition, mantras have a pivotal role.

Both life and death are confusing puzzles for humanity from time immemorial. At junctions of life and death, where common scientific logic cannot help much, it is the rightful duty of a life science to turn the last stone to protect life. Hence when logical treatment reaches its limits the whole horizon of the mystic may help the patient as well as the physician a lot. It is in this perspective that *tantra* and *mantra* find their slots in Ayurveda ■



THE AGGREGATE PERSON



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The aggregate person *(Raasi purusha)* is the combination of twenty four factors namely the mind *(manas)*, the ten faculties *(indriya)*, the five sense objects *(artha)* and the nature with eight stages. The eight stages of nature are the primordial nature *(moola- prakṛti)*, the intelligence *(mahat)*, ego *(ahankaara)* and the five primary quanta *(panca- tanmaatraa)*. The primary quanta are quantified qualities namely sound, touch, vision, taste and smell. Each of these quanta give rise to an existent *(bhoota)* and thus for all practical purposes these quanta could be recognized as the five existents *(panca-bhoota)* whereas the sense objects mentioned in the list are special properties of these five existents.

Caraka-saṃhitaa has enumerated these twenty four principles in accordance with the ancient *Saaṃkhya* philosophy. It may be noted that the revised *Saaṃkhya* of Eesvarakṛshna postulates twenty five principles by adding up a twenty fifth principle viz., the Person *(Purusha)*. But in Ayurveda *Purusha* is not a fraction, but is the aggregate of the twenty four principles. In other words, according to Ayurveda, person is the treatable person *(cikitsaa-adhikṛta-pursha)* or the living being and is considered as the subject matter of Ayurveda. It is for this person that the whole of Ayurveda is expressed.

From the point of view of sentient nature, the living being can also be considered as having two parts viz., the sentient part *(cetanaa)* and the inert part *(jaḍa)*. The sentient part can be subdivided into two viz., the soul and the mind. The inert part is composed of five existents. The inert part is known as the body and it can be subdivided to the body proper *(śareera)* and the faculties *(indriya)*. This analysis is in line with the Vaiśeshika philosophy.

The aggregate person is the bearer of the union of intelligence or knowledge *(buddhi)* including the ego *(ahankaara)*, the faculties *(indriya)*, mind *(manas)* and the sense objects *(arṭha)*. (C.Saa.1.35). This aggregate person engages in innumerable unions by the conjunction of the mental pollutants viz. action principle *(rajas)* and inertia principle *(tamas)*. When he is devoid of such conjunction of the two mental pollutants, he will be idling (C.Saa.1.36). It is in this aggregate person that the effects of actions *(karma-phala)*, knowledge *(jjnaana)*, confusion *(moha)*, pleasure *(sukhaṃ)*, pain *(duhkhaṃ)*, life *(jeevitam)*, death *(maraṇaṃ)* and possessiveness *(svataa)* are placed. (C.Saa.1.37). One who knows this by principle knows creation *(udaya)* and dissolution *(praḷaya)*, continuity *(paaramparya)*, treatment *(cikitsaa)*, and whatever is to be known. (C.Saa.1.38).

If there is no aggregate person, then there is no darkness or light, no truth or lie, no auspicious or inauspicious deed, no doer or no knower, no dependence for pleasure or pain, no going or coming , no word, no arts and science, no birth and death and no liberation or bondage. Hence the aggregate person

is considered as the cause of everything and he is termed as the causal person *(kaaraṇa-purusha)*. Without him no knowledge will be produced and the whole perceptible universe becomes purposeless (C.Saa.1. 39-42).

To the question by Agniveśa as to why the person is considered as the cause Aatreya Punarvasu provides the above elaborate description as the answer. This aggregate person is to be considered as a continuous entity throughout life in spite of changes of phases of life such as infancy, childhood, adolescence, youth and old age. Those who hold that everything is momentary *(kshaṇa-bhangura-vaada)* do not admit such a continuity. Ayurveda is against the theory of momentary existence *(kshaṇika-vaada)* of the Buddhists. If some continuity of the person is not accepted, there is no possibility of prevention and cure. Hence for medical purposes the person should be a continuous entity and only then the theory of *karma* that every action will have an effect will hold good. If everything is momentary, then there is no purpose for human effort and all our activities will be in vain. Even fools will not act without a purpose and Ayurveda is not foolery to act, if there is no purpose for the act. It is stated that the two purposes of Ayurveda are to prevent disease and attempt to cure it. If the person and the diseases are momentary there is no need to treat that person or disease which will be non-existent in the next moment.

It is interesting to note that at times the aggregate person is considered as the self or *aatman*. Rarely the aggregate person is even termed as the Absolute soul *(param-aatmaa)*. *Param-aatmaa* in other philosophies is the Universal soul or the Absolute. But Caraka-saṃhitaa, while enumerating the characteristics of the living person, uses the term param-aatmaa to denote the living person (C.Saa.1.72.). The enumerated characteristics of *param-aatmaa* are 1) respiration *(praaṇa)* 2) nutrition *(apaana)* 3) movements like winking the eyelids *(nimesha-aadyaaḥ)* 4) animation *(jeevanaṃ)* 5) imagination *(manaso-gati)* 6) engagement of mind with various faculties *(indriya-antara-sancaara)* 7) instigation of mind *(preraṇaṃ)* 8) inhibition of mind *(dhaaraṇaṃ)* 9) dreaming during sleep 10) death 11) identification of things seen with right eye using the left eye 12) desire *(iccha)* 13) aversion *(dveshaḥ)* 14) pleasure *(sukhaṃ)* 15) pain *(duḥkhaṃ)* 16) effort (prayatna) 17) sentient nature *(cetanaa)* 18) will power *(dhṛti)* 19) knowledge *(buddhi)*, 20) memory *(smṛti)* and 21) ego *(ahankaaraḥ)*. It is evident that all these characteristics are of a living thing as differentiated from nonliving things. This puts the *aatman* of Ayurveda to a very mundane plane and wards off the contemplations on *aatman* as something totally mystified.

Note that even death is considered as a characteristic of living thing. Of course, only living things can die. Similarly those who have gone through the basics of Ayurveda would wonder why *apaana*, the faction of vaata engaged in excretion is correlated with nutrition. The author would like to invite the attention of the reader to the history of development of ayurvedic principles. Initially there were only two types of vaata – *praaṇa* and *apaana*. *Praaṇa* stood for respiration and *apaana* stood for taking food. Later the portfolios were reallocated as newer and newer additions of factions came to the array. Very old Upanishads mention only two factions of vaata viz. *praaṇa* and *apaana*. These two terms were used together in dual number *(praaṇaapanau)*. Such instances are seen even in Bhagavad-geetaa. Describing digestion, The Geetaa refers only *praaṇa* and *apaana* and not *samaana* which is now considered to effect digestion (B.G.15.14). In Aitareya Upanishad, a very ancient Upanishad, we find the *Viraat-purusha* capturing prey with *apaana*. This indicates that at the time of composing the Upanishad *apaana* was in charge of nutrition. In Caraka-saṃhitaa too, in this context the term *praaṇaapanau* is used in dual number and no other factions of vaata are mentioned. Nutrition is a very important function of life and it cannot be ignored while enumerating the characteristics of life or the living person.

Another prime thing to note is that desire and aversion are designated as characteristics of life. This means that if there is no desire and aversion there is no life. Caraka-saṃhitaa has categorically stated that there will be no signs of *aatman* in the dead. Hence all puritan eloquence about warding off desire and designating it as a sin finds no place in Ayurveda. If you are a dead person, you can have no desire. But if you are still living you should have desires and aversions too because they are built-in mechanisms to maintain life. Advises to ward off desires imply to discard undue desires or excessive desires. By definition, a desire is the longing for possessing something that is attainable. Excessive desire or *raaga* is on something which is not attainable and unrealistic. This is attachment and that should be given up. It is considered as a disease *(roga)* as it causes uneasiness. Under the same norms, pleasure and pain are also the signs of living persons. But we want to discard pain as it is not pleasurable to have pain. The term *duḥkha* is synonymous to disease in Ayurveda. Moreover you can always opt to have pleasure as pleasure and pain are mutually nullifying ■

PSORIASIS

Clinical Panel KAH, Aluva

A male patient, aged 32 years was admitted in the KAL hospital, Aluva on 17th Nov. 2009 with thick reddish white scaling skin over the dorsum of both hands and feet. There was scaling also on the elbow joint and pinnae. The lesions had itching but were without any other symptoms such as oozing or cracking. The problem was of ten years duration.

The case presented h/o poor digestion, burning sensation in stomach and constipation which were cured with aayurvedic medicines.

On examination no abnormalities were detected in any other system. His mental strength *(satva-balam)* was found to be low medium. It was a diagnosed case of Psoriasis

The case was discussed in detail, abiding aayurvedic principles and was diagnosed as *sidhma*. Skin *(tvak)*, lymph *(laseekaa)*, body fluid *(rasa)* and blood *(rakta)* were vitiated by the deranged kapha and vaata. High stress, untimely food, food that causes burning sensation in stomach *(vidaahee)* such as very spicy food (mostly hotel food), curd, etc. were the etiological factors. The patient was suffering an imbalance of digester pitta *(paacaka pitta)*.

The treatment was aimed at correcting the three vitiated humors and thereby normalizing the pollutables *(dooshya)*. The treatment started with intense internal unction *(sneha-paana)* using *Aaragvadha-mahaa-tiktaka-ghṛta*. This was done for seven days. Local application of a paste of *Nimbaadi* powder mixed with butter milk was used on the lesions. By the seventh day patient exhibited the signs of optimal unction *(samyak-snigdha-lakshaṇa)* such as vomiting, lethargy and oily stools. There was marked reduction in itching and scaling after seven days of unction. After that two days of sudation *(svedana)* was given and patient was subjected to purgation of medium dose using *Kaalasaakadi kvaatha + Avipatti* powder. Considering the low mental strength of the patient emesis was not attempted.

Aaragvadha-mahaa-tiktaka-ghṛta was selected for internal unction with an idea of correcting the pitta-kapha dominated condition.

Purgation was followed by dietary regimen *(peyaadi-krama)* for one day. Then he was advised to take the following medicines: -

Paṭola-kaṭurohiṇyaadi kvaatha – this was administered to reduce the kapha and pitta and also to prevent further formation of vitiated moisture *(kleda)*.



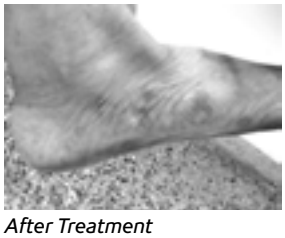
Before Treatment



After Treatment



Before Treatment



After Treatment

This helped the correction of the bio-fire *(agni)*. As the combination of hot and unctuous substances and conditions *(ushṇa-snigdha)* is an important causative factor in the vitiation of rakta and pitta, the focus was mainly to normalize the bio-fire.

Aaragvadhadi kvaatha – this formulation reduces vata-kapha and help to reduce the over-hydration at the tissue level. It also help to initiate the healing process. Care is to be taken regarding the possibility of developing dryness *(rookshataa)* in tissue level which might cause pain.

***Spl. Nimbaadi* powder** – this is special preparation prescribed in *vaata-rakta* treatment. Here this is recommended to prevent the burning nature *(vidaahatva)* in blood and thereby reduce the chances of relapse. Moreover this combination is found effective in a number of conditions similar to hot disease *(ushṇa roga)* where there is deep tissue involvement.

Later buttermilk irrigation *(takra-dhaaraa)* was also started as a mitigating *(śamana)* treatment, ideal for pitta and kapha.

He was advised to continue the ghee *(gṛthaṃ)* to maintain the unction at deep tissue level. A continuous therapy against kapha and pitta can result in dryness in the system which might interfere with the bio-fire and can adversely effect the pitta and rakta again.

With all our sincere efforts, the dryness of skin, itching and scaling reduced in palms and feet. Other lesions on the elbow joint and ears subsided. By Grace of Lord Dhanvantari a smiling and cheerful face of the patient was seen after 15 days of treatment ■

SIKHARINEE or RASAALAA

A Spiced and Sweetened Curd Recipe

Various recipes of a type of curd preparation are mentioned in classics. Some of them are still in use. The North Indian *lassi* is one among them. The recipe given below is said to be formulated by the epical hero Bheemasena, the son of Kuntee Devi. Bheemasena is noted for his appetite and cooking talents. During his life incognito he worked as a cook in Virata's royal cuisine. This recipe is from Bhojana-kutoohala a classic on Indian medical cookery. The book provides nine different types of spiced and sweetened curds, some are specific for certain diseases such as diarrhea and neurological disorders. It is also mentioned that the recipe given here was relished by Lord Krshna himself. The recipe is termed "Bheemasena-sikharinee".

Ingredients

Over-stayed curd 1600 g.

Sugar candy 800 g.

Ghee 50 g.

Honey 50 g.

Black pepper 25 g.

Dry ginger 25 g.

Camphor – a small quantity for flavor.

Preparation

Powder sugar candy, black pepper and dry ginger separately. Sequentially mix them well with the curd. Add honey and ghee. Filter with fine muslin cloth. Flavor the filtrate with camphor. Serve in attractive tumblers.

Lassy for sexual prowess

Here is another recipe which is more akin to the North Indian *Lassi*. This is considered as a good aphrodisiac that promotes sexual prowess and increases the quantity of semen. This can be used regularly in all seasons except summer. The recipe improves the strength of all sensory faculties. It is refreshing and energizing. It is nourishing to those tired by coitus and walking long distances.



Ingredients

a)Main ingredients

Sour curd made from she Buffalo's milk (without adding water) 3200 g.

Sugar 1600 g.

Milk 1600 ml.

b) Spices and flavoring agents (quantity not specified)

Cardamom seeds

Cloves

Camphor

Black pepper

Procedure

Mix sugar in small quantities with the curd in a new earthenware and churn well to dissolve the sugar. Add milk and mix well. Powder the spices and flavoring agent and mix well with the mixture. Filter through muslin. Serve in attractive tumblers.

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Dosage: 1 to 2 teaspoons full twice daily
Presentation: 500 grams in pet bottle

COMPOSITION: Vitis vinifera (Draksha), Phoenix dactylifera (Kharjooraphala), Ficus carica (Palaksha), Prunus amygdalus (Badam), Prunus armeniaca (Apricot), Withania somnifera (Aswagandha), Stereospermum suaveolens (Patala), Ipomoea digitata (Vidari), Zingiber officinale, (Sunthi), Piper nigrum (Maricha), Piper longum (Pippali), Cuminum cyminum (Jeera), Trachyspermum ammi (Ajmoda), Syzygium aromaticum (Lavanga), Elettaria cardamomum (Ela), Myristica fragrans (Jati), Mucuna pruriens (Atmagupta), Santalum album (Chandana), Cinnamomum camphora (Karpoora), Jaggery, Ghee, Honey.

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