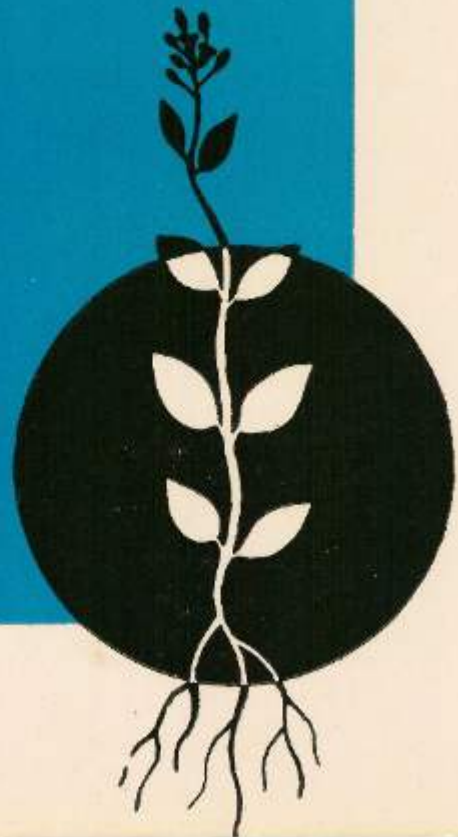


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# āryavaidya



# āryavaidyan

*A Quarterly Journal of the  
Arya Vaidya Sala, Kottakkal*

सतताध्ययनं, वादः परतन्त्रावलोकनम् ।

तद्विद्याचार्यसेवा च बुद्धिमेधाकरो गणः ॥

"Constant study and discussion, a comprehensive understanding of the other sciences together with service to the Acharyas of these sciences are the group of factors that improve intelligence and memory power."

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"Let the physicians who tread the proper path prosper. Prosperity to those who follow the scriptures and to physicians who are well trained and experienced. And let them who long for the prosperity of all alike be ever prosperous."

This is how Vagbhata imparts his wish of benevolence for all in his concluding remarks dealing on the relevance and propriety of his new treatise. The medical world often hums and sometimes even sings these lines, since this valedictory message carries the spirit of earnestness and pleasure ever to be kept aloft by practitioners in healing therapy. It cheers them up in all circumstances, favourable or unfavourable by its appeal to uphold the ideal of devotion to one's own duties.

But what are these duties? Here the physician is not one, to be confined to the narrow boundaries of professional technicalities. On the other hand, he is addressed as one destined to aspire for the prosperity of the community as a whole. Only then he is esteemed as the highest seer and knower, aware of the possibilities and adversities and capable of leading the community along the healthiest and most prosperous path.

Even in ancient times, decorums and conventions prevailed. A health worker is not expected to plunge into contro-

versies. "In all dealings choose the middle path," this advice from vagbhata is a piece of jewel of inestimable value to those who want to be successful in worldly affairs.

Accordingly, direct commitments taking sides in controversial problems is certainly beyond our responsibility. We also have an obligation and right, atleast to pray for better wisdom for all and to initiate collective effort to instill hope for better conditions. So let us recollect Vagbhata's expressions of hope if not now atleast for future tranquility. Positive thinking and devotion to duties contribute the successful answer to storming controversies at all times as reminded by experienced sages from time immemorial.

Ayurvedic approach to life is based on the importance of keeping our balance and awareness of the ever changing surroundings and instability of the states of living organism. For self preservation and survival, man has to keep his mind and body pure, which can be maintained only by conscious purifications and insistence on self-discipline. Striving for a balanced outlook enables one to adapt to the ever changing situations. Days are preceded by nights, spring by winter, peace by unrest and order by chaos. So the present turmoil is only a forerunner of the evolving positive

prospect. This is not simply a deduction for hope. Whatever may be one's angle of vision and interpretation, for any casual observer, the source of all the present day controversies and revolting movements centers on one crucial factor—monopoly versus expansion, let it be from any source, political, economic, literary or scientific, from the left or the right. The people in general whether it be in affluent, developing or backward countries are now deadly against any form of monopolistic system, since conscious expansion of ideas is essential to meet the necessities of varieties of people and their multifarious problems. So the awakening for the peaceful settlement of the problems, provoking the present crisis, is an awakening for a new orientation for the expansion of our mind and thoughts for the realisation of the necessity of shedding away attitudes of domination. For recognising the potentialities of various systems and disciplines co-operative efforts, mutual help and encouragement from all are necessary. In this light, we have to assess the importance of the Alma Ata Declaration calling for the co-operative efforts of all personnel and disciplines for pooling all resources, to enlighten and encourage the public and the authorities holding power for taking initiative to implement public health programmes, giving priority to primary health problems. Thus mass consciousness and movements for recognising and acting for the primary necessities of the times can be aroused. If the vast potentiality of this vision of Alma Ata had been properly understood and implemented to the expectations the declaration in 1978, along

the path shown by the Chinese, Vietnamese and some other progressive developing countries, most of the important causes of many fratricidal strifes would have been wiped out from the face of the earth. At least, the domination of commercialism and profit-motivated confrontations; movements and mutually condemning outbursts and fights jeopardizing the common cause of health for all and misleading all genuine movements for higher aims to land in selfish corners could have been possibly averted.

But the picture in India, today viewed in this background is not encouraging or satisfactory. Although there are some signs of developing movements of co-operative efforts in the medical field and for realisation of the advances and scope of the times, the main stream is polluted by commercialism. Added to this the innumerable feuds always backed by ghosts of the dead past, the communal, regional and other factional partisan interests, still lingering in our social infrastructure, easily come up to the surface to set fire to all positive, creative endeavours by the insinuations of vested interests everywhere.

So we quote Vagbhata's message for confidence and devotion to positive enterprises for building up a better future; for co-operation and welfare for all.

India has accepted the spirit of Alma Ata Declaration. It is said that in the 1983 health programme, we are vouchsafed for the same noble and exceptional aims? But how far have we have progressed?

*Nitkari Raman Kutty Venu ar*

## FROM THE PAGES OF VAGBHATA -XIV

N. V. K. VARIER

अम्लपाकरसं ग्राहिं गुरुष्णं दधि वातजित् ॥ २९ ॥  
मेदःशुक्लबलश्लेष्मपित्तरक्ताग्निशोफकृत् ।  
रोचिष्णु शस्तमरुचौ शीतके विषमज्वरे ॥ ३० ॥  
पीनसे मूत्रकृच्छ्रे च, रुक्षं तु ग्रहणीगदे ।  
नैवाद्याग्निशि नैवोष्णं वसन्तोष्णशरत्सु च ॥ ३१ ॥  
नामुद्गसूपं नाक्षौद्रं तन्नाघृतसितोपलम् ।  
न चानामलकं नापि नित्यं नो मन्दमन्यथा ॥ ३२ ॥  
ज्वरामृक्पित्तवीसर्पकुष्ठपाण्डुभ्रमप्रदम् ।

[Amlapakarasam grahi  
gurusnam dadhi vatajit ॥ 29 ॥  
Medahsuklabalaslesma-  
pittaraktagnisophakrt ।  
Rocisnu sastamarucau  
sitake visamajvare ॥ 30 ॥  
Pinase mutrakrechre Ca,  
ruksam tu grahanigade ।  
Naivadyannisi naivosnam  
Vasantosnasaratsu Ca ॥ 31 ॥  
Namudgasupam naksaudram  
tannaghrta sitopalam ।  
Na canamalakam napi nityam  
no mandamanyatha ॥ 32 ॥  
Jvarasrkpitta visarpakustha  
Pandubhramapradam ।]

"Dadhi (Yoghurt) is sour in taste and Post-digestion taste (Vipaka). It

holds up the bowels. It is heavy and hot, and conquers Vata, creates fat, semen, strength, phlegm, bile and blood. It promotes digestive fire and is causative of swellings. It increases appetite and is good for anorexia, shivering fever, irregular fevers, coryza and difficulty in micturition. Dry dadhi is good for grahani diseases (dyspepsia and irregular bowel movements.)"

"Never take Dadhi at night. It should not be taken in Spring, Summer and Autumn. Nor should it be taken by itself or with greengram, honey, ghee, sugarcandy or Amalaka. It should not be taken daily either. Do not eat Manda i.e., Yoghurt that is not set. If used otherwise, it creates fever, Raktapitta, spreading Cellulitis (Erysipelas) skin troubles, anaemia and dizziness."

Dadhi is Yoghurt. Buttermilk is the liquid part which remains after Dadhi is churned and the butter is removed. Non-fat (harsh) Dadhi is the one from which the fatty layer (Sara) is removed. Manda or Mandaka is the immature Dadhi, where the milky stage is over but has not yet passed to the Dadhi stage.

Dadhi is sour in taste and in post-digestion also it acts as a sour food.

Sour taste acts against Vata but creates Pitta. It creates constipation. Being hot and heavy it naturally acts against Vata. It is both palatable and effective in anorexia. Some articles of diet, although palatable, may not promote appetite. Recipes of ghee are examples. Some articles like bitter-snake-gourd leaves, although not palatable is appetising. Dadhi is both palatable and appetising. Arunadatta says that Dadhi is served at the end of the menu, since the craving for Dadhi will be lingering even after enjoying other relishing dishes. Shivering fevers or cold fevers are due to mixed doshas of Vata and Kapha or when all three doshas combine, but Dadhi is helpful where Vata is in excess in its combinations. In Seetajwara (irregular fevers with shivering) sudatory steps like diaphoresis with or without usage of fire and consumption of dietetic articles which create perspiration are suggested.

[“अग्न्यनग्निक्तान् स्वेदान् स्वेदि भेषजभोजनम् ।”  
(अष्टाङ्गहृदयं-चिकित्सा-अध्याय-१) ]

[“Agnyanagnikrtan svedan  
svedi bhesajabhojanam ।”

(Ashtamgahridaya Chikitsa Chapter 1)  
Dadhi is reputed in Peenasa (Coryza)  
Since there are four varieties of Peenasa due to Vata, Pitta, Kapha and Sannipata, Dadhi is to be considered as specially good in Vata-peenasa. Peenasa is cured by its maturation (Paripaka) and Dadhi being hot promotes maturation. Dadhi being heavy is difficult to digest. But when the fatty layer is removed it is agreeable for Grahani. The conditions on taking Dadhi are pointed out. One has to note these because if the instructions are violated it may be the cause of serious metabolic disorders.

Fever, Raktapitta, spreading Cellulitis, skin diseases, anaemia, dizziness are some of the diseases listed due to violation of these indications.

The sour taste of Dadhi is only in post-digestion (Vipaka) stage according to Rajavallabha. He says that it is already sweet in taste and is auspicious and promotive of bulk.

[“दधि स्वाद्यग्निदं हृद्यं स्नेहनं रोचनं लघु ।  
पाकेऽम्लमुष्णं वातघ्नं माज्जल्यं वृंहणं परम् ॥  
(राजवल्लभम्) ]

(Dadhii/svadyagnidam hradyam  
snehanam rocaram laghu ।  
Pakeऽmlamusnam vataghnam  
mangalyam brmhanam param ॥”  
(Rajavallabham)

In its fermentation process Dadhi passes from stage to stage. At first it is in the Manda stage in which the ferment has not acted. In its properties it is not much different from those of milk. Then it becomes sweet, then sour, then sweet and sour and in the fourth stage plain sour and in the fifth stage extremely sour. Thus it has five forms says Sali-grama Nighantu.

Bhavaprakasa says, in Manda stage it is not much different from milk in taste and form. It will be dense also. In this stage it promotes faeces and urine, and creates internal burning. In the next stage it becomes more dense and becomes sweet. Now sour taste is distinct and in this stage this is hydrating and promotive of semen, phlegm and fat. In post-digestion stage also it acts as sweet and alleviates Raktapitta and Vata. In the next stage it is sweet and



sour with a slight astringent taste and viscid. It then has all the properties of Dadhi. In the fourth stage it is completely sour. Now it is very digestive and wholesome but promotive of blood impurities and phlegm. If excessively sour, it may create dental diseases, horripilation, burning on the shoulders and other parts. It becomes digestive, bulk-increasing and provokes Raktapitta. Among all these stages, the sweet stage is good as food. When extremely sour it is to be avoided.

According to another author (Haritasamhita) all Dadhis prepared in the rainy season create Pitta, provoke Kapha and conquer Vata. It pacifies gulma, piles, skin diseases and Raktapitta. The Dadhi of autumn is sour and heavy and creates Raktapitta; patients with swellings, thirst and fever are also made prone to attacks of irregular fever. The Dadhi of Hemantha is sweet, heavy and demulcent. It increases Kapha and strength, and is nourishing, pleasing and good for intelligence. The Dadhi of Sisira is dense, sour, viscid and heavy, spermatogenic, promotive of strength and Pitta and relieves tiredness caused by exercises and exertions. The Dadhi of spring increases Vata. Sweet taste predominates in it with sour and astringent tastes as sub-tastes. It is demulcent. It promotes strength and energy. Still it is not of a good variety. The Dadhi of Summer is light. Since it is too hot it increases Raktapitta. It is sour also. It creates emaciation, dizziness and thirst. In Summer, Dadhi is not wholesome. Susruta presents the properties of different Dadhis prepared from the milk of different cattle. (Susruta, Sutrasthana). According to Susruta, Dadhi is sweet, sour or extremely sour. Its secondary

taste is astringent. It is demulcent, hot and good for getting rid of Coryza, irregular fever, diarrhoea, distaste of food, dysuria, cachexia and is spermatogenic, enlivening and auspicious.

Sweet Dadhi is extremely hydrating and stimulates Kapha and fat. Sour Dadhi increases Kapha and Pitta, and excessively sour Dadhi, vitiates blood. Dadhi which is not properly formed (Manda) creates burning sensation and helps easing of bowels and bladder, is evaculatory for faeces and urine and vitiates all the three doshas.

Dadhi prepared from cow's milk is demulcent, sweet in post-digestion state, promotes digestion, increases strength and allays Vata. It is sacred and improves appetite.

Dadhi prepared from goat's milk pacifies Kapha and Pitta. It is light, cures Vata and consumption and is beneficial for piles, asthma and cough, and increases metabolic power and appetite.

Dadhi prepared from buffalo milk is sweet in after-taste, is spermatogenic, alleviates Vata and Pitta, increases Kapha and is specially demulcent. Dadhi prepared from the camel's milk is acrid in after taste. It is alkaline, heavy and purgative. It cures Vatika disorders, piles, skin diseases (including leprosy), worms and abdominal enlargement.

Dadhi prepared from the ewe's milk provokes Kapha, Vata and piles. It is sweet in taste and post-digestion taste. It is extremely hydrating and increases the doshas.

Dadhi prepared from the mare's milk promotes digestion. It is not good for the eyes. It increases Vata, is dry, hot astringent, expectorant and diuretic.

Dadhi prepared from women's milk is unctuous, sweet in postdigestion taste, promote strength and is nourishing and heavy. It is extremely good for the eyes, eliminates the doshas and hold superior properties.

Dadhi prepared from elephant's milk is light in postdigestion taste, removes Kapha, is hot in potency and harms the digestive power. It is astringent in sub-taste and it increases the bulk of faeces.

Dadhi prepared from Cow's milk is the best amongst the varieties described above.

तक्रं लघु कषायामम्लं दीपनं कफवातजित् ॥ ३३ ॥

शोफोदराशोऽग्रहणीदोषमूत्रग्रहारुचिः ।

प्लीहगुल्मघृतव्यापद्गरपाण्ड्वामयान् जयेत् ॥ ३४ ॥

(Takram leghu Kasayamlam dipanam  
kaphavatajit ॥ 33 ॥

Sophodararsograhanidosamutra-  
graharucih ।

Plihagulmaghrtavyapadgarapandvamayan  
jayet ॥ 34 ॥ )

"Takra (buttermilk) is light, astringent and sour, promotive of digestion and conquers Kapha and Vata. It conquers Oedema, ascitis and Piles, Grahani (dyspepsia and irregular bowels or sprue), dysuria, anorexia, splenic diseases, abdominal swellings, complications of oleation therapy, poisons with cumulative effects (garam) and anaemia. Takra is churned Dadhi. It is of two varieties: with water and without water. Takra with water is again of two forms; demulcent (unctuous) and non-unctuous.

According to Susruta, buttermilk is the Dadhi (Yoghurt) from which fat (ghee) has been removed by churning etc., and to which half as much water has been added. It is neither too thick nor too thin and is sweet, sour and astringent in taste. Gholā is the buttermilk which contains fat and has been churned without the addition of water. (Susruta Sutrasthana Chapter 45, Sloka 85).

Some contra-indications are given by Susruta.

"नैव तक्रं क्षते दद्यान्नोष्णकाले न दुर्बले ।  
न मूर्च्छाभ्रमदाहेषु न रोगे रक्तपित्तिके ॥"

("Naiva takram ksate dadyannosnakale  
na durbale ।

Na murcchabhramadahesu na roge  
raktapaittike ॥")

"Buttermilk should not be given to the wounded in summer nor to a weak person and in conditions of fainting, giddiness, burning sensation and in haemorrhagic disorders.

"शीतकालेऽग्निमान्द्ये च कफोत्प्रेष्वामयेषु च ।  
मार्गाविरोधे दुष्टे च वायौ तक्रं प्रशस्यते ॥"

("Sitakaleऽgnimandye ca kaphothe-  
svamayesu ca ।

Margavarodhe duste ca vayau  
takram prasasyate ॥")

"Buttermilk is beneficial in winter for persons with a weak digestion, in diseases caused by Kapha, in obstruction of the channels and in vitiation of vata.

"तत्पुनर्मधुरं श्लेष्मप्रकोपनं पित्तप्रशमनञ्च ।  
वातेऽम्लं सैन्धवोपेतं स्वादु पित्ते सशर्करम् ।  
पिवेत्तक्रं कफे चापि व्योषक्षारसमन्वितम् ॥

(सुश्रुत-सूत्रम्-अध्यायं-४५/२९)

("Tatpunarmadhuram slesmaprako-  
panam pittaprasamanamca ।  
Vateṣmlam saindhavopetam svadu  
pitte sasarkaram ।  
Pibettakram Kaphe capi  
vyosaksarasamanvitam ॥"  
(Susrutam-sutram chapter 45/89)

"The sweet aggravates Kapha and allevi-  
ates Pitta, the sour one allays Vata and  
vitiates Pitta. In Vata disorders, the  
sour should be drunk with rock-salt.  
In Paittika disorders the sweet should  
be drunk with sugar. And in Kapha  
diseases buttermilk should be taken with  
the three pungents (ginger, pepper, long  
pepper) and alkaline substances.

"ग्राहिणी वातला रुक्षा दुर्जरा तक्रकूर्चिका ।  
तक्राल्लघुतरो मण्डः कूर्चिकादधितक्रजः ॥"  
("Grahini vatala ruksa duryara  
takrakurcika ।  
Takrallaghutaro mandah  
kurcikadadhitakrajah ॥"  
(Susrutam-Sutram-45/90)

The inspissated buttermilk is anti-  
diarrhoeal, increases Vata, is dry and is  
difficult to digest. The liquid part of  
inspissated Yoghurt or buttermilk is  
easier to digest than buttermilk itself.

"गुरुः किलाटो ऽनिलहा पुंस्त्वनिद्राप्रदः स्मृतः ।  
मधुरो बृंहणो वृष्यो तद्वत्पीयूषमोरटौ ॥"  
(सुश्रुतं-सूत्रम्-४५-९१)  
("Guruh kilatoṅnilaha pumstvanidra-  
pradah smrtah ।  
Madhrau brmhanau vrsyau  
tadvatpiyusamoratau ॥  
(Susrutam-Sutrrm-45/91) )

"Kilata (cheese or solid part of inspi-  
ssated milk) is heavy, allays Vata,  
increases virility and induces sleep.  
Similar are the properties of colostrum  
and cow's milk seven days after calving.  
This is Piyusa i. e. milk upto seven after  
delivery. Morata is milk from seven  
days after delivery until proper milk  
formation.

The four types of preparations from  
Dadhi and Takra are as described by  
commentators. Takra (buttermilk) mixed  
with boiled milk, boiled and reduced  
is Takra Koorchika. This is not  
easily digestible is dry and provoking  
Vata and constipating. Dadhi and milk  
mixed and reduced is Dadhi Koorchika.  
The clear liquid part of both of these is  
Manda. This is lighter than buttermilk.  
According to one commentator, milk  
mixed with more quantity of buttermilk,  
boiled until the portion of milk is  
reduced and then the liquid part is  
removed the remaining solid part is  
Kilata. It is heavy, anti-vata and creative  
of virility and sleep. The same is  
according to some Ksheera koorchika.

Ashtanga samgraha says that butter-  
milk if not boiled alleviates Kapha in  
the stomach but creates it in the gullet.  
So in diseases of Coryza (Peenasa),  
breathing troubles, cough etc. use only  
boiled buttermilk (Su. su. Chapter 7).

Takra is classified as five types.  
Ghola, Madhita, Takra, Udaswita and  
Chachika. Ghola is the Dadhi well-  
churned without water, and butter not  
removed from it. If Ghola is mixed  
with sugar, it has the properties of  
Rasala. It alleviates Vata and Pitta.

The same Dadhi churned without  
water and butter removed, is Madhita

It alleviates kapha and Pitta. Dadhi with water added to one fourth, churned and butter removed is Takra. It has all the above described properties. Dadhi, water added to half the quantity and churned is Udaswita. It increase Kapha and strength and is best to relieve weakness and tiredness. Chachika is buttermilk with more water and churned and butter removed. It is of cold potency and best to relieve pitta, tiredness and thirst.

तद्वन्मस्तु सरं स्रोतःशोधि विष्टम्भजिल्लघु ।

(Tadvanmastu saram srotahsodhi  
vistambhajillaghu ।)

"Masthu (the watery part of well formed curd) is similar. It is laxative, purifies the body pores, dispels constipation and is light."

Masthu is the watery part of curd. It is similar to that of Takra. It has the properties of laxation and helps to open and purify the blocked Srotas or minute body pores. It is light and dispels Vishtambha or constipation due to perverted persistalsis by correcting the course of Vata.

According to Susruta, Masthu relieves thirst and exhaustion and is light, purifies the srotas, tastes sour and astringent, helps production of semen, and helps conquer Kapha and Vata. It promotes happiness and eases the passing of faeces and urine. It imparts strength quickly and increases the appetite.

नवनीतं नवं वृष्यं शीतं वर्णबलाग्निर्कृत् ॥ ३५ ॥

संग्राहि वातपित्तामृक्षयाशोदितकासजित् ।

(Navanitam navam vrsyam sitam  
Varnabalagnikrt ॥ 35 ॥

Samgrahi vatapittasrkksayarsordita-

kasajit । )

"New butter is spermatogenic, cool, creative of good complexion, strength and digestive fire. It holds back faeces and urine and relieves Vata, Pitta, diseases of the blood, consumption, facial paralysis and cough.

क्षीरोद्भवं तु संग्राहि रक्तपित्ताक्षिरोगजित् ॥ ३६ ॥

(Ksirodbhavam tu samgrahi raktapitta-  
ksirogajit ॥ 36 ॥ )

"The butter taken from milk (by churning milk) holds back faeces and urine and heals Raktapitta and eye diseases."

शस्तं धीस्मृतिमेधाग्निबलायुःशुक्रचक्षुषाम् ।

बालवृद्धप्रजाकान्तिसौकुमार्यस्वराधिनाम् ॥ ३७ ॥

क्षतक्षीणपरीसर्पशस्त्राग्निग्ळपितात्मनाम् ।

वातपित्तविषोन्मादशोषालक्ष्मीज्वरापहम् ॥ ३८ ॥

स्नेहानामुत्तमं शीतं वयसःस्थापनं परम् ।

सहस्रवीर्यं विधिभिर्घृतं कर्म सहस्रकृत् ॥ ३९ ॥

(Sastam dhismrtimedhagnibalayuh  
sukracaksusam ।

Balavrddhaprajakantisaukumaya  
svarthinam ॥ 37 ॥

Ksataksinaparisarpasastragnigla-  
pitatmanam ।

Vatapittavisonmadasosalaksmi-  
jvarapaham ॥

Snehanamuttamam sitam vayasah  
sthapanam param ।

Sahasraviryam vidhibhirghrtam karma  
sahasrakrt ॥ 39 ॥ )

"Ghee prepared according to rules is reputed for improving intelligence, memory power, mental acumen, gastric fire, internal strength, prolongation of

life, production of semen and improvement of eye sight. It is especially good for children and old people and those yearning for children, beauty, delicacy and sweet voice. For the use of those weakened by lesions, suffering from weakness, Visarpa (Cellulites or Erysipelas) wounds from weapons and from burns from the fire. It heals diseases due to Vata, Pitta, poisoning, insanity, emaciation, misfortunes and from fever. It is the best of all unctuous materials. It is cooling and rejuvenative. It has thousand potencies and medicated properly can be used in many ways."

The properties of ghee are listed above. It is the best of all lubricating substances and can be prepared and used in various ways. Although ghee is the specific antidote for Pitta, it can be used in Vata and Kapha diseases also if prepared in various ways. It increases Ojas. It is said that the essence of man is unctuousness.

स्नेहसारो हि पुरुषः ।

(Snehasaro hi purusah । )

Ghee is the best of all unctuous substances and very easily assimilated. In all conditions, where defence of the vital strength is the first step as in poisoning, ghee is given in as Hridayavarana or as covering of the heart. So in all diseases there is a place for ghee at some stage of its treatment.

मदापस्मारमूर्च्छाशिरःकर्णाक्षियोनिजान् ।

पुराणं जयति व्याधीन् व्रणशोधनरोपणम् ॥ ४० ॥

(Madapasmaramurcchaya

sirahkarnaksiyonija n ।

Puranam jayati vyadhin vranasodhana-  
ropanam ॥ 40 ॥ )

"Old ghee cures Mada (alcoholism), swooning and diseases of head, ears, eyes and vagina and purifies and heals wounds."

Old ghee which is kept for more than ten years, cures diseases due to intoxicated state, Moorcha (swooning). (Mada and Moorcha are two stages of alcoholism created by drinking liquors). It is very effective in purifying and healing wounds.

Ghee that is ten years old is puranaghrita or old ghee. If older than that, it develops the colour of the juice of lac. It is cold and is Prapurana ghrita or ghee that is older. It is good to remove all doshas. Bhavaprakasa holds that one year old ghee itself is Purana or old and the older it is the more powerful its properties. Ghee older for more than hundred and eleven years is known as "Kumbhasarpis." It is particularly effective in treating diseases due to the possession of spirits as Bhuta, Preta, Pisache etc. Ghee still older is Mahaghrita. It is highly anti-vata. It destroys Kapha. It increases strength and intelligence. It is considered sacred and very effective to heal eye diseases as Timira (cataract) and good to cure diseases due to possession of spirits. It is the best of all ghees. All the properties attributed to ghee are more in this Mahaghrita and so it is equal to Ambrosia. Ghritamanda or the liquid upper layer of ghee is equally good. It is harsh, acute and very thin.

बल्या किलाटपीयूषकूषिकामोरणादयः ।

शुकनिद्राकफकरा विष्टम्भिगुरुदोषलाः ॥ ४१ ॥

(Balya kilatapiyusakurcikamoranaadayah ।

Sukranidrakaphakara vistambhi-

gurudosalah ॥ 42 ॥ )

"The preparations named Kilata, peeyusham, Koorchika, Morata and others increase strength and are spermatogenic and promotive of sleep and Kapha, but creative of obstruction to the downward movement of Vata, heaviness and increase of doshas."

Kilata according to some is coagulated milk (Takra) small in quantity. Peeyusha is prepared with the milk of cow taken immediately after its delivery and mixing it with Takra either raw or after boiling. Mixture of equal quantity of Takra and milk is called Morata. Warm milk mixed with Takra is Koorchika. But there are different versions of it.

According to a commentator, if you mix milk with more quantity of Takra and boil it until the quantity proportionate to milk is evaporated, and remove the upper layer, the remaining solid part is called Kilata. It is also called Ksheera Koorchika. The term "Other" is used to indicate preparations known as Pindanam and Ksheerasaka says Arunadatta.

According to Hemadri, if milk is boiled with Yoghurt or buttermilk and the heavy liquid is separated it is Koorchika. If it is not boiled it is Ksheerasaka. Their separated solid part is Kilata. If milk remains impure and heavy starting from the days of delivery, it is Peeyusha.

Takrapindaka is the liquid part of Takra oozing from the heavy cloth by which it is tightly closed.

According to the Commentator Indu, curd taken from the milk of delivered cow immediately is Peeyusha. Susruta says that Peeyusha and Morata

are promotive of the bulk and semen and is sweet. Koorchika is inspissated milk according to Ashtamgahridayakosa.

गव्ये क्षीरघृते श्रेष्ठे निन्दिते चाविसम्भवे ।

(Gavye ksiraghrte sresthe mindite

cavisambhve । )

The milk and ghee of cow are the best. The same taken from ewe's milk is the worst.

Amongst dairy products the milk from the cow and the ghee prepared from its curd are the best compared to such products from buffalo, goats, sheep etc. The worst is that derived from sheep. Here not only milk and ghee but also curds and buttermilk and other dairy products prepared from cow's milk are to be taken as the best and the same from sheep the worst although direct reference is made to two items only.

अथ इक्षुवर्गः । (Atha iksuvargah । )

Then the sugarcane group.

इक्षोः सरो गुरुः स्निग्धो बृंहणः कफसूत्रकृत् ॥ ४२ ॥

वृष्यः शीतोऽस्रपित्तघ्नः स्वादुपाकरसो रसः ।

(Iksoh saroguruh snigdho brmhano

Kaphasutrakrt ॥ 42 ॥

Vrsyah sitoऽsrpittaghnah svadupakaraso rasah । )

"The juices of sugarcane are laxatives, heavy, unctuous, trophic, creative of Kapha, urine and semen and cold, sweet in taste and post-digestion taste. (Vipaka)."

Sugarcane juices are laxative. By describing as heavy, unctuous and nourishing, one can infer that sugarcane juices are good to relieve Vata although it is not specifically mentioned here.

But in Ashtamga samgraha it is specifically mentioned that it is good to conquer Vata. But it also provokes Vata immediately after its intake.

“वृष्यः शीतः पवनजित् भुक्ते वातप्रकोपनः ।”  
 (“Vrsyah sitah pavanajit bhukte  
 vataprakopanaḥ ।”

(Ashtamga samgraha Suthrasthana) It is good to increase semen, cold and conquers Vata and when eaten provoking Vata. Kharanada says....

“मारुताध्मानजननश्चेक्षूणां भक्षितो रसः ।”  
 (“Marutadhmanajananasceksunam  
 bhaksito rasah ।”)

“When the sugarcane juices are taken in, it distends the stomach by air, so although it is good to conquer Vata, its immediate action when taken in is to provoke Vata and create distension.

सोऽग्रे सलवणे, दन्तपीडितः शर्करासमः ॥ ४३ ॥

(Soḅgre salavano, dantapiditah  
 sarkarasamah ॥ 43 ॥)

It is at the front also with salty taste when pressed with teeth, it is equal to sugar.

“अतीव मधुरो मूले, मध्ये मधुर एव च ।  
 अग्रेष्वक्षिषु विज्ञेय इक्षूणां लवणो रसः ॥”

(Ativa madhuro mule, madhye  
 madhura eva ca ।

Agresvaksisu vijneya iksunam  
 levano rasah ॥”)

According to Susruta, it is extremaly sweet at the roots, at the middle moderately sweet. In the front (terminal portion) sugarcane is known to have salty taste.

मूलाग्रजन्तुजग्धादिपीडनान्मलसङ्करात् ।

किञ्चित्कालं विधृत्या च विकृतिं याति यान्त्रिकः ॥४४॥  
 विदाही गुरु विष्टम्भी तेनासी.....

(Mulagrajantujagdhadipidanana-  
 malasamkarat ।

Kinciskalam vidhrtya ca vikrtim yati  
 yati gantrikah ॥ 44 ॥

Vidahi guru vistambhi tenasau... ..

“The worm infested root and terminal portions, by pressing in the machines (the juice) and by delayed keeping also undergo changes from its natural form. So it tends to created acid indigestion, heaviness and obstruction to faeces, urine and flatus (gurgling sounds after digestion).

.....तत्र पीण्डकः ।

शैत्यप्रासादमाधुगर्वरस्तमनु वांशिकः ॥ ४५ ॥

शतपत्रककान्तारनैपाळाद्यास्ततः क्रमात् ।

सक्षाराः सकषायाश्च सोष्णाः किञ्चिद्विदाहिनः ॥ ४६ ॥

(.....tatra paundrakah ।

Saityaprasadamadhurgairvastamanu  
 vamsikah ॥ 45 ॥

Sataparvakakantaranaipaladyastatah  
 kramat ।

Saksarah sakasayasca sosnah

kincidvoidahinah ॥46॥

“Amongst those sugarcane juices because of coolness, clearness and sweetness, paundraka sugarcane is the best. Then follows Vamsika. Hemadri says Paundraka is white sugarcane and Vamsika is blue sugarcane. Then in sequence follows, Sataparvaka, Kamthara, Naipala and others. They are also with alkaline and astringent tastes, with heat and a bit creative of acid digestion.”

Sataparva is a variety with small

and multiple joints (nodes). The term "others" point to other varieties (Suchi-pathra). They are of low quality taken in a descending sequence. They are with little bit of alkaline or salty and astringent tastes. Susruta describes the following varieties. Pundarika and Bhiruka are very cool, sweet, demulscent, nourishing and Kapha increases laxative action do not produce acid indigestion and are heavy and spermatogenic. Vamsika is considered to be similar to both of these and is slightly alkaline.

Swetapatra is like Vamsika, it is slightly hot and pacifies Vata. Kastheksu is also similar except that it aggravates Vata, Suchipatra, Nilapora, Naipala and Dirghapatraka increase Vata, eliminate Kapha and Pitta are astringent and produce acid indigestion.

Kosakara is heavy and cool. It cures haemorrhagic disorders and consumption (Susruta Suthrasthana).

फणितं गुर्वभिष्यन्दि चयकुन्मूत्रशोधनम् ।  
(Phanitam gurvabhisyandi cayakrnmutra-  
sodhanam । )

"Phanita ( फणितं ) is heavy, hydrating and provokes accumulation of all these doshas and is creative of excessive diuresis."

Phanita is low jaggery from sugarcane juice. It is heavier than sugarcane juice. It is humid or hydrating; it creates all doshas and causes excessive urination.

The five varieties of sugarcane juices are Phanita, Guda, matsyandi, Khandu and Sarkara.

नातिश्लेष्मकरो धोतः सृष्टमूत्रशकृद्गुडः ॥ ४७ ॥  
प्रभूयकृमिमज्जामृद्धमेदोमांसकफोपरः ।

(Natislesmakaro dhautah srstamutra-  
sakrdyudah ॥ 47 ॥  
Prabhutakrmimajjasrmedomamsa-  
Kapho Sparah । )

"Guda (jaggery) purified creates less Kapha. It pushes out urine and faeces. Others (impure gudas) create excessive worms, marrow, blood, fat, flesh and Kapha. Guda is of four varieties – pure impure, old and new.

हृद्यः पुराणः पथ्यञ्च, नवः श्लेष्माग्निसादकृत् ॥ ४८ ॥  
(Hrdyah puranah pathyasca, navh  
slesmagnisadakrt ॥ 48 ॥

"Old guda is good for the heart and is wholesome. New creates Kapha and slackening of digestive fire."

वृष्याः क्षीणक्षतहिता रक्तपित्तानिलापहाः ।  
मत्स्यण्डिकाखण्डसिताः क्रमेण गुणवत्तमाः ॥ ४९ ॥

(Vrsyah ksinaksatahita raktapitta-  
milapahah ।  
Matsyandikakhandasitah kramena  
gunavattamah ॥ 49 ॥ )

"The three Matsyandika, Khandu and Sita are more and more powerful in the serial order. They are spermatogenic, wholesome for those suffering from lesions, eliminative of Raktapitta and Vata."

Matsyandika is of better property compared to pure Guda, Khandu is better than Matsyandika and Sita is the best of all.

Susruta points out that in properties to this sweetness and purity their demulcence, heaviness, coolness and laxation also to be calculated.

तद्गुणा तित्तमधुरा कषया यासशर्करा ।



(Tadyuna tiktamadhara kasaya  
yasasarkara । )

"Yasasarkara is of the same properties (of Sita). It tastes bitter, sweet and astringent."

Yasasarkara is according to Hemadri and other commentators, the sugar produced by the juice of Duralaba (*Tragia involucrata* Linn.) as by sugarcane juice. Susruta speaks of Madhusarkara and Yavasarkara also. Madhusarkara is honey sugar. Yavasarkara is sweet, astringent at first and bitter in subsequent taste. It eliminates Kapha and is laxative.

दाहतृट्च्छदिमूर्च्छासृक्पित्तघ्न्यः सर्वशर्कराः ॥ ५० ॥  
(Dahatrttchardimurcchasrkpittaghnyah  
sarvasarkarah ॥ 50 ॥)

"All sarkaras (sugars) relieve burning sensation, thirst, vomiting, swooning and Raktapitta.

शर्करेक्षुविकाराणां फणितं च वरावरे ।  
(Sarkareksuvikaranam Phanitam ca  
varavare । )

Amongst the preparations from sugarcane juice, sugars are the best and Phanita is the worst. sugar holds good properties and Phanita unwholesome properties.

चक्षुष्यं छेदि तृट्श्लेष्मविषहिह्मस्रपित्तनुत् ॥ ५१ ॥  
मेहकुष्ठकृमिच्छदिश्वासकासातिसारजित् ।  
व्रणशोधनसन्धानरोपणं वातलं मधु ॥ ५२ ॥  
रूक्षं कषायमधुरं, तत्तुल्या मधुशर्करा ।

Caksusyam chedi trtslesmavisahidhma-  
srapittanut ॥ 51 ॥  
Mehakusthakrmicchardisvasatisarajit ।  
vranasodhanasandhanaropanam vatalam  
madhu ॥ 52 ॥

Ruksam kasayamadhuram, tattulya  
madhusarkara ।

Honey is beneficial for eyes, abrasive (anti-obesic), eradicates thirst, phlegm, poison, hiccups and Raktapitta, conquers diabetes, skin troubles including leprosy, worms, vomiting, asthma, cough and diarrhea. It purifies, promotes the growth of cut ends in wounds and growth of healing tissues and the healing process and is provocative of Vata. It is dry, sweet and astringent in taste. Madhusarkara or honey sugar is of the same quality as that of honey.

Susruta says that it alleviates the three doshas. It eliminates Kapha due to its being light and also Vata and Pitta by its sliminess, sweetness and astringent quality (Susruta Suthra Sthana Chapter 45).

Susruta presents eight types of honey.

"पैत्तिकं भ्रामरं शौद्रं माक्षिकं छात्रमेव च ।  
आर्घ्यमौद्दालकं दाळमित्यष्टौ मधुजातयः ।"  
("Pauttikam bhramaram ksaudram  
Maksikam chatrameva ca ।  
Arghyamauddalakam dalamityastau  
Madhuyatayah ॥" )

"Pauttika, Bhramara, Kshaudra, Makshika, Chatra, Arghya, Auddalaka and Dala are the eight types of honey."

Pauttika honey

"विशेषात्पौत्तिकं तेषु रूक्षोष्णं सविषान्वयात् ।  
वातसृक्पित्तकृच्छेदि विदाहि मदकृन्मधु ॥"

("Visesatpauttikam tesu ruksosnam  
Savisanvayat ।

Vatasrkpittakrcchedi vidahi  
madakremadhu ॥"

"Pauttika honey is specially dry and hot and increases Vata, Sonita (blood) and Pitta. It is also liquefacient, produces a burning sensation and is intoxicating due to inherent poisonous elements."

Bhramara and Kshaudra honey

"पैच्छल्यात् स्वादुभूयस्वात् भ्रामरं गुरुसंज्ञितम् ।  
क्षौद्रं विशेषतो ज्ञेयं शीतलं लघु लेखनम् ॥"

(Paicchilyat svadubhuyastvat bhramaram  
gurusamjnitam ।

Ksaudram visesato jneyam sitalam  
laghu lekhanam ॥"

"The Bhramara honey is known to be heavy due to its being slimy and excessively sweet."

"The kshaudra honey is known for its speciality of coolness, lightness and abrasive or anti-obesic property."

Makshika honey

"तस्माल्लघुतरं रुक्षं माक्षिकं प्रवरं स्मृतम् ।  
श्र्वासादिषु च रोगेषु प्रशस्तं तद्विशेषतः ॥"

(Tasmallaghutaram ruksam maksikam  
pravaram smrtam ।

Svasadisa ca rogesu prasastam  
tadvisesatah ॥"

"The Makshika honey is lighter than the former is dry and of superior quality. It has its reputation as of specially useful in diseases like asthma."

Chathra honey

"स्वादुपाकं गुरु हिमं पिच्छिलं रक्तपित्तजित् ।  
श्रित्रमेहकुमिघ्नं च विद्याच्छात्रं गुणोत्तरम् ॥"

("Svadupakam guru himam picchilam  
raktapittajit ।

Svitramehakraimighnam ca vidyacchatram  
gunottaram ॥"

"Chathra honey is sweet in post-digestion taste, heavy, cool and slimy. It cures haemorrhagic disorders, leucoderma, urinary discharge and worms.

Arghya honey

"अर्घ्यं मध्वतिचक्षुष्यं कफपित्तहरं परम् ।  
कषायं कटु पाके च बल्यं तिक्तमवातकृत् ॥"

("Arghyam madhvaticaksusyam kapha-  
pittaharam param ।

kasayam katu pake ca balyam  
tiktamavatakrta ॥")

"Arghya honey is very beneficial for the eye, eliminates Kapha and Pitta completely, is astringent and acrid in post-digestion and is strengthening. It is bitter but does not increase Vata."

Auddalaka and Dala honey

"औद्दालकं रुचिकरं स्वयं कुष्ठविषापहम् ।  
कषायमुष्णमम्लञ्च पित्तकृत् कटुपाकि च ॥  
छदिमेहप्रशमनं मधु रुक्षं दालोद्भवम् ।"

(Auddalakam rucikaram svaryam  
kusthavisapaham ।

Kasayamusnamamlanca pittakrt  
kutupaki ca ॥

Chardimehaprasamanam madhu ruksam  
dalodbhavam ।")

"Auddalaka honey improves taste and voice, cures skin diseases (including leprosy) and poisoning. It is astringent, sour and hot, and increases Pitta and is bitter in post-digestion taste. Dala honey alleviates vomiting and urinary discharge and is drying."

"बृहणीयं मधु नवं नात्तिश्लेष्महरं सरम् ।

मेदस्थौल्यापहं ग्राहि पुराणमतिलेखनम् ॥

दोषत्रयहरं पक्वमाममम्लं त्रिदोषकृत् ॥"

("Brahmhaniam madhu navam natislesma-  
haram saram ।

Medasthauyapaham grahi purana-  
matilekhanam ॥

Dosathrayaharam pakvamamammlam  
tridosakat ।")

"Fresh honey is nourishing, does not eliminate Kapha too much and is laxative."

"Old honey decreases Medas and obesity is anti-diarrheal and is excessively anti-obesic. Matured honey eliminates all the three doshas while immature honey is sour and increase the three doshas." Honey is the best synergistic medication agent.

"तद्युक्तं विविधैर्योगैर्निहन्यादामयान् बहून् ।  
नानाद्रव्यात्मकत्वाच्च योगवाहि परं मधु ॥"

(Tadyuktam vividhairyogairnihanyada  
mayan bahun ।

Nanadravyatmakatvacca yogavahi  
param madhu ॥"

"Honey when administered with various preparations cures many types of diseases. Honey being derived from different types of substances is the best excipient." Saligrama Nighantu suggests the intake of honey.

क्षये माक्षिकमुद्दिष्टं भ्रामरं रक्तपित्तनुत् ।  
क्षौद्रं मेहहरं प्राहुर्व्रणे पैत्तिकमुत्तमम् ॥  
छात्रं सर्वत्र शस्तः स्यादार्यं चक्षुष्यमुत्तमम् ।  
औद्दालकं कुष्ठहरं रुचिकृद्दालमीरितम् ॥  
एते विशिष्टा कथिता मधुनो मुनिभिर्गुणाः ।"

(Ksaye maksikamuddistam bramaram  
raktapittanut ।

Ksaudram mehaharam prahu vrane  
pauttikamuttamam ॥

Chatram sarvatra sastah syadarghyam  
caksusyamuttamam ।

Auddalakam kusthaharam  
rucikrddalamiritam ॥

Ete visista kathita madhuno  
munibhirgunah ।")

"The uses of eight types of honey according to Acharyas in different diseases are as follows:

Makshikam in consumption, Bhramaram in Raktapitta, Kshaudram in diabetes, Pauttikam in wounds, Chatram in all conditions, Arghyam in eye diseases, Auddalakam in skin diseases including leprosy and Dalam in anorexia."

Madhusarkara or honey sugar has the same properties as that of honey. Some hold that honey sugar is a preparation of honey with sugarcane juice mixed and boiled and watery part evaporated. Dalhana holds that it is either reduced by boiling to a solid or transformed into a solid by time.

Bhavamisra says that honey with the odour and taste of cow's ghee is the best. Honey kept for one year mixed with sugar or jaggery is called Purana-madhu or old honey according to Bhavamisra.

उष्णमुष्णार्तमुष्णे च युक्तं चोष्णंनिहन्ति तत् ॥ ५३ ॥

Honey if heated becomes poisonous. Honey is by nature cool and soft. Honey is gathered by the bees from various flowers with different tastes, potencies, post-digestion tastes, often of opposite nature. Bees are also poisonous insects. Heating may provoke poison.

So the usage of honey by those suffering from conditions due to

exposition to heat is harmful. In Sannipata conditions, honey is contra-indicated.

“प्रशस्तेषु सन्नपतेषु न क्षौद्रमवचारयेत् ।”

(“Prasastesu sannipatesu na ksaudramavacarayeti ”

“In all conditions of Sannipata honey is not be administered.”

प्रच्छदने निरुहे च मधूष्णां न निवार्यते ।

अलब्धपाकमाश्वेव तयोर्गस्मान्निवर्तते ॥ ५४ ॥

(Pracchardane niruhe ca madhusnam na nivaryate ।

Alabdhapakamasveva tayoryasmanni-  
vartate ॥ 54 ॥

“In emesis and decoction enemas using hot honey is not harmful since it is excreted quickly.”

The intake of hot honey, though not recommended for internal use, is permitted for inducing vomiting or as an ingredient in decoction enemas. Here the honey is not meant for digestion and assimilation. In both cases, it comes out speedily. ●

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The balancing of the noble qualities or mulaprakriti, the ultimate principle (mahath Tatwa), ahankara or the knowledge of self, the five senses, the five bhoothas of sky, air, water, fire and earth, the ten indriyas (five sensory perceptions and five motor configurations) and the purusha or atma are the twenty five principles governing life. The purusha who understands these subdivisions and realize the truth is released from human bondage by maya. Thus the Lord in the guise of Kapila spoke in advice to Devahoothi.

Narayaneeyam, Chapter 15, Verse 2

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## BASIC PRINCIPLES OF AYURVEDA

RAGHAVAN THIRUMULPAD

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

स्वल्पमप्यस्य धर्मस्य त्रायते महतो भयात् ।

In Charaka, Ayurveda is defined as the science which imparts knowledge as to what is good to maintain health or to cure disease.

आयुष्याणि अनायुष्याणि च द्रव्यगुणकर्माणि वेदयती-  
त्यायुर्वेदः ।

Dravya means articles around us, used as food and medicine. Guna means qualities and properties of the Dravya. Karma means application and action of the Dravya—Guna and Karma differentiate the utility of the Dravya. By understanding what is beneficial to life, we can manage our life to attain a state of health. By realizing what is harmful we can avoid these factors. Mere knowledge is not enough and action is required. Sastra makes you understand things, though method of application may differ according to the circumstances. It cannot be Karaka, forcing us to do something or not (Vidhi or Nishedha). Sastra gives examples for the intelligent (उदाहरणमात्रं तु बुद्धिमताम् ।) Sastra is not to be followed to the letter or word न शास्त्रमात्रशरणः । It is the spirit of the dictums that are to be followed. शास्त्रसद्भावज्ञानम् । Circumstances, conditions and life-style change with time (Kala), Place (Desa) and unexpected events (Adrishta). Forms of diseases may change. Old diseases may become rare and new ones may become common

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“अदृष्टदेशकालादिपरिणामादनेकथा ।

पुराणाः प्रविलीयन्ते नवीनाः प्रादुरास्यते ॥

All these cannot be forseen or recorded for all times, or individuals. Hence eternal prescriptions cannot be given. The texts refer to the given period and that too of the then common diseases. (अविष्कृततम) Hence they have to be revised often to up-date them. This is termed Prathisamskarana.

“संस्कर्ता कुरुते तन्त्रं पुराणं च पुनर्नवम् ।”

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

“नानारूपैरसंख्यैर्यविकारः कुपिताः मलाः ।

तापयन्ति तनुं तस्मात्तद्वैत्वाकृतिसाधनम् ॥

शक्यं नैकैकशो वक्तुमतः सामान्यमुच्यते ।

To arrive at the theories, the methodology used is Prathyaksha, Anumana and Agama. Prathyaksha is observation through the five senses. Any knowledge has to begin with this. But many things are not comprehensible by the senses alone. Besides, this comprehension may be incorrect because of limitations or defects. People with jaundice see things yellow. We feel that the earth is stationary and the sun is moving, whereas the fact is quite the contrary. So we have to depend on inference also. That is Anumana. Knowledge ascertained by Prathyaksha has to be verified by Anumana to make it acceptable and Anumana has to be verified by Anubhava or experience. The observations and inferences of the Acharyas, the validity of which is vouched by experiences from the earliest times are systematically codified and

made available for seekers and this is a Aptavakya or Agama. Aptas are those who have sharpened their faculties, comprehension and thinking with discipline and penance (Sadhana and Thapas). They are endowed with Pratibha (intuition) and can at times glimpse solutions in their meditations. Their words can be relied upon, because they are impartial, dedicated and without any vested interests. Even then, it has to be verified by actual experience

“दृष्टश्रुताभ्यां सन्देहमवापो ह्यप्रवर्तयेत् ।

as Susruta pointed out. Sruta is Agama and Drushta is experience. Agama becomes totally acceptable only when it is proved by experience

“इदमागमसिद्धत्वात्प्रत्यक्षफलदर्शनात् ।

मन्त्रवत्संप्रयोक्तव्यम्..... ॥”

Pratyaksha, Anumana and Agama are termed Pramanas or sources of valid knowledge. A fourth Pramana, Yukti is accepted by Caraka. It is an individual's independent reasoning at the time of application.

“तस्मात्तत्पि निर्देशे कुर्याद्ब्रह्म स्वयं धिया ।

विना तर्केण या सिद्धिः यदुच्छासिद्धिरेव सा ॥”

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

“न शास्त्रमात्रशरणः न चानालोचितागमः ।

अज्ञातशास्त्रसद्भावान् शास्त्रमात्रपरायणान् ॥

त्यजेद्दुराद्भिषक् पाशान् पाशान् वैवस्वतानिव ।”

The basic theories of Ayurveda are the Panchabhuta and Thridosha Siddhantnas. They are basic in the sense that

all other theories pertaining to the explanations and practices of Ayurveda are based on these two. Each of our senses understands a specific quality (विशेषगुण), namely, sound (शब्द) touch (स्पर्श) form (रूप) taste (रस) and smell (गन्ध). These qualities have no independent existence, and inherently belongs to a particular matter. The prime matter with the particular quality perceived by a specific sense is called a bhuta. As there are other qualities also in each bhuta, the unique quality of the bhuta is called its specific quality

(विशेषगुण)

बाह्येन्द्रियग्राह्यविशेषगुणवत्त्वं भूतत्वम् ।

Ear is the organ which perceives the sense of sound and its particular bhuta is Akasa. The five senses, their qualities and bhutas are as follows:

| Organ  | Specific quality | Bhuta |
|--------|------------------|-------|
| Ear    | Sound            | Akasa |
| Skin   | Touch            | Vayu  |
| Eye    | Form             | Agni  |
| Tongue | Taste            | Jala  |
| Nose   | Smell            | Bhumi |

Bhuta is matter in its prime condition. All the five qualities are found in all things, though some are latent and become perceptible only when appropriate conditions exist. We cannot see things even if we have eyes if there is no light. The sound is manifest only when there is some friction. Because everything possesses the five qualities, they are constructed by five bhutas—Panchabhootika. The bhutas are manifestations in the course of creation. The basic matter out of which the bhutas are evolved is named Avyakta. Out of

Avyakta, comes Akasa with its quality of touch, retaining the quality of sound also. From Vayu evolves Agni, with its specific quality of form, retaining the touch and sound of the previous two bhutas. From Agni, Jala is evolved with its specific quality of taste, along with the qualities of the previous bhutas. Lastly Bhumibhuta with its specific quality of smell is evolved from Jala retaining all the four qualities of the former bhutas. This is explained in Ayurveda as एकगुणवृद्ध्यन्वयः (increase of the Gunas one by one. Thus Bhumibhuta has five sensory qualities making it the heaviest of the bhutas and Akasa with only one quality the lightest. This is a Swathanthra Siddhantha of Ayurveda and is an example of how Ayurveda has adapted the Darsanas for the enunciation of its principles. These five bhutas become Mahabhutas by a process known as Panchekarana or intermingling. Each Mahabhuta is made up of four parts of the bhutas the name of which is given to that Mahabhuta also and one part of each of the other four bhutas. For example, the Akasa Mahabhuta contains four parts of Akasa bhuta and one part of each of Vayu, Agni, Jala and Bhumi. These Mahabhutas are not perceptible by the senses. For its creation intermingling (परस्परानुप्रवेशः) in various proportions to manifest as the many things perceptible to the sense is required. These are the Karya Dravyas, used for the purpose of food, medicine etc. The bhutas in their finer forms are called Karanadravyas. Usually Karya dravyas are mentioned merely as dravyas.

The qualities of the bhutas are inherent (स्वतः सिद्धः) in them by the very nature of their existence (स्वभावः). Five

properties are ascribed to the Dravyas. They are Rasa (taste), Guna (quality), Veerya (potency), Vipaka (digestibility) and Prabhava (active principle). Some accept Karma (action) in the place of Prabhava. Some consider Vipaka as the particular change occurring during the course of digestion. The difference in the Rasa etc. of different Dravyas is the result of differences in the arrangement and proportion of the bhutas in the concerned Dravya. These properties manifest one by one in the course of creation of the Dravyas. Bhumbhuta forms the base (Adisthana). Jalabhuta mixes the materials together (Yojana). Agnibhuta "cooks" (pachana). Vayubhuta arranges (Vyuhana) and the Akasabhuta provides the form (Akruthidana). Panchatha is a word for death or disintegration because then the five bhutas separate themselves and join their stock to be used for the making of a new Dravya. Atma is the principle of cohesion by which the Bhutas join together. Atma with the five bhutas are the six dhatus are basic substances. The Jagat (all inclusive world) is comprised of individuals and things made up of six dhatus. Atma is Sareeri or the possessor of the Sareera and Sareera is made of Panchabhutas. The feeling of Sukha, and Dukha belong to the Atma. Health and disease are conditions of the body. There is no detailed discussion on the Atma in Ayurveda. Susruta thinks that each individual has its separate Atma, while Charaka's opinion is that Atma is common and all pervading. For the study of Ayurveda nothing deeper than the bhutas has to be considered.

"भूतेभ्यो हि वरं यस्मात् नास्ति चिन्ता चिकित्सते ।  
The body is made of the bhutas and of

the dravyas used as food and medicine. In essence, Ayurveda is a Bhoutika Sasthra, though it accepts Atma. In the modern sense of the term, bhuta is not one of the hundred and odd elements. The theory of elements is an objective assessment whereas the Panchabhoota theory is subjective in the sense that perception is through the senses. The world can be analysed from various aspects. From the point of view of Ayurveda the six dhatus are enough to explain matter of health and disease. For other studies, there are other kinds of division, ranging from one to ninety-six. These are called Tatwas. Every view is logical from its stand point (सर्वं न्याय्यं युक्तितत्त्वात्). Thus the allegation that Ayurveda with its primitive conceptions knew only five elements and that modern science knows hundred elements is the result of ignorance about the concept of bhutas. Students can be divided into various groups depending on say, age, religion, caste or intelligence. Each division is correct from its stand point. The same is true about the Bhutas and the elements. Dravya is that in which five things exist.

"यस्मिन् रसादयो यच्च भौतिकी मूर्तिमाश्रितम् ।  
तद्रव्यं रसकल्पादिकल्पनासिद्धमौषधम् ॥"

That which has the five properties of Rasa, Guna, Veerya, Vipaka and Prabhava and that which is constituted by the five bhutas and preparations of medicines Rasa (रस), Kalka (कल्क), Srutha (शृतम्), Seetha (शीतम्) and Phanta (फण्ट), five in number are made is Dravya. In Tharka Sasthra, Dravya, Guna, Karma, Samanya, Vishesha and Samavaya are called Bhava padarthas. Other five Bhavapadarthas exist in Dravya. The particular five qualities of the bhutas, exist in Dravya.



Thus we find that the study of Dravya is a very extensive one. Dravya is useful as Oushadha. Oushadha means medicine and food, as Oushadhi (herb) forms the primary source of medicine and food.

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

“समदोषः समाग्निश्च समधातुमलक्रियः ।  
प्रसन्नात्मेन्द्रियमनाः स्वस्थ इत्यभिधीयते ॥”

Here the fourth line can be changed to

स्वस्थः स्यात् समयागतः mean that it is the result of Samayoga. Samayoga means proper habits and conditions of life, style and circumstances of life and the maintenance of a healthy environment and the balancing of malas, doshas and dhatus. The external conditions affect the body because everything is Panchabhautika in this universe. All biological functions can be broadly divided into three kinds, constructive, destructive and regulative. The body constituents are simultaneously destroyed and constructed. Growth is maintaining the balance (साम्य). The word Sareera means that which is being destroyed. Deha means that which is being constructed. Kaya denotes metabolism, assimilation and elimination. All these functions have to be regulated to maintain an equilibrium. As denoted by the root meaning of the words, Pitta consumes, Kapha constructs and Vata regulates. All the three in equilibrium maintains the body in health. The term dosha means that which is liable to vitiate Dhatus and malas are called Dushyas, meaning liable to be vitiated by the doshas. Vitiating is the condition in disease. Climatic conditions, sensory appreciation mental, vocal and physical actions, if they are proper and even maintain doshasamya (the balance of the doshas) and ensure health. Otherwise, it is dosha vaishamyā—derangement of the doshas—resulting in disease. Certain names are given to diseases for the sake of convenience, but treatment has to be strictly on the basis of the circumstances and conditions of the body and has to vary from person to person. Diseases caused by mismanagement of way of life are called “Nijarogas” or personal diseases. There

are diseases caused by other factors, such as accidents, weapons, poisons, fire etc., and they are called "Aganthurogas", guest diseases so to say. Kama (lust), Krodha (anger), Bhaya (fear) etc., are also termed Aganthurogas because they are caused by external factors. Contagious diseases caused by close association with diseased persons mater (संक्रमिक). They become persistent when the doshas are vitiated. There are "Manorogas" which affect proper functions of the mind and the intellect. They too cause repercussions in the body with the doshas getting vitiated. Satva, Rajas and Tamas are called the Mahagunas, explain the condition of the mind and character of the individual. These three Mahagunas are inherent in the mind. The predominance of Rajas or Tamas causes conditions of disease. Satva, controlling the other two, denotes a healthy state of mind. Mind is considered Bhautika in Ayurveda being the finest essence of food, the dross of which is the malas and the Sara (assimilable part) becomes Dhatus in the course of metabolism. So healthy habits of diet and life are required for a healthy mind. Mind is the instrument of emotion and thought. By controlling it we can control emotions, and thoughts, and vice versa. All diseases start from an indulgent mind (रोग). We can control our habits only by controlling our mind. Hence the causes of all the diseases are compressed in one word, Prajnaparadha or indiscrimination. The doshas are also Panchabhautika Dravyas with predominance of one or more bhutas. There is another kind of Dosha-vastha called Prakriti. It is an inherited constitutional condition. It is caused by Beejadosha defect of the Sukla (sperm)

and Arthava (Ova) which join to form the embryo. Beejadosha is caused by the diseased condition of the bodies of the parents (either or both) or bad habits of the mother during pregnancy. If there is no Beejadosha and the conditions of pregnancy are ideal the Prakriti is Samadosha, with no inherent defects and the best qualities of head, heart and body. In Prakriti with predominance of the Kaphadosha, Samaprakriti with good qualities are seen more or less. The Prakriti with the predominance of the other doshas are defective. A person with the prakriti of a particular dosha is liable to get derangement of that particular dosha with the slightest provocation. Hence particular care has to be taken in habits, food etc to maintain health consistent with that Prakriti. The Prakriti is considered irremediable as it is congenital.

Susruta condenses the views prevalent in his time about the Universe.

"स्वभावमीश्वरं कालं यदच्छां निर्याति तथा ।  
परिणामं च मन्यन्ते प्रकृतिं पृथुर्दशिनः ॥"

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

Basically theories of Ayurveda are established on the postulate of Swabhava. According to Caraka, Ayurveda is eternal, i. e. the principles and practice of Ayurveda can be adopted and adapted to suit any situation at any time or anywhere.

अनादित्वात् भावस्वभावनित्यत्वात् स्वभावसंसिद्ध-  
लक्षणत्वात् शाश्वतोऽयमायुर्वेदः ।

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

remained the same always. The third reason attributed is Swabhava Samsiddha Lakshanathwa (स्वभावसंसिद्धलक्षणत्वम्). Lakshana means symptom. The characteristics of the drugs are inherent in them. For example, Bala when used produces a specific effect on the body according to the inherent natures of the drug and human body. The same drug may not produce the same affect in an animal as its Swabhava is different. Even certain poisons are not harmful to certain species of animals because of their Swabhava. Swabhava Samsiddha Lakshanathwa has another meaning. The theories are the Lakshana of a Sashtra. The theories of Ayurveda are based on the inherent nature of things. The panchabhuta Sidhantha tries to explain the Swabhava of the drugs etc. The Thridosha Siddhantha tries to explain the nature of the human body. It is also said that one can get disease even if Pathya (good habits of life) are followed. This idea is expressed as Swabhavoparama (स्वभावोपरमः) natural transformation.

“जायन्ते हेतुवैषम्यात् विषमाः देहघातवः ।

घातुसाम्यात्समास्तेषां स्वभावोपरमः सदा ॥”

Perhaps the progress of the disease may be delayed due to some obstruction. But it is inevitable that the result of the misdeeds has to be endured sooner or later. when we go deeper and deeper into the causes of various phenomena, we will reach a stage, beyond which we cannot go, having to accept that it is its Swabhava. The qualities of the Bhutas, Sabda etc., are natural to them. It is natural that only the appropriate sense (इन्द्रिय) alone gets the particular quality (गुण) of the bhuta. We can find out

how things takes shape. But we may not be able find out always why it is so. While accepting Swabhava, Ayurveda does not deny exigencies when other views may have to be accepted. So Adrishta (Niyati), Daiva (Karma Phala) are all sought. But these can be overcome by strenuous effort (पौरुष). Ayurveda acharyas were not obstinate that there cannot be other views for understanding and curing diseases. But they were satisfied that their conclu-

sions were good enough to solve problems of health and diseases.

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

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Where the mind is without fear and the head is held high,  
Where knowledge is free  
Where the world has not been broken up into fragments  
by narrow domestic walls  
Where words come out from the depth of truth,  
Where tireless striving stretches its arm towards perfection,  
Where the clear stream of reason has not lost its way into  
the dreary desert sands of dead habits  
Where the mind is led by thee into ever-widening  
thought and action,  
Into that haven of freedom, my Father, let my Country awake.

Githanjali — Rabindranath Tagore

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## THE HOLY QURAN AND HEALTH

C. K. RAMACHANDRAN

### PART - II

The present era is remarkable for heated arguments in Parliament about awarding capital punishment for adulteration of medicines. The very purpose of medicine is being defiled by adulteration. Even blood used for transfusion is no exception. The matter utilised for debasing products is a medley of substances. These offences come under the heading of adulteration, but there are other unintentional ones arising out of ignorance of the science of cleanliness and sanitation. May be, foreseeing the consequences of such indiscretion and of the squalid conditions of living, the Prophet took to the propagation of ideals of health and hygiene with such alacrity. Explicit instructions are given as to how health could be maintained. We do not know whether the practice of adulteration was in vogue in those days. But people might have realised the value and importance of drinking water. Water was not easily available in some parts of the country. So people were forced to take whatever came in the form of liquid. This carelessness brought about many diseases. The prophet endeavoured to make people understand the handicaps

of these circumstances. Preservation of food stuffs from deterioration and saving them from contamination are a great problem facing the world and still awaiting solution. The majority of people are ignorant of this fact. The World Health Organisation emphasises that more zeal and energy should be expended upon the execution of these programmes than are spent upon preparations for war. While a real war is waged against food pollution, some sworn foes of humanity, from mercenary motives are assiduously engaged in inventing spurious products which will be indistinguishable from the genuine one. These people are the germs of the social disease. When compared with the horrors of their crime, capital punishment does not look an adequate answer for wiping out these elements. They deserve to be put to extreme punishment and destroyed by the very evil which they generate.

Gluttony is an unfair practice. Its ill-effects make their appearance in the guise of some major diseases. Wealthy countries, like Sweden are being cons-

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tantly tormented with the ravages of the disease caused by over-nourishment, especially in the form of protein and fat. The majority of the people in world struggle in extreme poverty. Starvation has played havoc with their life and health. In an inaugural speech to mark the anniversary of his assuming power as Prime Minister of France, Mr. Mendez France pointed out the expediency of deploying financial resources to buy butter for the poor instead of spending them upon buying bullets for war.

Pure milk is always a superb food. It contains all the important constituents—protein, fat and carbo-hydrates and minerals in suitable proportions. The position of milk has remained impregnable, and have not been superceded by any other commodity in its food value. More often, milk is prescribed for a majority of patients.

Honey is another superior food. Even from small quantities we obtain high calories. It also contains all the vital food elements. It is honoured with the distinguished title—"the royal food." It is widely administered as medicine for a variety of diseases. Like milk, honey has indisputably been a favourite food from prehistoric times.

In Sura 80, from 27 to 32 ayaths, there is a catalogue of edible commodities that are essential for the maintenance of health. Sura 2 of the 173rd ayath makes a request to boycott the use of carcass, blood and pork. The word "carcass" here is used in the sense of dead bodies of animals that had been killed without getting the blood drained from the body by a specific method. The 3rd ayath of the 5th Sura points

out the danger that would ensue if one is not heedful to reject the flesh of animals that have been stifled to death and the remains of an animal that has been eaten by other creatures. Its death might have been due to some epidemic. As far as man is concerned blood is an indigestible thing. Undigested food can cause several disorders. Further more, the drinking of blood is a sign of brutality and nefariousness.

The Chinese Puranas give a good account of pigs and their life. Pigs seems to have started becoming familiar to man from long time ago, say, about 2000 B. C. In those days they rendered service as scavengers. Even today they are seen happily at this work in many parts of India and in South East Asian countries.

When pigs began to be domesticated, it must have been China that introduced pork as a savoury item of food. The bodies of the pigs are the refuge of many kinds of dangerous organisms. A kind of tape worm, *Tinea Solium* 32 feet in length resides within their bodies. Besides, pigs play a notorious part in spreading a dreadful disease called *Trichinella Spiralis*, the symptoms of which are severe fever and swelling of the joints and face. They also carry within them the germs of typhoid, cholera and leptospirosis. During world War II, a number of British soldiers affected by the disease cysticercosis were admitted into hospital for treatment. This is an incurable disease. The only way out, lies in taking precautionary measures.

After having listed the group of principles indispensable to the preser-

vation of health, the Quran broad-mindedly sanctions certain unacceptable activities, in the event of danger to human life. Thus, it sanctions the use of any normally prohibited food, in times of war and severe famine and when one finds oneself lost on a forlorn shore. This leniency shows the great deal of esteem and honour given to human life. On one occasion the Quran advises men not to ruin their lives.

The 93rd ayath of the 5th Sura makes a special request to the believers to renounce alcoholic drink because it is a foul practice of the devil, and because liquor is mere poison. One should keep clear of all such snares.

Out of the total population of 9 and a half million Americans about a million are found to be the slaves of the liquor. Another large majority of people, though not absolute addicts often indulge in drinking. The enumeration taken during the years between 1960-70 shows that youths in the age group of 15 to 21 created a record in drinking. In New York and Scotland children go to school and colleges carrying books in one hand, and cases containing intoxicants in the other. Those who escape from the mortal grip of intoxicants like opium, ganja and LSD ultimately take refuge in a liquor shop.

In the European countries and Russia, the wild popularity liquor has gained among adolescents is a cause for alarm. In India liquor is manufactured without care and discretion. If the Americans use this liquor in their accustomed dosage their country would have turned into a cemetery by now. The passion for alcohol is increasing

among the younger generation of India. The period of palm liquor is yet to be ended in India. While in foreign countries there is already a marked re-urn from 'Paradise Providers' to simple intoxicants, the use of 'Paradise Providers' is gaining momentum in India. In Western countries though a majority have taken to drinking the drinkers exercise a certain amount of restraint. Their number is six or seven times higher than that of the absolute addicts. In India 90 percent out of the total number of drinkers easily succumb to the lure of alcohol and immediately become its slaves. Some take leave from work for the sole purpose of drinking and others go in search of liquor shops. A secret enumeration on the sale of illicit liquor reveals that a number of people earn their living by selling cheap but strong liquor to college hostels.

In the Indian Puranas wine has an august status and all descriptions go to elucidate its integrity with Indian culture. 'Somarasa' is a name familiar to everybody. It was a kind of LSD of the Vedic age, widely used by the Rishis. In every religion, devotees consider opium-smoking an exercise of the chaste towards attaining 'nirvana'. In the olden days Kerala was also renowned for the manufacture of liquor. Her womenfolk were engaged in the business of brewing liquor from certain creepers, date palms and other palms. Tamil Sangham literature describes how fish, liquor and jackfruit when combined together, go to make a royal repast. Poets of the olden days and a majority of the poetesses were alleged to have been staunch worshippers of wine and they excelled the present generation of

America in the quantity they consumed. The exorbitancy and the inevitability of the intoxicants, exerted a great deal of influence upon society and achieved an official recognition for drinking. The practice of auctioning liquor shops with a view to increasing public revenue was in vogue in many parts of Kerala.

Ancient Ayurvedic texts assign maximum importance to the narratives of a particular chapter "Madathyaya." They explain the evils that ensue from drinking to excess and quote the names of medicines adopted to eliminate them. Indians possess a deep knowledge of the offensiveness of drinking because they widely well-versed in the consumption of liquors. Notes in old works very lucidly describe all kinds of mental, physical and social calamities, resulting from liquor. The wisdom thus earned by them stays quite concordant with what our present scientific investigations go to prove.

In America, next to heart attack and cancer, liquor is another demon that holds people in its grip. Dropsy caused by liver damage, myocarditis, functional disorders of the brain—these are a few of the several horrors for which liquor is responsible. According to one estimate the average life span of an alcoholic is twelve years shorter than that of a teetotaler. In 50 to 70 percent of murder cases either the murderer or the person murdered is likely to be a drunkard. Thirty percent of suicides are committed by addicts of liquor. Among the alcoholic the number of divorces through legal and illegal means, is seven times higher than which is found among other types of persons. America suffers a loss of 15,000 crores of dollars a year

on account of the hooliganism contrived by liquor-addicts, whose number runs into an appallingly high figure, namely, several millions. The majority of the motor accidents, that is about 80 percent of the total number and 50 percent of the deaths by accidents, are caused by accidents, are caused by intoxication. Either the driver or the pedestrian happen to be drunk. In America, 55,500 deaths are due annually, to motor accidents. Ten lakhs people get seriously injured. Abstention from work, abrogation of the social order and abdication of all sense of responsibility towards the State are the notorious traits of drunkards.

In India, in prestigious families it is not rarely that liquor is served during parties at home. The greatest disadvantage of this practice is that ultimately the children turn out to be perfect delinquents. The young are greatly attracted by advertisements of intoxicants. Advertisements appear in every magazine and adorn every public road. The idea that the use of liquor improves thinking and promotes sexual efficiency are simply misconceived ones. Actually the reverse is the case. It makes man a muff, destroys his efficiency and finally makes him impotent. Cells in the brain generate "ribo-nucleic-acid" which is responsible for the functioning of memory and sagacity, i. e., acuteness of perception in man. Liquor prevents the generation of this RNA and induces damage of the brain.

No great harm is done if persons accustomed to taking food daily with a high protein content confine themselves to small quantities of pure liquor. When one exceeds the limit, the protein content



in the body is instantly reduced and hepatic disorders crop up. This means loss of appetite, which in turn induces a stronger avidity for drink, to satiate which the drinker gets absorbed in drinking from morn to noon and from noon to night. Under the spell of liquor a person's future is destroyed irretrievably. He becomes a mental and physical wreck for the rest of his life.

Alcoholic myo-carditis is a disease exclusively found among alcohol addicts. Drink is responsible for a number of diseases, but its notoriety as a cause of irrevocable destruction of families and quarrels remains without parallel. It makes a man of wealth and reputation a pauper and a non-entity within no time. History provides many pathetic stories of the downfall and extinction of royal families brought about by excess of alcohol. No further proof is necessary to demonstrate that liquor is a commodity to be rejected at all costs.

### **Fasting**

In Sura II the 183rd ayath asks the people to observe the regular exercise of austerity. This practice is meant for the alleviation of evil. The 184th ayath of Sura II reads that if people are wise, observance of forms of abstinence like fasting is excellent. Fasting must have been adopted as an effective and ideal prophylactic against indigestion. Among the very ancient tribes, history gives evidence that the day before any auspicious occasion which promised a sumptuous meal, was observed as a fast day. This custom was observed very regularly by the Mongolians and Phoenicians on the day before their renowned harvest festivals. The Jews celebrate the

Sabbath with all the sanctity and serenity of a day of self-abasement and prayer. The Jains profess an unparalleled regard for fasting. Though the word "fasting" is not prominent in Hindu religious books, Hinduism reverses all kinds of austerity aimed at compassing holiness. The Puranas, however, extend little commendation to the exercise of total abstinence from good, as an intrinsic rule and therefore compulsory. On the other hand, the principles of renunciation and asceticism inculcate severe practices of self-discipline and self-purification which alone can lead to the ultimate goal—the salvation of the soul.

Christianity at its origin was the "religion of renunciation and tolerance". Jesus Christ before He commenced His divine dispensation subjected Himself to a severe form of seclusion. Retiring to a wilderness, Christ entered into meditation without sleep, food or drink for full 40 days. In the end, when He was affected with extreme weariness and fatigue, Satan appeared to test His endurance. He asked Christ if He was the Son of God, to prove it by changing stones into bread to alleviate His hunger. It was a most reasonable proposal to make to a weary man who had been fasting for forty days. Christ replied that men does not live by bread alone but by the word of God.

Jesus Christ immersed Himself in the rigours of austerity and a few days later, started His Divine Mission. The achievement of the height of purity of mind might well have been the object He had in view. Thus Mahatma Gandhi before embarking on any genuinely important programme, usually engaged in a fast which seemed to invigorate all

his activities with an unabating force. No superior means is known to exist than fasting by which an entire purification of the body and mind is attained. Fasting is considered as a step towards the altar of wisdom. Many a leader who was a severe critic of fasting turned out later to be a staunch advocate of this kind of austerity and willing to endure its hardship for the sole purpose of maturing the project he had on hand.

Excessive eating takes on an unpleasant dimension when it becomes the sole malignant cause of very many diseases in wealthy countries as well as in wealthy persons. Obesity, diabetes, blood pressure and heart attack are some of the few hazards eventually accounted by the surfeit. Fasting and food restrictions can go a lot more towards keeping these sufferings at bay, than can any medicine. Dr. Alex Comfort of the London University conducted a new experiment. The subject matter concerned with the devices as to how the span of human life could be elongated. He experimented upon a set of white rats. He fed them continuously for two days and starved them the next day. Another set he put in a separate enclosure and fed them

daily. He found the life span of the former group increased by 40 percent than that of the latter group. This discovery would be an invaluable legacy for posterity. This may perhaps turn out to be the most effective method by which the food problem could be remedied and the longevity of life ensured.

Suras 4, 5, 16, 17 and 74 of Quran give elaborate lessons upon living a guiltless and dutiful life. Throughout the decision the cannon of cleanliness and hygiene is seen treated with extreme care and importance. The narrations go to explain how people should wear their clothes, eat their food take their bath and keep their bodies neat and clean. If these instructions are given towards keeping an individual's life happy and healthy, directions are also laid out to get the whole society purged of its evils and maintain its physical and mental health, in perfect form. Hoarding of money and extravagance along with bribery and corruption are vehemently criticized. All these laws are not enforced in a dictatorial order but are evocated in a way so as to make people capable of themselves to put these rules into effect. ●

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Medicine is a science which hath  
been more professed than laboured,  
and yet more laboured than advanced,  
the labour having been more in a circle  
than in progression.

— Lord Bacon

## A SURVEY OF CARDIOACTIVE DRUG FORMULATIONS FROM AYURVEDA —SINGLE DRUG REMEDIES

D. SURESHKUMAR\* and Y. S. PRABHAKAR\*\*

### ABSTRACT

Thirteen single drug remedies indicated in heart disease were identified from seven Sanskrit medical texts. Preparation and mode of administration of these formulations are described.

### Introduction

According to Ayurveda, the heart and alimentary tract are the central points where channels conducting the Vital energy (Prana) converge. The heart and ten vessels are said to be the conduits for Rasa, one of the seven 'tissue elements' or Dhatu which constitute the human body (Sharma and Dash 1985). Vitiating of these channels results in symptoms which are characteristic of diseases collectively known as *hrdroga* or heart disease. As part of our research programme on the scientific evaluation of Ayurvedic literature (Kumar and Prabhakar 1987, Prabhakar and Kumar 1988, 1990) an extensive search was conducted in an attempt to

identify single drug formulations indicated in traditional ayurvedic texts for heart disease. *Susrutha Samhita*, *Caraka Samhita*, *Ashtanga hridaya*, *Ashtanga samgraha*, *Cakradattam*, *Sarangadhara Samhita* and *Bhaishajyaratnavali* are the texts on which the present investigation is based. *Caraka*, the author of *Caraka Samhita* flourished in the eighth century B. C. (Sharma and Dash 1983). The *Samhita* of *Susruta* is also believed to be equally time-honoured. *Ashtanga hridaya* and *Ashtanga samgraha* are attributed to *Vagbhata* (600 A. D.) *Cakradattam* to *Cakrapanidatta* (1100 A. D.), *Sarangadhara Samhita* to *Sarangadhara* (1300-1400 A.D.) and *Bhaishajyaratnavali* to *Govindadasa* (1800 A. D.) (Meulenbeld 1974, 1984 Ray and Gupta 1980).

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## Materials and Methods

The seven Ayurvedic texts were carefully scanned in their entirety for cardioactive drug formulae. Identities of plant materials were established according to their Sanskrit and vernacular names (Chopra et. al, 1956 Sharma 1956).

## Results

A survey of the seven texts revealed thirteen simple medicinal formulations for heart disease. They are given below:

1. *Adhatoda vasica* Nees (Acanthaceae)

Vidhyalankar (1979 : 106), Upadhyaya (1975 : 302 - 303) Athavale (1980 : 427).

The entire plant is pounded and decocted. A fine paste of the flowers and clarified butter is added to the decoction from which the clarified butter is later recovered by slow heating.

2. *Allium sativum* Linn. (Liliaceae)

Vidhyalankar (1979 : 104), Upadhyaya (1975 : 381), Athavale (1980 : 509), Misra (1983 : 260), Ayurvedacharya (1951 : 474).

Cloves of garlic are decocted with milk and water. This medicated milk is popularly known as *Lasunakshiram*.

3. *Citrus decumana* L. (Rutaceae)

Misra (1983:240), Ayurvedacharya (1951 : 453).

Juice of fruits is administered with Yavakshara (alkali from barley straw) and honey.

4. *Deer horn*

Misra (1983 : 243, 273), Murthy

(1984 : 56), Ayurvedacharya (1951 : 488) Calcined deer horn is administered in honey.

5. *Desmodium gangeticum* (L.) DC.  
(Papilionaceae)

Upadhyaya (1975 : 417)

Roots are decocted in milk.

6. *Glycyrrhiza glabra* L. (Papilionaceae)

Vidhyalankar (1979 : 475), Athavale (1980 : 564).

Roots are ground to a fine paste, mixed with sesamum oil and heated over controlled fire. The oil prepared after 100 repetitions of the process is said to be highly effective.

7. *Inula racemosa* Hook. f. (Asteraceae)

Misra (1983:272), Ayurvedacharya (1951 : 487).

Powder of roots is administered in honey.

8. *Moringa oleifera* Lam. (Moringaceae)

Misra (1983 : 240), Ayurvedacharya (1951 : 453)

A decoction of bark is administered with Yavakshara and honey.

9. *Piper longum* L. (Piperaceae)

Pillai (1961 : 30)

Fruits are powdered and administered with honey.

10. *Ricinus communis* L. white variety  
(Euphorbiaceae)

Murthy (1984 : 68)

Roots are decocted and administered with Yavakshara.

11. *Sida cordifolia* L. (Malvaceae)

Misra (1983 : 272)

Roots are decocted in milk and administered with sugar.

12. *Terminalia chebula* (Gaertn.) Retz.  
(Combretaceae)

Upadhyaya (1975 : 328), Athavale (1980 : 457), Misra (1983 : 274), Ayurvedacharya (1951 : 490).

Fruits are decocted, mixed with sonchal salt and the medicinal principles extracted in clarified butter.

13. *Zingiber officinale* Rose  
(Zingiberaceae)

Upadhyaya (1974 : 381), Misra (1983 : 271), Ayurvedacharya (1951 : 452-453, 486).

According to Vagbhata, dried rhizome of *Zingiber officinale* jaggery and seeds of *Sesamum indicum* L. are pounded together and administered with milk. Cakrapanidatta (Misra 1983) and Govindadasa (Ayurvedacharya 1951) however recommend a simple decoction of the rhizomes.

### Conclusion

This survey of ayurvedic texts has revealed several single drug formulations

for heart disease. The usefulness of *Terminalia arjuna* is described elsewhere (Kumar and Prabhakar 1987). However in many instances the formulations are simply said to cure heart disease, no hints being given on the sub-group of the disease for which they are specially effective. Thus comparative clinical studies and knowledge of the Ayurvedic concepts of drug design are essential to gather more information on the therapeutic utility of these formulations.

All formulations identified in the present study are administered by the oral route. However, the dose is not mentioned specifically in any text. Based on the severity of the disease, digestive capacity, physiological constitution and emotional status of the patient, a wise physician is instructed to decide the suitable dosage of the medicines (Kumar 1989).

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संगच्छत्वं संवदत्त्वं संवः मनांसि जानतम् ।  
 समानि वा आकृतिः हृदयानि वा ।  
 समानं अस्तु वा मनः यथा वः सुसहासति  
 शान्तिः शान्तिः शान्तिः ॥

—Last Hymn from Rigveda

“Come in unity, speak in unity,  
 Let your souls harmonize. . . .  
 Let your endeavours and your hearts  
 be one !  
 Let your spirit be one so that you may  
 all be united. . . .  
 Peace, Peace, Peace.”

—Translation Max Mueller

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## TANTRAYUKTI

MURALI\*

### Introduction :

Treatises had been an integral part of education since ancient times. Texts studied by one, often indicates the level of education one had and the particular school of thought that he belongs to. A treatise must not be too elaborate so that it will take too much time to master. An ideal treatise should be concise, precise and lucid revealing more and more implied meaning गूढार्थता with each reading. Such characteristics make both the learner and interpreter to rely on certain techniques based on which the treatises are composed. Tantrayuktis are the devices employed both in the composition and exposition of scientific treatises.

Our acaryas had a true concept of the "form" or "framework" of a scientific text. The subject matter should be treated in an orderly manner; all the aspects of the subject are to be expounded; reproducing the views of past and contemporary acaryas. The treatise should be devoid of self-contradictions and bigger treatises often need cross-references. The author's specific thoughts and theories, of course are an

essential part of a good treatise. All these aspects are taken into account in the evolution and development of Tantrayuktis. Any scientifically written book has to follow a methodology to be concise and precise. That methodology is explained as Tantrayuktis. Hence it is accepted that one cannot compose a treatise ignoring Tantrayuktis. (1)

It is assumed that such a methodology was adopted even before they were recognised and defined as such. The earliest example is Astadhyayi, the book on grammar by Panini. For example Svasamjna i. e. terms technically used in Sastra is indicated by Panini in Samjna Prakarana as Savarna, Vrdhi, Guna etc. Hetvartha, Upadesa, Apadesa are some other Tantrayuktis made use by Panini. Perhaps the idea of Tantrayukti as separate subject was evolved by understanding and analysing the methodology of scientific texts of various acaryas.

Arthasastra of Kautilya, a work on state craft enumerates and defines Tantrayuktis. A total of thirtytwo Tantrayuktis are explained in the last chapter of this work. Definitions are in the

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Sutra style. A sloka in the end asserts that all Tantrayuktis are employed throughout the text. There is a great similarity in the definitions of Tantrayuktis in Arthasastra and Susrutasmhita.

The main Ayurvedic treatises viz. Carakasamhita, Susrutasmhita and Astangsamgraha enumerate Tantrayuktis. But only Susruta defines them. Cakrapanidatta, Dalhana and Arunadatta define Tantrayuktis in their commentaries on the Samhitas.

A purana, Visnudharmottarapurana describes thirty two Tantrayuktis. The order of Tantrayuktis is almost the same as in Susrutasmhita. Visnudharmottarapurana discusses various topics like poetics, art of painting, sculpture etc. From the view of Tantrayukti we can assume that Susrutasmhita is older to Arthasastra and Visnudharmottarapurana.

Tantrayuktivicara of Nilameghabhisak is a work exclusively on Tantrayukti. Thirtysix Tantrayuktis are defined in eighteen "Slokas" with the author's own commentary. Most of the examples quoted are from Astangahrdaya and Astangsamgraha. In the introductory stanzas Nilameghabhisak praises Vagbhata with high esteem. The often quoted, famous sloka "लम्बश्मश्रुकलापः" portraying the personality of Vagbhata is seen in this work. The author also bows to his Guru Sundaracarya. Another "Sloka" with dual meaning, depicts Astangsamgraha and Lord Siva.<sup>(2)</sup> There are also salutations to the Buddhist Gods Aryavalokita and Aryatara. The colophone at the end of Tantrayuktivicara indicates that Nilameghabhisak held the title "Vaidyanatha." He introduces Vagbhata

as a disciple of Avalokitesvara, born in the race of Sanghagupta. Vagbhata is said to be the alias of the acarya Ramagupta. As Astangsamgraha and Astangahrdaya are mentioned by Nilameghabhisak, it is possible that the same Vagbhata wrote these two books.

Much cannot be assumed from these limited information about the author of Tantrayuktivicara. Two reasons point to the chances of his being a Keralite or an imigrant to Kerala. They are the frequent references of Astangsamgraha and Astangahrdaya and the popularity of Tantrayuktivicara in Kerala. The mention of "Sundari" in the Sloka "अष्टाङ्गानामधिष्ठानं" possibly means Sarvangasundari as the commentary of Arunadatta is popularly called thus. No commentary named Sundari has been discovered till now.

Tantrayuktivicara was first published in 1928 by the Government of Travancore, edited by the then Director of Ayurveda, Dr. Kolatheri Sankara menon M. A., Ph. D. A second edition was published in 1976 by the publication division of Government Ayurveda College, Trivandrum with expositions in Malayalam and English by vidyabhushanam K. Raghavan Thirumulpad and Dr. K. R. Srikantamurthy respectively. Tantrayuktivicara is a major source book in the study of Tantrayukti.

Tantrayukti, a book by an anonymous author, published by N. S. Moos, Vaidyasarithi Press, Kottayam is another book on Tantrayukti. The author is supposed to be a descendant or disciple of Nilameghabhisak. He seems to be influenced by Arunadatta's views. The concluding Sloka of Tantrayukti states



that Nilameghabhisak is a native of Unduru, a village near Gokaraha. He was born in the family of Narayana, a celebrated physician and author of *Abhidhanamanjari*, a dictionary on drugs mentioned in *Astangahrdaya*. *Tantrayukti* contains descriptions of only ten *Tantrayuktis* and the others are just defined.

## I

The word *tantrayukti* is a compound one with the components *Tantra* and *yukti*. *Tantra* means *Sidhhanta* or *Doctrine*. This word also means scientific treatise in the sense that it elaborates *Siddhantas*. The root verb (तन्) means to stretch, lengthen, compose and write. *Arunadatta* derives the word "Tantra" from the root verb "Tantri Kudumbadharane." *Kudumba* means body and *Kudumbadharana* is maintenance of body. *Tantra* gives advice to keep the body healthy. *Tantra* also means body as in the word "*Tantra-yantradhara*". *Tantra* is also an accepted synonym of *Ayurveda*.<sup>(3)</sup> Also notable is the trend of naming the treatises on the branches of *Ayurveda*, suffixing "Tantra" eg. '*Nimitantra*', '*Jivakatantra*', '*Susrutatantara*', etc. The term "Yukti" is from the root "Yuj" to join, use or employ. *Yukti* is the one with which ideas or statements are correlated avoiding ambiguity and contradictions. *Yukti* is also considered as a *Pramana* by *Caraka*. *Tantrayukti* is very much appreciated by the acaryas of *Ayurveda*, in composing, interpreting and teaching treatises, than in other branches of knowledge. This may be the reason why some dictionaries give the meaning of *Tantrayukti* as "the *Yukti* used in *Ayurveda*."<sup>(4)</sup>

*Vighryasambhasa* (debate) is a form

of scholarly discussion (*Tadvidyasambhasa*). During debate the participant will try hard to defend his stand and demolish that of the opponent. He may misinterpret texts with this aim. Only *Tantrayukti* can help to counter this situation. *Mr. Gerhand oberhammer* observes that the *Vada* doctrine (methodology of *Vighryasambhasa*) and *Tantrayukti* have influenced mutually. There are similarities in the two systems as in the case of *Apavarga*, *Apadesa* etc. But the scope of *Tantrayukti* is not limited to that of *Vada* or debate. *Tantrayukti* compromises the different views to reach a definite conclusion which is of great use in applied sciences like *Ayurveda*. Hence *Tantrayukti* is described as *Vyatyasoktiprakasaka*. It is also to be remembered that the subject matter of *Tantrayukti* is a written composition while that of *Vada* is spoken language.

As mentioned earlier, *Gudharthata* (गुडार्थता) is a characteristic of *Tantras*. The implied meanings are brought out by the application of *Tantrayukti* (*Linoktiprakasaka*). *Lesokti*—*Summerising*—is another style in the composition of treatise. The opposite one *Vistarokti*—*elaboration*—may be beneficial to the student, but it is considered a demerit, since it will make the study, time consuming. So *Lesokti* is appreciated by acaryas. Any drawback of *Lesokti* is corrected by the lucid expositions using *Tantrayukti* and so *Tantrayukti* is *Lesoktiprakasaka*. A *Vaidya* should be *Bahusruta*, one who knows several *Sastras*. This can be acquired if one learns *Sastras* using *Tantrayuktis*.<sup>(5)</sup>

Application of *Tantrayukti* is two fold—*Vakyayojana* and *Arthayojana*. *Vakyayojana* is the interpretation related

to the words i. e., addition of a suitable word in the sentence to make it coherent. Arthayojana is the interpretation of the direct meaning of the sentence, its implications and applications.

On number of Tantrayuktis, acaryas differ. Bhattarahariscandra, author of Carakanyasa (commentary on Caraka-samhita) recognises forty Tantrayuktis. Pariprasna, Vyakarana, Vyutkrantabhidhana and Hetu are the four, in addition to the thirtysix Tantrayuktis in Caraka-samhita. Cakrapani and the commentators of Vagbhata accept thirtysix Tantrayuktis, while Susruta and Kautilya accept thirtytwo. The number is minimised for the purpose of easy analysis and study. Probably what acaryas used to give at the end chapter of their treatises, is the number of Tantrayuktis employed in that particular text. This is evident from Kautilya's Arthasastra. Thus the number may be related to size of the text.

Tantrayukti is considered as one of the Tantragunas. Vyakhyas (11 varieties), Kalpana (7 types), Asraya (20 types), Thacchilays (17 types) are also Tantragunas. Yuktidipika, an ancient commentary on Isvarakrsna's Sankhyakarika discusses several Tantrayuktis such as Samsaya, Nirnaya, Uddesa under the topic, Tantraguna.<sup>(8)</sup> Concluding the topics, author mentions Tantrayukti as a synonym of Tantraguna.<sup>(9)</sup> Influence of grammar on Tantrayukti cannot be ruled out. The Tantrayukti Svasamjna is an evidence. Yuktidipika points out Utsarga and Apavada which are frequently used in grammar as examples of possible Tantrayuktis.<sup>(10)</sup>

## II

The very idea of subject matter is conceived by the Tantrayukti (1) Adhikarana. The content or the subject matter of the whole treatise (Granthadhikarana—as Susrutasaṃhita is mainly on Salyatantra and Carakasamhita on Kayacikitsa), of a chapter (as indicated by the heading “अथातो दिनचर्याध्यायं व्याख्यास्यामः...”) or a section (for example, the section on Virya starts with 'Sloka' (वीर्यं पुनर्वदन्त्येके... ..) (11) is clarified by Adhikarana.

Larger treatises often contain cross references. There are some Tantrayuktis of this nature. (2) Atitapeksa (named Atikrantaveksana, Atitaveksana by different acaryas) is a reference to an earlier statement, relevant to the particular context. When eliciting the Samyagyoga of Niruha, Vagbhata equates it with the Samyagyoga of Virecana. This Tantrayukti makes the student to be more well versed in the previous portions. The Tantrayukti employed when referring to a statement in the later part of the text is (3) Anagataveksana. Anagatapeksa and Anagataveksa are synonyms. Dose of Ghṛta to be given in the diseases caused by suppression of Mutrajavega is Uttama, a term explained in a later chapter of Sneha-vidhi. Reference to a posterior portion without explaining it immediately avoids digression and repetition, enabling completion of the topic without an abrupt break. By (4) Prasanga, author of the treatise reminds us of some topics explained in an earlier context. For example, in Jvaracikitsa, Vagbhata quotes the Samprapti from Nidanastana to explain the rationale behind the Dipanapacana mode of treatment in the earlier stages of Jvara. These Tantrayuktis tell

us that only by studying the text completely, the subject can be comprehended fully.

Exposition of scientific concepts needs certain terms with precise meaning. Such technical terms are meant by the Tantrayukti (5) Svasamjna. It must be noted that these words may mean something different in the common usage or in other Sastras. Svasamjna needs to be defined in the treatise. Hence the tantrayukti (6) Nirvacana can be with an etymological interpretation (दूषयति इति दोषः), or without it (शाखा रक्तादयः त्वक् च). It specifies the meaning of Svasamjna.

A detailed explanation of a particular topic is (7) Vyakhyana. All aspects of the topic are dealt with in Vyakhyana (8) Nirdesa is similar to Vyakhyana but particular to some Uddesa. (9) Uddesa is a brief statement or an enumeration of the topics. Nirdesa is the exposition of these topics. (10) Uddhara is more or less the same. It is to explain some topic. Virya, Vipaka etc., mentioned in the first chapter of Astangahrdaya are elaborated. Uddhara is a reply to objections to some acaryas (11) Nidarsana is another method of explanation, with the help of the examples. It makes the subject matter intelligible and the argument logical. Drstanta mentioned in Visnudharmottarapurana and Upamana of Kautilya can be identified with Nidarsana. To illustrate the rationable behind something is (12) Apadesa. While recommending the use of Taila in Vatikatisara, acarya adds that the pain in Atisara is due to Vigunavata and Taila is a supreme Vathahara drug. After explaining some topic in detail, extending its application to another context

is (13) Atidesa. Recommending Ajir-nacikitsa in the 'Ama' stage of Grahani is example. This encourages the Vaidya to think of the extension of application of all theories. Atidesa also shows the relation between topics and provides consciseness.

Some of the Tantrayuktis coincide with Pramanas. (14) Arthapati, a Pramana recognised mainly by Mimamsakas, finds its place among Tantrayuktis. Implied meaning, mostly opposite to the described one is meant by Arthapati. Contraindication of the use of curd in night also means that it can be used during day time. Arthapati helps the author to leave some topic to be presumed by the reader. (15) Uhya Tantrayukti resembles Anumana though not in full. It is the deduction by inference from what is stated actually. This Tantrayukti is very significant in practical sciences like Ayurveda, since it allows full scope of the learner's thinking capacity. (16) Sambhava is also counted as a Tantrayukti, explaining the matter rationally. It differs from Apadesa where the author explains one's own idea. By the definition of some other acaryas, Sambhava is implied advice or possible interpretations. An authoritative statement or advice is meant by the Tantrayukti. (17) Upadesa; This can be identified with Aptavacana, a Pramana to several schools of philosophy including Ayurveda.

There are some Tantrayuktis pertaining to Vada (debate). (18) Purvapaksa is an example. It is an objection raised against a particular matter to be refuted or corrected by the author by reasoning. But to some acaryas, Purvapaksa means agreeing with the previous acaryas.

Reply to Purvapaksa is meant by the Tantrayukti Uttarapaksa. Only Kautilya recognises this Tantrayukti. For others, it is (19) Nirnaya Tantrayukti — which means conclusion after considering various objections to the topic. Vagbhata's description of the concept of Virya according to various acaryas and the final conclusion with Dvividhavi-ryavada is an example of Nirnaya. Nirnaya removes all doubts. (20) Apavarga is similar to Nirnaya is just the refutation of objections, showing its fallacies. Examining the arguments about the number of Rasas is an example. In (21) Anumata, author firmly presents his own view, against others. Some acaryas interpret that Anumata is presentation of one view without refuting others. A clear cut differentiation of the Tantrayuktis Apavarga, Anumata and Nirnaya is not easy as there is a very close resemblance between them.

(22) Ekanta is a theory with no exemption, while (23) Anekanta or Naikanta is a rule having exemptions. Both are considered as one Tantrayukti by some. The emetic property of Madanaphala does not have any exception (Ekanta). Administration of medicine in Jvara can be on the 7th day, 10th day or in Alpa-ama stage in particular situations and is an example of Naikanta.

Yoga, Hetvartha, Padartha, Vakya-sesa and Prayojana are Tantrayuktis having the property of elucidating the implied meanings of stanzas of scientific treatises. (24) Yoga is the meaningful arrangement of words. In the dictum "रोगं निदानप्रायूपलक्षणोपशयान्तिभिः" the sequence of Rogavijnanopayas is meant for systematic steps in Rogapariksa. Nidana

can be the same for several diseases, and is not sufficient to diagnose a particular disease. Purvarupa, though the earliest manifestation of disease is vague. Rupas are, of course the clearest manifestations but there are situations where they fail to indicate what the disease is. So the use of Upasaya. (Yoga is interpreted as application of Pancavayavakya by some authors). In (25) Hetvartha, effect is also meant when the cause is mentioned. It is Dosavaisamya that causes roga. So in the stanza "रोगस्तु दोषवैषम्यम्" "roga is Dosavaisamya. The effect is identified with the cause. Cause-effect relationship can be inferred by the application of this Tantrayukti.

The same word may have different meanings in scientific treatises. Sakha means Raktadidhatus and also the four upper and lower limbs of human body. (26) Padartha Tantrayukti makes one aware of this and correctly points out the meaning. Synonymous words are also considered under the preview of Padartha. What is meant by a word (Pada) is Padartha, according to Susruta. This concept is similar to the Padartha, in philosophy. (27) Vakyasesa as a Tantrayukti, by the property of Laksana enables us to know the special meaning of a statement. The note at the end of Roganulpadaniya (rules to prevent disease) that, these apply to the amelioration also, is an example of Vakyasesa. An omitted word in a sentence or a compound which can be understood naturally is Vakyasesa, according to some. But there is (28) Pratyutsara Tantrayukti which means omission of the word in the beginning, middle or end of a compound word. In (29) Prayojana, there is a deliberate use of words for significance. The line "वायुः

पित्तं कफश्चेति..." is interpreted in the light of this Tantrayukti. Absence of Samasa denotes that each of the Dosa has its own Dosatva; use of 'च' implies that Dosas vitiate not only singly but also in combinations. Thus it is Prayojana Tantrayukti that makes the sentence meaningful. A different view on Prayojana is that it is the aim or object of a treatise. (30) Samuccaya exposes proper meaning of the connecting words. In "पेयां विलेपीमकृतं कृतञ्च" the use of "च" denotes that "कृतम्" or "अकृतम्" Rasa is not be used with Peya or Vilepi, but with Anna.

Defining one thing, by stating that it is opposite in characteristic to something already defined is (31) Viparyaya. After defining Samajvara, acarya says that Niramajvara is the one with opposite characteristic. Viparyaya makes study easier. This Tantrayukti is similar to Arthapati. But in Arthapati the idea is not clearly stated, it has to be inferred.

In texts, there are statements which may seem to be contradictory. Some Tantrayuktis help in clarifying this. (32) Pradesa Tantrayukti is one. Dosas are said to cause disease in one context while Kalarthakarmas are mentioned in another context. A student aware of Pradesa Tantrayukti should know that both the statements are true. Dosas are Samavayikaranas and Kalarthakarmas are Nimittakarana. (33) Vidhana correlates conflicting ideas. Ojas is mentioned as Mala, Dhatu and Upadhatu. All these descriptions are true when various aspects of Dhatuparinama and bodily functions are considered. Vidhana makes one to reach a coherent idea in such conditions.

Sastra cannot clear one's doubt in all situations, especially in clinical practice. One has to be aware of all the possibilities. Similarly in the Purvarupas of Grahani, Pandu, Gulma etc., is one such situation. (34) Samsaya makes one aware of this. (35) Vikalpana is to reach an alternative where other methods fail. Suggesting the remedies for Staulya which is theoretically incurable is the example. Freedom of choice of doing something or other is Vikalpana, say some acaryas. This reminds Naikanta Tantrayukti. The word also reminds one of "Vaikalpika" of grammar. (36) Niyoga corrects something that may seem to be an error. When Gunas of Ksira are mentioned, Rasa and Vipaka are also referred. Though not Gunas proper, they are associated with Dravya and hence described along with Gunas. Niyoga is also interpreted as authoritative instruction.

Brief notes on the Tantrayuktis show they are very useful in the study of treatises. It helps one to make use of the merits in the treatise fully and fill up the void. Equipped with Tantrayukti one can easily understand both the theoretical and applied aspects of the scientific concepts. Without the knowledge of Tantrayukti one cannot conceive the ideas fully.

The divergent interpretations given by various authors with regard to each of the Tantrayukti, clearly show that each acarya had his own methodology in compiling his treatise though there was a general concept. Caraka, Susruta and Astangasamgraha have appended the list of Tantrayuktis employed in them. Sridasapandita begins his commentary (Hrdyabodhika) and Arunadatta ends

his commentary (Sarvangasundari) with explanations on Tantrayukti. To suit the modern trends modern authors can have their select set of Tantrayuktis.

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(Sri. Dasapandita)
- 2 अष्टाङ्गानामधिष्ठानं सुन्दरीव्यञ्जिताकृतिम् ।  
संग्रहं शङ्करात्मानमिन्दुशेखरमाश्रये ॥
- 3 तत्रायुर्वेदः शाखा विद्या सूत्रं ज्ञानं शास्त्रं लक्षणं  
तन्त्रमित्यनर्थान्तरम् ॥
- 4 तन्त्रयुक्तिः तन्त्रोक्ता आयुर्वेदशास्त्रोक्ता युक्तिः  
(वाचस्पत्यम्)
- 5 एकस्मिन्नपि यस्येह शास्त्रे लब्धास्पदा मतिः ।  
स शास्त्रमन्यदप्याशु युक्तिजत्वात् प्रबुध्यते ॥  
(Caraka Siddhi 12;47)
- 6 भट्टारहरिश्चन्द्रेण तु अन्याश्चतस्रस्तन्त्रयुक्तयः परि-  
प्रश्नव्याकरणव्युत्क्रान्ताभिधानहेत्वाख्याः व्याहृताः,  
ततश्च तन्त्रेऽपठितत्वादेतास्वेवान्तर्भवनीयाः । तत्र  
परिप्रश्नं उद्देशेऽन्तर्भवति, व्याकरणं तु व्याख्याने,  
व्युत्क्रान्ताभिधानं निर्देशप्रभेदः, हेतुशब्देन यानि  
प्रत्यक्षादीनि प्रमाणान्युक्तानि तानि हेतावन्त-  
र्भवति ॥  
(Cakrapani on Caraka Siddhi 12;44)
- 7 तन्त्रे समासव्यासोक्ते भवन्त्येतानि कृत्स्नशः ।  
एकदेशेन दृश्यन्ते समासाभिहिते तथा ॥  
(Caraka Siddhi 12;45)
- 8 सूत्रप्रमाणावयवोपपत्तिरन्यूनता संशयनिर्णयोक्तिः ।  
उद्देशनिर्देशमनुकमांश्च संज्ञोपदेशाविति  
तन्त्रसम्पत् ॥
- 9 इत्येवमन्येऽपि तन्त्रयुक्तयः शक्याः इह प्रदर्शयितुम् ।
- 10 इति करणं प्रकारार्थं एवंप्रकारा अन्येऽपि द्रष्टव्याः  
तद्यथा उत्सर्गोऽपवादोऽतिदेश इत्यादि ॥  
(Uktidepika as quoted by  
G. Oberhammer)
- 11 Astangahrdaya Sutra 9;12
- 12 Ibid Sutra 1;22
- 13 Ibid Sutra 1;20
- 14 Ibid Sutra 4
- 15 Ibid Sutra 1;6
- 16 Ibid Sutra 18;29

## PERILLA — A VALUABLE AND PROSPECTIVE HERB

GYANENDRA PANDEY

The author has conducted a series of studies on medicinal plants from various angles and this has been published in research communications. The present study aims to focus on a traditionally important plant *Perilla* (*Perilla frutescens* (Linn.) Britton. = Syn. *P. ocimoides* Linn, *Ocimum frutescens* Linn. *Melissa maxima* Audin, *Mentha perilloides* Willd) and find out its therapeutic and other uses in medicine. Its original names are the following :

Hindi = Bhangira, Jhutela Family = Lamiaceae, Bengla = Bantulsi, Assam = Arim, Angami, Kewia, Naga = Kenia.

### Description, distribution and field observations

Erect branched, strongly aromatic bushy annual, upto 150 cm. in height, stems 4 gonous, patently white-hairy. Leaves ovate-elliptic to rhomboid with a cuneate or rounded base, acuminate, crenate dentate or coarsely serrate crenate, nearly glabrous, except hairy nerves on the lower surface, 5-12, (-15) × 3-12 cm. Petiole 3-10 cm. long. Verticillasters combined into racemes. Bracts lenceolate 0.4 - 0.7 cm long. Pedicels 0.2-0.3 long. Calyx 0.4-0.45

cm. long hairy with erect upper lip ovate, obtuse, corolla white, 0.4 cm long hairy outside and on the mouth. Flowers small, white in axillary and terminal racemos. Nutlets ovoid (commonly called seeds), ovoid, rounded, reddish-brown or pale brown with reticulate markings, glabrous, 0.1-0.12 cm long, weighing c. 250 to a gram fruiting calyx 0.8 cm. long.

Genus *Perilla* — four to six species, distributed from India to Japan. A species wild and cultivated in the tropical and temperate Himalayas (upto 3,300 m). Out of the members of genus having distribution in South-East Asian region one species occurs in India. The herb is cultivated in some Asian countries, particularly in China and Japan.

In India it is found almost throughout the Himalayas upto an altitude of 3,500 m and in the hills of Assam and Bihar occuring in the tropical and temperate Himalayas from Kashmir to Bhutan, at an altitude of 1,000-10,000 ft. In Khasia, mountains it is seen from 3,000-6,000 ft. Frequently cultivated

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in the Himalayas at 4000-5000 ft. (average). There is no organised or regular cultivation, but is found scattered.

#### **Occurrence in field survey**

The plant has been found in a scattered manner during field surveys conducted by the author in various regions of Uttar Pradesh, Himachal Pradesh falling in the western Himalayas and Himalayan sub-tracts both in the wild state and the cultivated manner.

#### **Local Record**

The herb is found growing abundantly in certain areas of Ranikhet Tahsil (4,000-6,000 ft.) Sometimes it is found in small cultivation in rural areas in District Almora (U.P.) Tarikhet (5,000 ft.) District Almora (U.P.) and as growth under the pines in sloppy grounds.

#### **Medicinal and other uses**

Leaves and flowering tops are useful as flavouring agents. The herb is considered as a sedative and has anti-spasmodic and diaphoretic properties and the plant is recommended in cephalic and uterine troubles; and the leaves are used in mixtures administered for cough and lung disorders. The seeds are considered resolvent and diaphoretic. There are reports that various parts of the herb are used as medicines in Japan and Indo-China.

The seeds are edible and are used in food. The leaves may be employed as a vegetable and the oil from the seeds is also used as a food article. The seeds are also employed as a dye auxillary.

#### **Chemical profile**

The leaves contain an anthocyanin

perillanin chloride (which probably yields delphinidin), proto-catecheric acid and glucose. Plant yields 0.3-1.3% (dry wt. basis) of a volatile oil which has been chemically analysed. The oil and citral contains are reported to be the maximum at the beginning of the flowering stage. The oil does not contain perillaldehyde, the essential constituent of the commercial oil from *p. frutescens* var. *crispe forma viridis*. The seeds contain protein fatty oil, crude fibre, nicotinic acid and a substance having antioxidant activity.

#### **Oils**

The seeds contain a valuable drying oil which is known as Perilla oil and a volatile oil which can be obtained by distillation. Perilla oil is used for various purposes and the volatile oil of perilla is useful as a flavouring agent in food and other fancy items. Perilla oil has also an antiseptic action and is an antimildew agent. It is also employed for the preparation of an anti-aldoxine of perillaldehyde which is more sweet than sugar or saccharin.

#### **Cultivation**

The herb grows well in sandy loam. Seeds are sown in rows, c. 60 cm apart. They are thinned out when the seedlings are nearly 3 cm. Plants begin to flower after about 5 months or so and bear seeds after another month. Since the seeds do not ripen simultaneously and spout shortly after ripening the collection of seeds is difficult. It is estimated that the yield of seeds may be upto 1,680 kg/hect.

#### **Ethnobotany**

Locally this herb is known as Bhangira (or Bhangra). Seeds are tradi-



tionally used as agents for making spicy items. The seeds obtained from cultivated plants are specially useful. In some rural pockets, small scale farming for minor domestic requirements are reported, but there is no large scale or regular cultivation on a systemic pattern though reports are available regarding the cultivation in earlier times. In the hilly areas of Uttarakhand Himalayas, the village-folk of hilly areas particularly of Almora, Nainital and Pithoragarh districts are well acquainted with this herb.

#### Prospects and Scope

There is a background of the traditional use of the plant in the hilly areas of Uttar Pradesh. The herb is medicinally potent and is valuable for dietetic

and commercial uses. Systematic cultivation of this plant has much scope in western north-western and eastern Himalayan areas including the Himalayan areas (Shivaliks and areas lower of heights) and also in other hilly areas of country possessing suitable climate, soil and altitudes. The medical and commercial potentialities may be explored and put to maximum extent which will be quite beneficial.

#### Acknowledgements

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There is nothing so strong and safe, in any emergency of life  
as the simple truth. —Charles Dickens

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## CLINICAL EVALUATION OF AMALAKI CHURNA IN THE TREATMENT OF AMLAPITTA

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Amlapitta is a disease of the gastro-intestinal tract, which results from the qualitative and quantitative derangement of the pittadosha in general and Pachakapitta in particular. This disease has shown an increasing trend due to multiple factors.

Scholars of different systems of medicine have been doing research on this and have discovered a number of medicines. But there is no drug which can claim to cure the disease completely. The possibilities of recurrence are always there when the treatment is discontinued.

Amalaki (*Emblica officinalis*), a drug which is easily available and which is quite cheap was selected for the present study.

### Materials and methods

18 cases of Amlapitta (Urdhamga) were included for the present study. The patients were primarily selected according to their history. After proper history-taking, physical examination was done and this was followed by routine

laboratory investigations. Patients were radiologically investigated and the stool of all cases were routinely examined to make differential diagnosis. In all cases FTM was done. Patients without any abnormal findings in X-ray and stool examinations and with hyper-acidity in FTM were included in the study.

To all the 18 patients of the present series, powder of the Amalaki fruit (dried) as procured from the market was given in the dose of 10g. in 2 divided doses after the principal meal with water only, for a period of 4 weeks. They were advised to take the usual diet with restriction of chillies, spices and other irritants.

### Results and observations

After 4 weeks of treatment, the acidity of the gastric content were estimated. Out of the total cases, 12 patients, were male and 6 were female, belonging to various ages (from 18 to 62 years of age) coming from various occupations, religions and socio-economic classes. The patients were found to

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**Table Showing Effect of Amalaki (Churna) on Free Acid of Patients of Amlapitta**

| Group  | Acidity<br>m/Eg/l |   |              |              |              |              |
|--|-------------------|---|--------------|--------------|--------------|--------------|
|  | Fasting           | after administration of 50ml alcohol (7%) |              |              |              |              |
|  |                   | 30th min.                                 | 60th min.    | 90th min.    | 120th min.   | 150th min.   |
| 1) Before treatment                                  | 58.71 ± 1.18      | 46.57 ± 1.50                              | 62.85 ± 1.23 | 77.42 ± 1.85 | 80.42 ± 1.85 | 80.42 ± 1.82 |
| 2) After 15 days of treatment                        | 56.28 ± 1.46      | 42.14 ± 1.64                              | 59.57 ± 1.70 | 72.28 ± 2.15 | 74.42 ± 2.00 | 73.14 ± 2.29 |
| "t" values<br>(comparison between<br>1&2 d. f. = 28) | 1.28              | 1.98                                      | 1.42         | 2.24*        | 2.19*        | 2.48*        |
| 3) After 30 days of treatment                        | 49.14 ± 2.48      | 34.71 ± 2.13                              | 51.42 ± 2.97 | 59.14 ± 3.72 | 59.67 ± 4.06 | 58.28 ± 4.01 |
| "t" values<br>(comparison between<br>1&3 d. f. = 28) | 3.32**            | 4.39**                                    | 3.33**       | 4.34**       | 4.60**       | 4.79**       |

Results are mean ± S. E.

\* Significant at 5% level

\*\* Significant at 1% level

**Table Showing Effect of Amalaki (Churna) on Total Acid of Patients of Amlapitta**

| Group  | Acidity<br>m Eg / l |   |              |              |              |              |
|--|---------------------|---|--------------|--------------|--------------|--------------|
|  | Fasting             | After administration of 50ml alcohol (7%) |              |              |              |              |
|  |                     | 30th min.                                 | 60th min.    | 90th min.    | 120th min.   | 150th min.   |
| 1) Before treatment                                  | 68.71 ± 1.33        | 57.14 ± 1.36                              | 72.28 ± 1.66 | 86.71 ± 1.39 | 89.14 ± 1.85 | 88.28 ± 1.73 |
| 2) After 15 days of treatment                        | 65.85 ± 1.55        | 52.28 ± 1.67                              | 69.85 ± 1.68 | 81.14 ± 2.20 | 82.71 ± 2.02 | 81.71 ± 2.39 |
| "t" values<br>(comparison between<br>1&2 d. f. = 28) | 1.39                | 2.24**                                    | 1.02         | 2.13         | 2.33**       | 2.22**       |
| 3) After 30 days of treatment                        | 59.85 ± 2.68        | 45.71 ± 2.13                              | 61.14 ± 2.88 | 68.42 ± 3.67 | 68.71 ± 3.89 | 67.42 ± 3.53 |
| "t" values<br>(comparison between<br>1&3 d. f. = 28) | 2.85*               | 4.20**                                    | 3.33**       | 4.27**       | 4.65**       | 4.88**       |

Results are mean ± S. E.

\* Significant at 5% level

\*\* Significant at 1% level

have different types of personal history. The subjective features before and after treatment as observed are given below:

| Symptoms                                | Present before treatment (No. of cases) | Relieved after 30 days (No. of cases) | Percentage of relief after treatment |
|---|---|---------------------------------------|--------------------------------------|
| Amlodgar (Sour eructation)              | 18                                      | 11                                    | 61.11%                               |
| Tiktodgar (Bitter eructation)           | 8                                       | 6                                     | 75%                                  |
| Utlesha (nausea)                        | 5                                       | 4                                     | 80%                                  |
| Vamana (vomiting)                       | 4                                       | 4                                     | 100%                                 |
| Kantadaha (burning in throat)           | 18                                      | 11                                    | 61.11%                               |
| Hrit daha (Heart burn)                  | 18                                      | 11                                    | 61.11%                               |
| Aruci (anorexia)                        | 12                                      | 10                                    | 83.33%                               |
| Antrakujana (Gurgling of the intestine) | 2                                       | 2                                     | 100%                                 |
| Avipaka (indigestion)                   | 16                                      | 15                                    | 93.73%                               |
| Trisna (thirst)                         | 2                                       | 1                                     | 50%                                  |
| Gaurava (Malaise)                       | 3                                       | 2                                     | 66.67%                               |
| Romaharsha (bristling of the hairs)     | 1                                       | 1                                     | 100%                                 |
| Kampa (trembling)                       | 1                                       | 1                                     | 100%                                 |
| Angasada (exhaustion)                   | 4                                       | 4                                     | 100%                                 |
| Bhrama (dizziness)                      | 1                                       | 1                                     | 100%                                 |

Apart from these subjective symptoms both free and total acid concentration were estimated in all cases. This was done both in fasting state and after stimulation. The mean of free and total

acid before and after treatment are given in the following table:

Both free and total acid concentration were estimated in all cases both in fasting and under stimulus before starting the treatment after 15 days and 30 days of treatment. The mean and standard deviation of free and total acids before and after treatment at 15 days and 30 days interval have been given above. The "t" values were estimated in comparison with the mean values.

It is evident from the above that mean values of the free and total acid concentration were gradually reduced both in fasting and stimulated states. The "t" values were significant at 1% level in all cases. Results showed that the effect of Amalaki churna or the powder of *Embllica officinalis* Gaertn on the patients of Amlapitta on both free and total acid, were highly significant statistically.

#### Conclusion

The total effect of the patients of this series, when assessed in terms of subjective and objective improvement, give satisfactory response. Therefore the effect of this drug in the management of Amlapitta requires further detailed study.

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## MANAGEMENT OF CONGESTIVE CARDIAC FAILURE WITH CERTAIN AYURVEDIC DRUGS

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### ABSTRACT

14 cases of congestive cardiac failure were selected for this study. All investigations were done for the diagnosis including doppler echo-cardiography. Of 14 patients four were suffering from cardiomyopathy, four were having ischemic heart disease and four had pulmonary heart disease and other two were cases of rheumatic heart disease. All the patients were given powder of *Urgenic indica* (containing cardiac glucosides) 100mg, 8 hourly + decoction of Punarnavastak Kwatha (combination of herbal drugs) 60ml B. D. for diuresis and better bowel function with complete bed rest and salt restriction. Patients of ischemic heart disease, cardiomyopathy and cor pulmonale were given powder of *Inula racemosa* 2g, 8 hourly while patients of rheumatic heart diseases were given Guggulu (*Commiphora mukul*) 1/2g 8 hourly as supportive therapy. After two weeks of treatment 10 patients were cured completely, two had bradycardia and two were refractory.

### INTRODUCTION

In Ayurveda *Urgenia indica* is considered to have a potent effect on heart. According to Chopra (1958) the herb has digitalis-like action on the heart. It is also a powerful expectorant and a mild diuretic. As CHF is multifactorial in its aetiology, the treatment should take this into account. Patients of CHF complain of constipated bowels and flatulence which cause great discomfort. That is why decoction of Punarnavastaka kwatha, which is a diuretic, appetizer and laxative was given. It is a combination of eight medicinal plants.

*Boerhaavia diffusa* Linn (Punarnava)  
*Azadirachta indica* (Nimba)  
*Trichosantes lobata* Roxb. (Patol)  
*Zingiber officinale* Rose (Sunti)  
*Picrorhiza kurroa* (Tikta)  
*Tinospora cordifolia* (Amrita)  
*Cedrus deodara* (Devadaru)  
*Terminalia chebula* (Abhaya)

Pushkaramula (*Inula racemosa*) is considered to be a coronary dilator. Charaka, the great physician of ancient India was the first to describe the use of Pushkaramula in angina. Guggulu (*commiphora mukul*) is a well-known anti-inflammatory analgesic.

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**Effects of medicines (*Urgenia indica* + *Punarnavastak Kwatha*) on patients of Congestive heart failure**

|  | Days              |                  |                  |                 |                  |                  |                  |
|--|-------------------|------------------|------------------|-----------------|------------------|------------------|------------------|
|  | Initial           | 1st              | 2nd              | 3rd             | 6th              | 10th             | 14th             |
| Pulse  | 109.42±<br>16.64  | 107.14±<br>15.71 | 103.07±<br>16.0  | 99.85±<br>13.5  | 99.42±<br>12.65  | 76.8±<br>11.65   | 68.15±<br>6.75   |
| "p" value  |                   |                  |                  |                 |                  |                  | <0.001           |
| Blood pressure   | 100.64±<br>7.71   | —                | —                | 102.32±<br>6.35 | 104.35±<br>6.07  | 107.4±<br>5.9    | 112.2±<br>5.33   |
| "p" value  |                   |                  |                  |                 |                  |                  | <0.001           |
| Diastolic  | 70.00±<br>8.6     | —                | —                | 70.5±<br>8.0    | 71.85±<br>6.43   | 73.8±<br>5.43    | 74.2±<br>5.03    |
| "p" value  |                   |                  |                  |                 |                  |                  | <0.10            |
| Enlarged liver<br>(in figures below<br>costal margins) | 4.90±<br>1.5      | —                | —                | 4.6±<br>1.4     | 3.35±<br>1.25    | 2.45±<br>0.8     | 0.45±<br>0.6     |
| "p" value  |                   |                  |                  |                 |                  |                  | <0.001           |
| Urine output<br>(ml/24hr)                              | 625.35±<br>134.95 | 650.0±<br>143.6  | 720.0±<br>112.18 | 795.0±<br>108.0 | 970.0±<br>102.35 | 122.0±<br>104.25 | 1210.0±<br>86.14 |
| "p" value  |                   |                  |                  |                 |                  |                  | <0.001           |
| Body weight<br>(in Kg.)                                | 59.80±<br>4.52    | —                | —                | 58.9±<br>4.15   | 57.5±<br>4.0     | 54.5±<br>4.0     | 52.5±<br>3.6     |
| "p" value  |                   |                  |                  |                 |                  |                  | <0.001           |

The Values given mean ± S. E.

"p" values are as compared to intital values.

**MATERIAL AND METHODS**

A total 14 patients (12 males and 2 females with mean age of 40 years) of congestive cardiac failure were selected irrespective of the causes of failure. The CHF was diagnosed clinically by edema, engorged neck veins, dyspnea, cardiomegaly, hepatomegaly and lung crepitations. All the patients were subjected to routine urine and stool examinations, sputum for AFB (in cases of pulmonary heart diseases) blood, sugar, serum cholesterol, urea, creatinine, electrolytes and total proteins, a standard 12 lead ECG skiagram and chest P. A. view. Diagnosis of the underlying cause was conformed by doppler echo-cardiography.

All patients were given salt restricted diet and coconut water to supplement potassium. Urine output was measured for 24 hours in each case with a constant intake as far as possible throughout the study.

The powdered *Urgenia indica* was given in a dose of 100mg thrice a day with lemon juice and decoction of *Punarnavastak kwatha* 60ml twice a day. In addition powdered *Inula racemosa* 1g twice a day with honey was given to the patients of IHD and cardiomyopathy while *Guggulu* 500mg twice a day with water for patients of RHD for anti-inflammatory actions.

Patients were assessed daily for their symptoms pulse, blood pressure, body weight, urine output, and liver and lungs crepitations.

### Observations

Of the 14 patients of congestive cardiac failure four had cardiomyopathy, four had IHD, four had pulmonary heart disease and two had rheumatic heart disease as underlying causes of CHF.

Administration of the powdered *Urgenia* and decoction of *Punarnavastak kwatha* increased the urine output and blood pressure and reduced the pulse rate. Effects started from the second day and increased till the 14th day of the follow-up. Pulse rate was reduced by about 41 beats per minute (37.7%), systolic blood pressure was increased by about 11.56 mm of Hg (11.5%) but there was no significant increase in diastolic pressure. Enlarged liver was reduced almost to normal level (90%) except in 2 patients. The body weight was reduced by 6-8 kg in each patient (12.5%), Jugular venous pulse was reduced to the level of clavicle in sitting position and premature beats disappeared (fig 1 & 2) and lungs became clear. Patients had good sleep, good appetite and easy evacuation of bowels.

### Discussion

*Urgenia indica* is effective in lowering the pulse rate and increasing cardiac output by strengthening the contraction power of cardiac muscle. It also increased the blood pressure. Stehle, Rose and Drayer (1930) have shown that an alka-

loid of *Urgenia*, *Scillaren B* produced a rise of blood pressure owing to its vaso-constrictor action in animals. The amplitude of ventricular beats is increased and the cardiac output is improved. *Urgenia indica* is also a potent expectorant. Patients of pulmonary heart disease experienced severe cough and expectoration one day after having the medicine which almost subsided by the twelfth day of treatment.

*Punarnavastak kwatha* is a mild diuretic, but produces moderate diuresis when given with *Urgenia*. It is also a laxative and an appetizer. *Punarnavastak kwatha* is quite effective in restoring extremely disturbed bowel functions. The exact action of *Inula racemosa* (*Pushkaramula*) on coronary artery is not known. Tripathi S. N. et. al. (1984) shown that *Inula racemosa* + gum *Gugulu* is quite effective in IHD.

### Conclusion

The total number of cases studied were 14. Four had cardiomyopathy, four IHD, four pulmonary heart diseases and two had RHD causing CHF. After 14 days of treatment, 10 (71.4%) patients were cured completely without any complications, 2 (14.28%) patients were refractory and did not respond to the treatment completely. There was symptomatic relief to some extent and 2 (10.28%) patients became bradycardiac, (pulse below 60) and *Urgenia indica* had to be stopped by the 10th day. But both the patients were almost cured by fourteen days.

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The ancient people who desired to have a clear moral harmony in the world would first order their national life; those who desired to order their national life would first regulate their home life; those who desired to regulate their home life would first cultivate their personal lives, those who desired to cultivate their personal lives would first set their hearts right, those who desired to set their hearts right; would first make their wills sincere; those who desired to make their wills sincere; would first arrive at understanding; understanding comes from the exploration of things.

—Confucius



## STUDY OF MURCHHITA KATU TAILA : DETERMINATION OF PHYSICAL CONSTANT VALUES

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### ABSTRACT

Murchhita Katu taila is the code drug of Ayurveda system of medicine for preparing many medicated tailas, which have the base of Katu taila. Ama-dosha property always presents in the crude Katu taila. Acid saponification, iodine, unsaponification and ester values are preliminary studies of any medicated taila. These values have been taken for determination of different physical constants, which are very essential to determine the rancid period, effect on the diseases, inactiveness, difference from other tailas etc.

### Introduction

Murchhita Katu taila (MKT) has been used for preparing many Ayurveda medicated tailas, which are prepared by base of Katu taila. Katu taila has Ama dosha properties and these properties are due to presence of toxic and anti-toxic compounds. These compounds can be harmful for special diseases and they may be unsaturated, saturated, open chain, cyclic chain etc. In Ayurvedic preparations, the Ama-dosha properties are removed by different ingredients of Katu taila.<sup>1</sup>

A taila possesses specific physical properties i. e. sp.gravity, refractive

index, heat of combustion (Agni), internal energy, number of oxygen atoms required for combustion, molecular weight, degree of splitting, NTC etc., which are expected to be altered when the taila becomes medicated.<sup>2</sup> These physical constant values cannot be found correctly by modern instruments.<sup>3</sup> The equations, which are adopted, are simple, elegant sensitive and offer unique advantage for the determination of physical constants of Katu taila and Murchhita Katu taila. These values are given with a view to provide scientific and systemic information, which will be highly useful to maintain uniformity and quality of the Murchhita Katu taila.

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These physical values are very useful for the determination of absorption, assimilation, formation of agni for maintaining the heat of the body, waste material and rancid period.

### Materials and methods

All the chemicals used were "Analar" and were used without further purification. Different methods have been used for the determination of different values, (Table 1). Refractive index has been determined by Abbe's refractometer.

Acid value,<sup>4</sup> saponification value, iodine value, ester value and unsaponification value are primary study of Katu taila and Murchhita Katu taila., and have been taken from our earlier works.<sup>5,6</sup> The uses of these values are essential for determination of different physical constants.

I have adopted few equations for determination of different values<sup>7,8</sup> i. e.

$$\text{Sp. gravity} = 0.8475 + 0.00030 (S) + 0.0001 (I) \quad (1)$$

$$\text{Agni} = 11,380 - (I) - 9.15 (S) \quad (2)$$

$$M = \frac{56108 - 12.67 (S) - (A)}{(S)} \quad (3)$$

$$\text{Db} = (I) (M) / 28384 \quad (4)$$

$$\text{NTC} = \frac{100 \frac{(E)}{(A)} + 0.0225 (E)}{1 + (E) / (A)} \times \frac{100 - (U)}{100} \quad (5)$$

$$\text{DS} = \frac{(A)}{(S)} \times 100 \quad (6)$$

$$W / V = 0.8323 + 0.000302 (S) + 0.000144 (I) \quad (7)$$

$$X = (M) (S) \quad (8)$$

$$\text{Glycerol} = (E) \times 0.547 \quad (9)$$

$$n = \text{Agni} / 52.1 \quad (10)$$

$$nD = 1.4643 + 0.000066 (S) - 0.0096 \frac{(A)}{(S)} + \quad (11)$$

$$0.0001171 (I) \quad (11)$$

$$nDL = 1.4688 - 0.00008 (S) + 0.000107 (I) \quad (12)$$

$$rD = (nD^2 - 1) / (nD^2 + 2) (W/V) \quad (13)$$

$$\text{MrD} = (M) (rD) \quad (14)$$

$$\text{EEV} = (nD^2 - 1) (nD^2 + 0.4) (W/V) \quad (15)$$

$$\text{Iodine value} = 8587.97 (nD^2) - 12513.83 \quad (16)$$

$$e = \text{Agni} - rt \quad (r = 1.987 \text{ cal. mol}^{-1} \text{ deg}^{-1}) \quad (17)$$

### Results and Discussion

The density of both fatty acids and glycerides is greater, due to their molecular weight and higher unsaturation. Eq(1) has been developed for the determination of Sp.gravity of liquid tailas.<sup>8</sup> The acid values and molecular weights are higher than unsaturation and glycerol values of Murchhita Katu taila and Katu taila. This shows that mostly unsaturated free fatty acids have been converted into saturated forms.

The constant values of Y show that the Murchhita Katu taila was prepared by the base Katu taila. The slight variation of Y value of Murchhita Katu taila may be a practical error.

Agni is of importance in connection with the calculation of heat formation of tailas when direct calorimetric measurements are not possible. Agni value is higher of Murchhita Katu taila than Katu taila and this may be due to higher (S) value and less (I) value.

The internal energy (e) of Murchhita Katu taila is greater than Katu taila at 40°C. This shows that Murchhita Katu taila will more effective than Katu taila for specific diseases.

The glycerol value is found less in Murchhita Katu taila and this clearly indicates that some glycerol has been destroyed by chemical reactions.

When combined and free fatty acid molecular weights are the same, eq (5) is used for the determination of neutral taila content. NTC value of Murchhita Katu taila is found less than Katu taila, this value indicates that 2.873% Katu taila converts into medicated forms.<sup>9</sup>

For the comparison of monoglycerides

**Physico-Chemical Values of Katu taila and Murchhita Katu taila**

| Sl. No. | Parameter                                    | Katu taila |            | Murchhita Katu taila |            |
|---------|--|------------|------------|----------------------|------------|
| 1       | (a) Acid value (A)*                          |            | 1.87       |                      | 06.40      |
|         | (b) Free fatty acid (as Oleic acid)          |            | 0.94       |                      | 03.22      |
|         | (c) Molecular weight of free fatty acids     |            | 3.34       |                      | 11.41      |
| 2       | Saponification value (S)*                    |            | 154.86     |                      | 156.64     |
| 3       | Iodine value (I)                             |            | 109.17     |                      | 085.33     |
| 4       | Ester value (E)*                             |            | 182.99     |                      | 150.24     |
| 8       | Hydroxyl value                               |            | 231.89     |                      | 254.90     |
| 6       | Acetyl value                                 |            | 197.32     |                      | 214.20     |
| 7       | Unsaponifiable matter (U)*                   |            | 0.34       |                      | 0.40       |
| 8       | Molecular weight (M)                         |            | 349.79     |                      | 346.05     |
| 9       | Pure monoglycerides value (X)                |            | 54169.68   |                      | 54204.33   |
| 10      | Weight by volume (W/V)                       |            | 0.8948     |                      | 0.8919     |
| 11      | Difference between sp. gravity and W/V (Y)   |            | 0.01445    |                      | 0.01455    |
| 12      | Sp. gravity                                  |            |            |                      |            |
|         | (a) Direct at 40°C                           |            | —          |                      | 0.9107     |
|         | (b) Calculated at 40°C                       |            | 0.9092     |                      | 0.9064     |
| 13      | Double bond (Db)                             |            | 1.50       |                      | 1.16       |
| 14      | Internal energy (e) at 40 C                  |            | 9231.93    |                      | 9239.49    |
| 15      | Heat of combustion (Agni)                    |            | 9853.86    |                      | 9861.42    |
| 16      | Degree of splitting (DS)%                    |            | 1.2075     |                      | 4.086      |
| 17      | Number of oxygen required for combustion (n) |            | 189.13     |                      | 189.28     |
| 18      | Neutral taila content (NTC)                  |            | 98.498     |                      | 95.668     |
| 19      | Glycerol                                     |            | 83.6855    |                      | 82.1828    |
| 20      | Refractive index (nD)                        |            |            |                      |            |
|         | (a) Lund's value (nDL)                       |            | 1.46809    |                      | 1.46534    |
|         |  | Instrument | Calculated | Instrument           | Calculated |
|         | (b) nD                                       | 1.4680     | 1.4672     | 1.4678               | 1.4642     |
|         | (c) Sp. refraction (rd)                      | 0.31067    | 0.3215     | 0.31156              | 0.3209     |
|         | (d) Molar refraction (MrD)                   | 108.67     | 112.45     | 107.82               | 110.05     |
|         | (e) Eykman constant (EEV)                    | 0.6910     | 0.7175     | 0.6929               | 0.7158     |
|         | (f) Iodine value                             | 93.309     | 288.19     | 91.892               | 232.44     |

\* Values taken from references No. 5 and 6.

values (X) of Katu taila and Murchhita Katu taila it is found less from the pure monoglyceride value (56108). This indicates that these tailas have some unsaturation or impurities.

Degree of splitting is very useful for the determination of the separation of glycerides into fatty acids and glycerol. (DS) value of Murchhita Katu taila is higher than Katu taila and this indicates

that the formation of bonds of glycerol and fatty acids are more.<sup>9</sup>

Refractive index determined by Abbe's refractometer and calculated by eq (11) has too much dissimilarity. This may be due to the effect of temperature, heterogenous properties, unsaturation, polarity etc.<sup>8</sup>

The lund's values<sup>10</sup> are higher than apparent density values. This shows that

Murchhita Katu taila has less polymerize property and conjugated double-bonds. A correlation between refractive index and iodine value has been calculated by eq (16). This relation is very useful for the determination of autoxidation or polymerization. The calculated low values of iodine show that Murchhita Katu taila has less polymerization properties and unsaturation. The EEV constant values support that Murchhita Katu taila is prepared by Katu taila.<sup>11, 12</sup>

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In Sanskrit we have the words  
SAT, CHIT, ANANDA. It is a fine  
Combination. The three together make  
one word. Truth is life. It is knowledge.  
It gives you vitality and also bliss.  
It is a permanent thing of which you  
cannot be robbed.

—Mahathma Gandhi

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# പ്രമേഹം നിയന്ത്രിക്കാൻ എന്തൊക്കെ ശ്രദ്ധിക്കണം?

## കെ. മുരളീധരൻപിള്ള

ഭാരതത്തിൽ ഏതാണ്ട് പതിനാലു കോടിയോളം പ്രമേഹരോഗബാധിതർ ഉണ്ടെന്നാണ് അടുത്ത കാലത്തു നടത്തിയ ചില സ്ഥിതിവിവരക്കണക്കുകൾ സൂചിപ്പിക്കുന്നത്. കാൻസറും ഹൃദ്രോഗവും കഴിഞ്ഞാൽ ജീവഹാനിക്കിട നൽകുന്ന മൂന്നാമത്തെ രോഗവും പ്രമേഹംതന്നെ. ഏതാണ്ട് രണ്ടായിരത്തിത്തൊള്ളു വർഷങ്ങൾക്കുമുമ്പ് ആയുർവ്വേദാചാര്യന്മാരായ സൂത്രനും വാഗ്ഭടനും പ്രമേഹരോഗബാധിച്ചവർ ധാരാളമായി മുത്രമൊഴിക്കുമെന്നും അങ്ങനെയുള്ളവരുടെ മുത്രം വീഴുന്ന സ്ഥലത്ത് മാധുര്യം നിമിത്തം ഉറുമ്പുകൾ ഓടിയെത്തുമെന്നും വ്യക്തമാക്കിയിട്ടുണ്ട്. അതിനാലാകണം 'മധുമേഹം' എന്ന് ഈ രോഗത്തിനവർ പേരു നൽകിയിരിക്കുന്നത്. ചില പ്രത്യേകതകൾകൊണ്ട് പ്രമേഹത്തെ മഹാരോഗങ്ങളുടെ കൂട്ടത്തിലാണ് ആയുർവ്വേദാചാര്യന്മാർ ഉൾപ്പെടുത്തിയിരിക്കുന്നത്.

കൂടുതൽ പോഷകപ്രധാനങ്ങളായ ആഹാരങ്ങൾ കഴിക്കുകയും മെയ്യനങ്ങാതെയിരുന്ന സുഖജീവിതം നയിക്കുകയും ചെയ്യുന്നവരിലാണ് ഈ രോഗം കൂടുതലായി കണ്ടുവരുന്നത്. അത്യധികമായ ദാഹം, ദേഹത്തിനു തളച്ച്, കൈകാലുകൾക്ക് ചുട്ടനീറൽ, തൊണ്ടുവരൾച്ച, മുത്രം ധാരാളമായി പോകുക എന്നിങ്ങനെ

യുള്ള ലക്ഷണങ്ങൾ ഒരാളിൽ കണ്ടാൽ അയാൾക്കു പ്രമേഹരോഗബാധ ഉണ്ടോ എന്നു സംശയിക്കണം.

ഈ രോഗം ബാധിച്ചാൽ പലതരത്തിലുള്ള പ്രയാസങ്ങളും ബുദ്ധിമുട്ടുകളും ഉണ്ടാകുമെന്നതിനാൽ പ്രമേഹം എപ്പോഴും നിയന്ത്രണവിധേയമാക്കിവെക്കുവാൻ ശ്രദ്ധിക്കണമെന്നത് വളരെ പ്രാധാന്യമർഹിക്കുന്നു. ഈ രോഗത്തിൽ ആഹാരവിഹാരാദികളിലുള്ള ചില നിയന്ത്രണങ്ങളാണ് ചികിത്സയുടെ ലക്ഷ്യപ്രാപ്തിക്ക് പ്രധാനമായും വേണ്ടത്. അതുകൊണ്ടുതന്നെ പ്രമേഹരോഗത്തിന്റെ കാര്യത്തിൽ ചികിത്സയ്ക്ക് കേവലം രണ്ടാംസ്ഥാനം മാത്രമേയുള്ളൂ. ആഹാരത്തിലുള്ള നിയന്ത്രണം കൊണ്ടുമാത്രം ഏതാണ്ട് പകുതിയോളം പ്രമേഹരോഗങ്ങളും സുഖപ്പെടും. ബാക്കിയുള്ളതിൽ ഏതാണ്ട് ഇരുപത്തിയഞ്ചു ശതമാനത്തോളം നിയന്ത്രണങ്ങളും ചില മരുന്നുകളുംകൊണ്ട് സുഖപ്പെടുത്താനാവും. ശേഷിച്ച ഇരുപത്തഞ്ചുശതമാനത്തിൽ ഇൻസുലിൻ ചികിത്സതന്നെ വേണ്ടിവരുന്നതാണ്.

ഓരോ വ്യക്തിയുടേയും ജീവിതസാഹചര്യത്തെയും അയാളുടെ ശരീരപ്രകൃതിയേയും ഏർപ്പെട്ടിരിക്കുന്ന ജോലിയുടെ പ്രത്യേകതകളേയും കണക്കിലെടുത്ത് ആ

ഡോ. കെ. മുരളീധരൻപിള്ള, വൈദ്യരത്നം ആയുർവ്വേദ കോളേജ്, പെരുന്തം, തൈക്കാട്ടശ്ശേരി, തൃശൂർ.

ആളിന്റെ സാധാരണ പ്രവർത്തനങ്ങൾക്കാവശ്യമായ ഊർജ്ജം ലഭ്യമാക്കുവാൻ യോജിച്ച അളവിലുള്ള ആഹാരക്രമം നിശ്ചയിക്കേണ്ടിയിരിക്കുന്നു. ഭക്ഷണത്തിന്റെ അളവിലും പ്രാവശ്യത്തിലും നിയന്ത്രണം വേണ്ടിവരും.

പ്രമേഹരോഗലക്ഷണങ്ങളിൽ ശാരീരികമായ ക്ഷീണവും തളച്ചയും ആലസ്യവും ഗൗരവമർഹിക്കുന്നവയാണ്. ഒരാളുടെ ശരീരത്തിലെ ഓജസ്സും സ്റ്റിഗ്മാങ്ങളായ ഭാവങ്ങളും ഈ രോഗത്തിൽ നഷ്ടപ്പെടുമെന്നതിനാലാണ് ഇവ സംഭവിക്കുന്നത്. ഈ വസ്തുത കണക്കിലെടുക്കാതെ രോഗശമനം മാത്രം ലക്ഷ്യമാക്കി അല്പമായ ആഹാരം വിധിച്ചാൽ ശരീരബലം, പുഷ്ടി, പ്രവർത്തനശേഷി ഇവക്കാവശ്യമായ ഓജസ്സിനായി അവ മതിയാകാതെ വരും. തന്നെയുമല്ല, കുറഞ്ഞ അളവിലുള്ള ആഹാരം പലതരത്തിലുള്ള വാതരോഗങ്ങൾക്കു കാരണമായിത്തീരുകയും ചെയ്യും. അത് പ്രമേഹരോഗത്തെ കലശലാക്കി രോഗിയെ കൂടുതൽ കഷ്ടപ്പെടുത്തുവാനിടയാക്കുകയും ചെയ്യും. മതിയായ ഭക്ഷണം പ്രമേഹരോഗിക്കു നൽകേണ്ടതിന്റെ ആവശ്യകതയിലേക്കാണ് ഇതുവിരൽ ചൂണ്ടുന്നത്.

സ്ഥൂലനിൽ (വണ്ണം കൂടിയവരിൽ) അതിസ്ഥൂല്യത്തെക്കുറക്കുന്നതും ഗുരുത്വമേറിയതുമായ ആഹാരം ഹിതമായിരിക്കുമ്പോൾ കൃശനിൽ (ശരീരം മെലിഞ്ഞവരിൽ) ശരീരത്തെ പുഷ്ടിപ്പെടുത്തുന്നതും ലാഭ്യമായ ഭക്ഷണം യോജ്യമാണ്. ഊർജ്ജം ആ പ്രത്യേക വ്യക്തിക്ക് എത്രമാത്രം ആവശ്യമായിവരുമോ ആ അളവിൽ മാംസവും കൊഴുപ്പും കൂടുതലുള്ള ആഹാരം ശീലിക്കേണ്ടിയിരിക്കുന്നു. ധാന്യം കഴിവതും കുറവായി മാത്രമേ ഉപയോഗ

പ്പെടുത്താവൂ. ഇതുകൊണ്ട് രണ്ടുതരത്തിലുള്ള പ്രയോജനങ്ങളുണ്ട്. പഞ്ചസാരയുടെ അളവ് സാധാരണ ആവശ്യമുള്ള നിലവാരത്തിൽ ശരീരത്തിൽ നിലനിർത്തുവാൻ കഴിയുന്നു. ഒപ്പം ശരീരത്തിന്റെ ആരോഗ്യം കാത്തുസൂക്ഷിക്കുകവഴി രോഗത്തെ ചെറുത്തുനില്പുവാനുള്ള കഴിവ് വർദ്ധിപ്പിച്ച് പ്രമേഹരോഗത്തിന്റെ അനുബന്ധ വ്യാധികൾ (Complications) ക്കുള്ള സാധ്യത കുറയ്ക്കുകയും ചെയ്യുന്നു.

ധാന്യം ശമനമായിട്ടുള്ള ഭക്ഷ്യവസ്തുക്കൾക്കൊപ്പം മധുരമടങ്ങിയ ആഹാരപാനീയങ്ങൾ, വെണ്ണ, അധികം കൊഴുപ്പുള്ളതും വറുത്തതുമായ ഭക്ഷ്യവസ്തുക്കൾ ഇവ ഒഴിവാക്കുകയാണ് നല്ലത്. മത്സ്യം, മുട്ട ഇവ കുറഞ്ഞ അളവിൽ ഉപയോഗിക്കുന്നതുകൊണ്ട് വിരോധമില്ല. പച്ചക്കറികൾ ധാരാളമായി ആഹാരത്തിലുൾപ്പെടുത്തണം. തവിട് കളയാത്ത ധാന്യങ്ങൾ കൊണ്ടുള്ള ആഹാരങ്ങൾക്കു പ്രാധാന്യം നൽകണം. ശരീരത്തിനാവശ്യമായ പോഷകങ്ങൾ നൽകുന്നതോടൊപ്പം മലബന്ധത്തെ ഒഴിവാക്കാനും ഇത് സഹായിക്കും. ചുരുക്കത്തിൽ മേടസ്സിനെ വർദ്ധിപ്പിക്കാത്തതും മുത്രത്തെ ധാരാളമായി പ്രവർത്തിപ്പിക്കുന്നതും (Diuretics), ഹാനശക്തി നൽകുന്നതും ബലവർദ്ധകവുമായ ആഹാരപാനീയങ്ങൾ പ്രമേഹരോഗിക്കു പത്മ്യമാണ്.

പുകവലിയും മദ്യപാനവും പാടെ ഒഴിവാക്കിയേ മതിയാകൂ. ശരീരത്തിന്റെ രൂക്ഷം ഉയരത്തിനനുസരിച്ച് ക്രമീകരിക്കണം. ഇത് ഉപവാസം ശീലിക്കുകവഴി സാധിക്കാവുന്നതാണ്. മനസ്സും ശരീരവും തമ്മിലുള്ള അഭേദ്യമായ ബന്ധം കണക്കിലെടുത്ത് മനസ്സ് പ്രക്ഷുബ്ധമാകാതെ സദാ പ്രസന്നമായിരിക്കാൻ ശ്രദ്ധിക്കണം. കാലത്തും വൈകിയിട്ടും കുറെ

ശ്ലേഷ്മായാ നടക്കുന്നതും പ്രമേഹരോഗിക്കു ഹിതമായ വ്യായാമമാണ്. ഇത് ദുർമേദസ്സിനെ നശിപ്പിക്കുവാനും ദഹനശക്തി വർദ്ധിപ്പിക്കുവാനും സഹായിക്കും. അതു കൊണ്ടുതന്നെ വ്യായാമം ഈ രോഗത്തിൽ വളരെ പ്രാധാന്യമർഹിക്കുന്നു. കായിക മത്സരങ്ങളിലും മറ്റു രീതിയിലുള്ള അദ്ധ്യാനങ്ങളിലും ശരീരശക്തിക്കനുസരിച്ചു പ്രമേഹരോഗി ഏല്പടണം. ആയുർവ്വേദാചാര്യന്മാരെല്ലാംതന്നെ ഇക്കാര്യത്തിൽ ഏകകണ്ഠമായ അഭിപ്രായമാണ് പ്രകടിപ്പിച്ചിട്ടുള്ളത്. രോഗി മെലിഞ്ഞ ശരീരപ്രകൃതിയുള്ള ആളാണെങ്കിൽ കഠിനാധ്യാനം ഒഴിവാക്കേതന്നെ വേണം.

പ്രധാനമായും അഗ്ന്യാശയ (Pancreas) ത്തിന്റെ പ്രവർത്തനവൈകല്യംകൊണ്ടു

ണ്ടാകുന്ന രോഗമാണ് പ്രമേഹം. അതിനാൽ ഈ അവയവത്തെ ഉത്തേജിപ്പിച്ചു പ്രവർത്തനോന്മുഖമാക്കാൻ പര്യാപ്തമായ യോഗാസനങ്ങൾ രോഗി ശീലിക്കുന്നതും നല്ലതാണ്. തിരക്കുള്ള ജീവിതം നയിക്കുന്നവർക്കുപോലും പരസഹായം കൂടാതെ സ്വയം ശീലിക്കുവാൻ കഴിയുന്ന തരത്തിലുള്ള പത്മാസനം, വജ്രാസനം, പ്രാണായാമം തുടങ്ങിയ യോഗാസനങ്ങൾക്കായി ദിവസേന അല്പസമയം നീക്കിവെക്കാവുന്നതേയുള്ളൂ. ഈ ആസനങ്ങൾ ദഹനശക്തി വർദ്ധിപ്പിക്കുകയും മലബന്ധം അകറ്റുകയും ചെയ്യുന്നു. ശരീരത്തിലെ ആന്തരാവയവങ്ങളുടെ പ്രവർത്തനശേഷി ഉദ്ദീപിപ്പിക്കുന്ന യോഗാസനങ്ങൾ ശീലിക്കുന്നതിൽ പ്രമേഹബാധിതർ പ്രത്യേകം ശ്രദ്ധിക്കണം.



'പിത്താഗോരസം' നിയമം എന്നറിയപ്പെടുന്ന ഗണിതനിയമം പിത്താഗോരസ്സിനും എത്രയോ നൂറ്റാണ്ടുകൾക്കുമുമ്പ് ബൌദ്ധായം ശ്രൗതസൂത്രത്തിൽ ഇപ്രകാരം പ്രതിപാദിക്കപ്പെട്ടിട്ടുണ്ട്.

“ഭീഷ്മതര ശ്ര സാക്ഷായ രജുഃ  
പാർശ്വമണീ തിര്യന്മണീ ച യൽ  
പൃഥക്ഭൂതേ കന്ദത തസ്മദസ്മദഭയം കരോതി!

പാർശ്വമണി = ബേസും, തിര്യന്മണി = കത്തനെയുള്ള ഭാഗം  
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