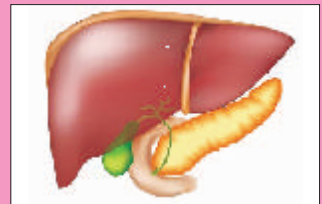
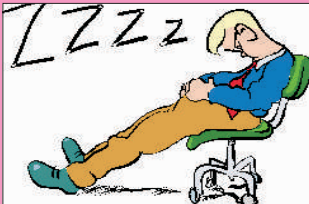
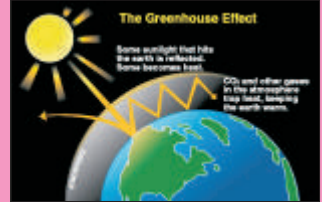
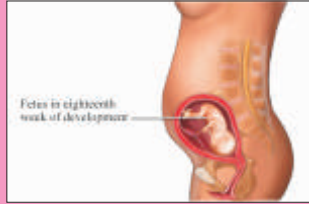


# DEERGHAYU International

The Peer Reviewed Quarterly journal for Ayurveda & Health Sciences since 1984





*L to R Shri Vishram Kulkarni,  
Smt. Mangala Bhinge & Dr. Kavita Indapurkar*

Pune Karve Road : Guruvandana Samaroha was organised by Prof. Dr. P. H. Kulkarni, Deerghayu International and R. K. Academy. On the occasion Best Research Paper Award 2015 was declared. Nine Researchers were felicitated by presenting Certificate of merit at the hands of Shri Vishram Kulkarni (Social Worker) & Smt. Mangala Bhinge (President, R.K. Academy).

Dr. Kavita Indapurkar, Dr. Manisha Bhalsing, Dr. Pushpalata Kamble, Dr. Abhinandan Muke, Dr. Uday Bhoir, Dr. Manish Arora, Dr. Neeta Deshpande, Dr. Swati Gadgil attended the function.



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In Photo L to R

Dr. Manisha Bhalsing, Mrs. Mangala Bhinge & Dr. Kavita Indapurkar

# English Charak Samhita Publication



L to R Nitin Apte, Sagar Kulkarni, P. H. Kulkarni, Kavita Indapurkar



L to R Kavita Indapurkar, Sunanda Unhale, P. H. Kulkarni, B. D. Unhale, Raturaj Patil

## Geeta Samjavani Anakhi, Marathi book released on 4th October 2015 at Pune





अनुसंधानेन अभ्युदयाः ।

# 5<sup>th</sup> International Ayurveda Research Day Conference.

31 January, Pune, India

(63rd International Ayurveda Event)



Pune, India 31 January 2016

**Sunday, 31<sup>st</sup> January 2016.**

**Time:** 9.00 to 18.00 hrs.

**Venue:** Sumant Moolgaokar  
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ICC Complex, 403, Senapati Bapat  
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**Conference patron:**

**Prof. Dr. P. H. Kulkarni.**

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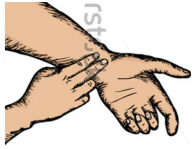
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**Research : Clinical**

## Study Of Probable Anatomical Structure Concerned With Manipur Chakra

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**ABSTRACT**

According to Yogashashtra Ida, Pingla and Sushumna are three nadi , these nadi controls pran vayu and performs various activities in the body<sup>[1]</sup>.Whereas 6 chakras are associated with all these three nadis situated in the body, As Sushumna at centrally and Ida and Pingla on either side to Sushumna nadi. The shat chakra are Muladhar chakra, Swadhistan chakra, Manipur chakra, Anahat chakra, vishudhha chakra, Ajna chakra.

In this research project the Scholar has tried to confirm the anatomical structures related with Manipur chakra . For this study the scholar has selected 30 Madhumeha individuals of the age group of 30-50 years of either sex.Elaborating the results of 20 cases. After selecting the patients, the following asana were taught. There are Kapalbhathi, Ushtrasana, Bhujangasana, Dhanurasana& Agnisara Kriya<sup>[2]</sup>. Regular follow up was taken of 15 days up to 6 months. BSL fasting and post prandial done before and after the study and reduction in the symptoms analyse.From above case study,it is observed that above mentionedasana affects the BSL level. And Pancreas is the organ that lies under the umbrella of Manipur chakra. The above mentioned asana activates the pancreas & its secretion. Whereas the pancreas is a organ supplied by coeliac plexus which lies under Manipur Chakra<sup>[6]</sup>. So here we can say that Pancreas is a one of the structure (Organ) contributes Manipur chakra.

**Total number of references - 06**

**KEY WORDS :** *Manipura Chakra, Madhumeha, Pancreas, Yogic asana-kriyas relation*

**INTRODUCTION**

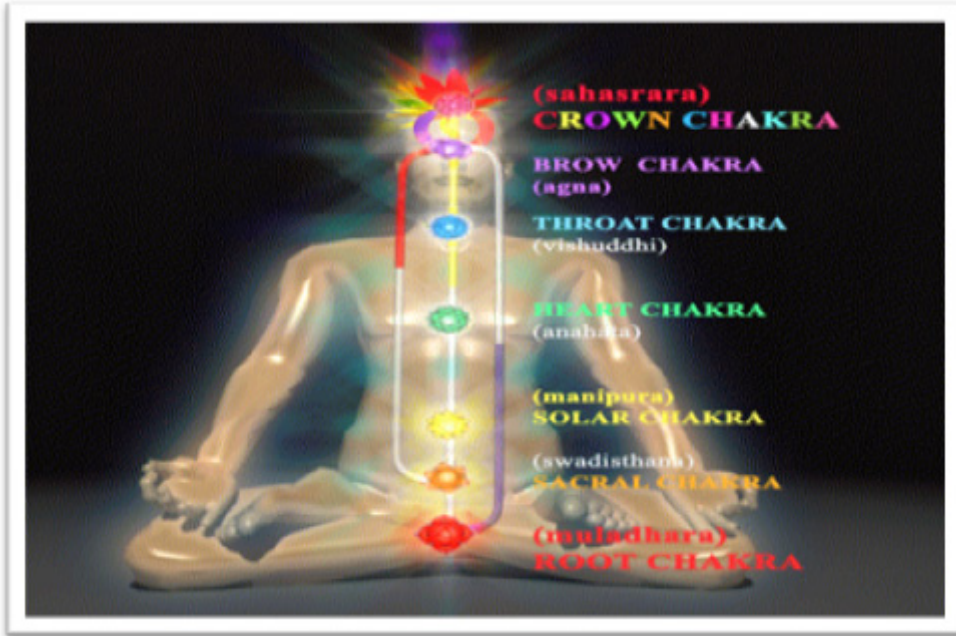
The Ayurveda and yogic science runs parallel to each other.According to Yogashashtra-Ida ,Pingla and Sushumna are three nadi ,these nadi controls prana vayu and performsallotheractivitiesinthebody.

6 chakra which are associated with all these three nadissituated inthebody,

Sushumna centrally and Ida & Pingala on either side. Circulation of pranava occurs through nadis and chakras.

The Shat Chakra are explained in Yogic science. These are as follows

- 1) Muladhara Chakra (The sacro-Coccygeal-plexus) situated two digits above the rectum and two digits below the organ in perineum.
- 2) Swadhisthana Chakra (The Hypogastric plexus) situated between the umbilicus and genital organ.
- 3) Manipura Chakra (The solar Plexus) situated at the level of navel.
- 4) Anahata Chakra (The cardiac plexus) the cardiac plexus situated in the Heart.
- 5) Vishudhha Chakra (cervical plexus) situated in the throat lying between the larynxes.
- 6)



ise  
is.

**The Manipura {coeliac plexus} Location :** Solar plexus (below the diaphragm)  
**Endocrine System :** Pancreas and the adrenal glands  
**Organ/System Affected :** Respiratory system, the digestive system, the lower back, the sympathetic nervous system, the pancreas, spleen, and the liver.  
**Deficiency/Excess :** Stomach and liver problems leading to digestive disorders, diabetes,



pancreatitis, arthritis, and allergy<sup>[5]</sup>. Now a day Yogic science is developing very fast and the treatment of diseases related to sthan of Manipura chakra is very much economical easy to follow and are without any side effects<sup>[4]</sup>.

**AIM**

To confirm the anatomical structures related with Manipura Chakra.

**OBJECTIVES**

To study the effect of different yogic kriya and asana on Madhumeha.

**MATERIALS & METHOD****Material**

Materials from the different sources and text books:-

- 1) Brihartrayi
- 2) Laghutrayi
- 3) Yogic Literature
- 4) Concern data from related publications.

**Literary study-**

1. References about Manipura chakra was collected with the help of various type of available literature.
2. To find the references in samhitas regarding relation of Madhumeha with Manipura chakra.

**Clinical study-**

1. The study of effect of Bhujangasana, Dhanurasana, Ushtrasana, Kapalbhathi, Agnisara kriya in Madhumeha patients .
2. A study of relation of Manipura chakra & Madhumeha .
3. Sample size – Total 20 Patients.

**INCLUSION CRITERIA**

1. Individuals suffering from Madhumeha.
2. Age group 30 – 50 years of either sex.

**EXCLUSION CRITERIA**

1. Patients with chronic diseases.
2. Pregnancy.
3. Individuals less than 30 years and more than 50 years.
4. Handicapped individuals.

**ASSESSMENT CRITERIA FOR CLINICAL STUDY**

1. Total 20 patients with diseases related Madhumehawere taken from Bharati Vidyapeeth Ayurved hospital.
2. Then the Kapalbhathi, Ushtrasana, Bhujangasana, Dhanurasana, Agnisara kriyawere taught to the patients.
3. Regular follow up was taken for 15 days up to 6 months.
4. Post Treatment follow up after 6 months.
5. BSL fasting and postprandial were done before & after the study and Reduction in the Symptoms will be analysed.

### OBSERVATIONS

#### Distribution of patients -

Table no 1: According to age group-

Age group	No. of patients
30 – 40 years	10
40 – 50 years	10

Table no 2: According to sex -

Age group	Male	Female
30 – 40 years	5	5
40 – 50 years	5	5

Table no 3: According to blood sugar level pretreatment-

BSL fasting	No. of patients
NORMAL ( 110 - 126 mg/dl)	0
ABNORMAL (>126 mg/dl)	11
BSL Post prandial	
NORMAL (140 – 200 mg/dl)	0
ABNORMAL (>200 mg/dl)	9

Table no 4: According to blood sugar level post treatment-

BSL fasting	No. of patients
NORMAL ( 110 - 126 mg/dl)	7
ABNORMAL (>126 mg/dl)	4
BSL Post prandial	
NORMAL (140 – 200 mg/dl)	5
ABNORMAL (>200 mg/dl)	4

**DISCUSSION**

Shat Chakra are related to nerve plexus endocrine glands which ultimately controls body along with Utamanga Shir. Aim of Ayurveda is to maintain or keep Swasthya of SwasthaPurush and cure the diseases of the patients and try to keep them healthy and away from the disease. Diseases which are related to Chakra also cure by Asana and being Swasthya in Ayurvedic Science. Asana and yogic kriyashas great role to prevent and cure many of the diseases. Sthanagata yogic kriya stimulates related Plexus and organ, also reduces disease related to chakra it shows that Manipura Chakra situated in Nabhidesha and associated with Coeliac Plexus and endocrine gland Pancreas. After Asana and Yogic Kriya related to Sthan of Manipura Chakra i.e. neval region reduces the disease related to Sthan of Manipura Chakra (Madhumeha). The Kapalbhathi, Ushtrasana, Bhujangasana, Dhanurasana, Agnisara kriya creates the pressure on the Coeliac Plexus and related organs Stomach, Duodenum and Pancreas. Pancreas is a gland that is partly exocrine and partly endocrine. The exocrine part secretes the digestive pancreatic juice, and the endocrine part secretes hormones, e.g. insulin. The Kapalbhathi, Ushtrasana, Bhujangasana, Dhanurasana, Agnisara kriya Manipura Chakra stimulates the Organs related to Chakra and Coeliac Plexus has been stimulated and insulin secretion increased.

**CONCLUSION**

Significant results in the Clinical study concluded that Kapalbhathi, Ushtrasana, Bhujangasana, Dhanurasana, Agnisara kriya on the Manipura Chakrais effective.

**ACKNOWLEDGMENT**

The author acknowledges the facilities and support received from Bharati Vidyapeeth Deemed University. Chancellor, Our competent oracle Dr. Patangrao Kadam, Vice chancellor Dr. Shivajirao Kadam, Secretary Dr. Vishwajit Kadam and sincere thanks to the Principal and Dean Dr. Abhijit Patil, Our H.O.D. Dr. Mrs. Pushpalata Kamble and Guide Dr. Uday B. Bhoir and my friends Bharati Vidyapeeth Deemed University, College of Ayurved, Pune (Maharashtra), India.

**REFERENCES**

1. Raibahadur srisachandravasu Gherandasamhita, Pub- choukhamba Sanskrit pratishthan, 2003. lesson second p. 28, 35, 36.
2. Kshemraj shrikrishanadas sreshtina shree venkateshwar, Hathayogapradeepika , sahanandsantan chintamani Swaatmaramyogindravirachita , , edition- 1988 lesson first p. 49
3. O.P. Jaggi, Yogic and Tantric medicine, volume five BY Atma Ram and Sons (H.O.) Kashmere Gate Delhi 110006 (third revised and enlarged edition) 1990, lesson second p.15, 116, 117
4. Ram kumar Rai, Encyclopedia of Yoga, prachya prakashan Varanasi- 221002(india) edition: 2000(Revised and enlarged) p.208.
5. B.D Chaurasia, Human anatomy (2nd volume), regional and applied Dissection and Clinical, CBS Publishers and Distributers Pvt Ltd. reprint- 2005 p. 298.
6. Dr. Harsh Mohan, Textbook of pathology 5<sup>th</sup> edition, pub- Jaypee brothers New Delhi - 2006. chapter 25, p.852.

## Case Study



## An Ayurvedic concept of 'Diabetic foot' & The Role of 'Jalaukavacharan' in it.

Prof. Dr. P. V. Khatavkar - M.D., Ph.D. (K.C.) (Pune University)  
F.I.I.M. (Nagpur); P.D.F.I.I.M. (Pune)

**Key words:** Ayurved, diabetic foot, P.A.D., N.H.U., microvascular disease, leech therapy.

'*Madhume*' i.e. Diabetes mellitus (especially type II) is growing vastly in India. Now India is on number 1 for diabetic population. Incoming few years 50% of total worldwide diabetic patients will Indian. So it is alarm to all medical sciences- pathies to eradicate or at least to prevent this. Just like slow poisoning, this disease kills the patients very slowly, by its slowly developing hazardous complications.

Unfortunately most of the researches or treatments on this disease are pointing towards glycemic control; hypoglycemic action of various drugs, herbal or herbo-mineral compounds. Good diabetic control is mostly estimated by good glycaemic control. But it is commonly observed that in spite of good glycaemic control (may be due to hypo-glycaemic drugs or insulin); many hazardous complications are occurred in such patients. So here is the proper time to think more than hypo-glycaemic treatment.

According to **Ayurvedic** philosophy, diabetes may be correlated with **Prameh** or **Madhume**. According to latest study on type II diabetes; at the time of diagnosis, around 50% of  $\beta$ -cell function has been lost. This loss starts about 10 years or more before the diagnosis. It may be correlated with **Prameh** and after diagnosis, as **Madhume**.

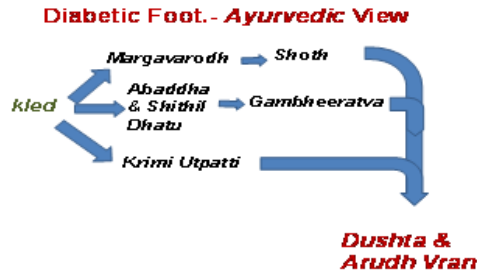
P.A.D. i.e. Peripheral Arterial Disease is one hazardous complications of D.M.-II, in which blood vessels in the legs are narrowed or blocked by fatty deposits (**Med? Kled?**); which tends to decreased blood flow in legs. P.A.D. increases the risk of coronary heart disease & stroke also.

Thinking the pathogenesis according to **Ayurvedic** philosophy; diabetes i.e. **Prameh/ Madhume** is the disease of the **Medovah Strotas** "**Bahudrav Shleshma Doshavisheshah**" It means the main causative **Dosh** for **Prameh** is **Kaph**, having specific quality- excess **Drava**, i.e. **Kledak Kaph**. While main pathogen of the **Prameha** is **Kled**. It is **Sookshma Mal** of **Dhatu**- especially **Med Dhatu**, produced as a bi-product of **Sookshma Pachan** at **Medovah Strotas**. **Kledan**, which is common term, related to **Dravatva**.

According to latest research - High level of **Free Fatty Acids** ( F.F.A.) is one of the causes of D.M-II. During the process of 'lypolysis', fats stored in fat- cells are break down producing

F.F.A., which are released into blood stream & circulated throughout the body. They affect pancreas & reduce a cell's function & create insulin resistance. They also affect liver (fatty liver?) & the normal physiology of liver- decrease in glucose-storage capacity & releases more glucose in blood. Obstruction in blood-vessels which tends to Macro & Micro Vascular diseases like P.A.D., Coronary Heart Disease, stroke, diabetic foot etc. These F.F.A. may be correlated with **Kled**. As both are related with fat/ **med** & create obstruction in blood vessels.

**Kled**- duo to its **Pichchhil gun**, creates **Margavarodh** & hence **Margavarodhajanya Vataprakop**; resulting poor blood circulation, **Shoth** & **Vranadushti** duo to **Krimiutpatti**; which tends to N.H.U. & diabetic foot. The **Samprapti** becomes deep seated duo to poor blood circulation, infection &



Decreased blood flow means poor blood circulation (macro & micro, both) is the main cause of **Non Healing Ulcer** i.e. NHU, & infections (widely spread); & may tends to necrosis or gangrene. The condition is known as Diabetic foot & may require amputation of that part. Nerve damage like peripheral neuritis is one of the complications of D.M; tends to decrease the touch, pain & thermal sensation & causes tingling & numbness at end parts like toes. This results into small wounds, cuts, sores, lacerations. At the same time reduced pain sensation creates the negligence at those wounds. In addition with poor blood-circulation, small & simple wounds become badly infected, deep seated, non healing ulcers. **Dhatushaithilya** causes muscle wasting, which tends to Claudication of foot & unequal foot pressure & then after callus formation. Due to decreased perception of pains, after some time these calluses open & tend to ulcers & become open port for infections. Such wounds easily get infected & tend to N.H.U. In short, the causes of N.H.U. are -

- Poor Glycemic Control.
- Poor Blood Circulation.
- Immuno-suppretion.
- Reduction of Pain & Thermal Sensations.
- Unequal Foot-pressure

Necrosis or gangrene formation & may require amputation of that part. Around 80% of total number of patients with leg or foot amputation is diabetic.

'Neurogenic' & 'Ischemic', these are 2 types of Clinical features of diabetic foot. In neurogenic type- symptoms like paraesthesia, pain, numbness & tingling & symptoms like ulcers, sepsis, abscess, osteomyelitis, and digital gangrene & Charcot arthropathy. In Ischemic type, symptoms like- rest pain & signs like- claudication, ulcers, sepsis & gangrene. Many times mixed features present.

While thinking on the treatment part of above mentioned condition, I remembered following references -

- **Avagadhe Jalaukasyat. (Su. Sha. 8/25), (A.S.Ss. 35/11)**
- **Grathitam Tu Jalaukabhihi. (A.S.Ss. 35/10)**

It means, for deep seated & stagnated **Dosha, Jalaukavacharan** works best.

The clinical study was carried out on small group of 8 pts.

- ❖ Randomly selected- all male patients.
- ❖ All known diabetic & age between 50 to 75 yrs.
- ❖ Number of pts. according to D/D- Foot sores- 3, P.A.D.-2, Infected Abscess-2 & Callus formation-1 pt.
- ❖ Total period of the treatment was 3 to 5 months.

**Jalaukavacharan : Vidhivat Jalaukavacharan** was done in each & every patient.

- **Vidhivat Poorvakarma of both; Jalauka & patient.**
- **Approx. 1 Jalauka per sq. inch of affected area.**
- **During sucking, cover the Jalauka with wet gauze piece (as they respire through wet skin).**
- **Vidhivat Pashchyatkarma of both; Jalauka & patient.**
- **Vranakarma with Haridra Choorna, after complete stop of oozing blood automatically.**
- **Repeated Jalaukavacharan- 3 to 5 times having interval of 21 to 30 days accordingly.**

Some internal medicine- only Ayurvedic (except anti diabetic & anti hypertensive) like- **Chandraprabha, Triphala Guggul, Sookshma Triphala Aarogyavardhini, Punarnavasav, KumariAasav** etc., accordingly; No allopathic medicine was used- nighters' antibiotics nor anti-inflammatory, nor pain killers.

It was observed that, the condition was much better than previous one - according to following points-

**Reduction in** - 1) Swelling 2) Discoloration 3) Pain 4) Infection & infected slough 5) Cracks, pilling & callus.

**Increase in -**

- 1) Healing process
- 2) Movements
- 3) Skin texture
- 4) Normal sensations of skin.

Hence avoids the further complications like gangrene & amputation.

**Conclusions :** In spite of small study-group, the results are very much hopeful. ***Jalauka*** worked in all the aspects to avoid further complications like gangrene & amputation. It needs more & detail study on large group of patients, to concrete the hopeful conclusions. ***Jalaukavacharan*** might be fruitful in Macro vascular diseases also. Tough the case study group is small the results are quite hopeful & may work as the house-light.

**Research : Case Study**

# **Ayurvedic Approach In Treatment Of Urethral Stricture By Uttarbasti With A Case Presentation**

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**ABSTRACT**

Urethral strictures are fibrotic narrowings composed of dense collagen and fibroblasts. Fibrosis usually extends into the surrounding corpus spongiosum, causing spongiofibrosis. These narrowings restrict urine flow and cause dilation of the proximal urethra and prostatic ducts. Prostatitis is a common complication of urethral stricture. The bladder muscle may become hypertrophic, and increased residual urine may be noted. In ayurveda urethral stricture can be correlated with mutrghata. Acharya Sushruta had exhaustively studied this topic. We have treated a case of infective urethral stricture of 71yr male pt with help of uttarbasti in our shalyatantra dept, Aryangla hospital of aryangla vaidyak Mahavidyalaya, satara. (Total no of referances used -16.)

**KEYWORDS** - Urethral stricture, mutraghat (mutrotsang), urethral dilatation, uttarbasti.

**INTRODUCTION-****1. MUTRAGHAT -**

According to Acharya Dallana MUTRAGHAT means obstruction during micturation.

Type - 13

4<sup>th</sup> type is MOTROTSANG

According to acharaya Sushruta Signs and symptoms of mootrotsang is similar to urethral stricture. Sushrut samhita uttatantra 58/15,16 page no 541

TREATMENT of urethral stricture according to acharya Sushruta is Uttarbasti. (Sushrut samhita uttatantra 58/27 page no 544)

**PROCEDURE OF UTTARBASTI -**

- Hold penis in straight position
- Then by using lubrication dilatation of urethra done
- Insert medicated solution through urethra. (Sushrut samhita chikitsa stan 37/111 page no 205)



QUANTITY of medicated solution -

40cc. (Sushrut samhita chikitsa stan 37/102 page no 205)

## **2. URETHRAL STRICTURE-**

Acquired urethral stricture is common in men but rare in women. Most acquired strictures are due to infection or trauma.

### **1. Infection -**

Although gonococcal urethritis is seldom a cause of stricture today, infection remains a major cause - particularly infection from long-term use of indwelling urethral catheters.

### **2. Trauma -**

#### **a. Internal trauma -**

Large catheters and instruments are more likely than small ones to cause ischemia and internal trauma.

#### **b. External trauma -**

for example, pelvic fractures can partially or completely sever the membranous urethra and cause severe and complex strictures. Straddle injuries can produce bulbar strictures.

## **Clinical Findings**

### **A. SYMPTOMS AND SIGNS**

1. A decrease in urinary stream is the most common complaint.
2. Spraying or double stream is often noted, as is post voiding dribbling.
3. Chronic urethral discharge, occasionally major complaint, is likely to be associated with chronic prostatitis.
4. Acute cystitis or symptoms of infection are seen at times.
5. Acute urinary retention seldom occurs unless infection or prostatic obstruction develops.
6. Urinary frequency
7. Mild dysuria may also be initial complaints.
8. Induration in the area of the stricture may be palpable.
9. The bladder may be palpable if there is chronic retention of urine.

### **B. LABORATORY INVESTIGATIONS-**

1. HAEMOGRAM
2. URINE R AND M

3. RFTS

4. UROFLOWMETRY

### C. X-RAY INVESTIGATIONS -

Urethrogram (RGU) or voidingcystourethrogram .

### D. INSTRUMENTAL EXAMINATION-

Urethroscopy

#### Treatment -

### A. SPECIFIC MEASURES

#### 1. Dilation -

Dilation may initially be required because of severe symptoms of chronic retention of urine. The urethra should be liberally lubricated with a water-soluble medium before instrumentation. First, a 22F sound should be passed down to the stricture site and gentle pressure applied. If this fails, a 20F sound should be used. Smaller sounds should be used with care, because they can easily perforate the urethral wall and produce false passages. Bleeding and pain are major problems caused by dilation.

#### 2. Urethrotomy under endoscopic direct vision -

Lysis of urethral strictures can be accomplished using a sharp knife attached to an endoscope.

**3. Surgical reconstruction**—If urethrotomy under direct vision fails, open surgical repair should be performed. Short strictures (d"2 cm) of the anterior urethra should be completely excised and primary anastomosis done. Strictures >2 cm in length can be managed by patch graft urethroplasty.

#### Prognosis

Urinary flow rate measurements and urethrograms are helpful to determine the extent of residual obstruction.

### MATERIALS AND METHODS -

1. Til taila-30ml
  2. Madhu-10ml
  3. Saidhav-10gm
- } standard and Authenticated drugs

1.2.3. Mixed together and autoclaved in glass bottle.

4. Xylocain gelly 2%
5. Male urethral dilators
6. Foleys catheter no.16

**CASE STUDY-**

Urethral stricture

Pt.name. xyz

Age-71 yrs/ male

Add- military apashinge, satara. 415001

Occupation- farmer

Opd no.12863

lpd no.14/542

Dt of first visit- 23/04/2015

**Chief complains -**

1. Burning micturation since 1yr
2. Dribbling micturation since 1yr
3. Dysurea since 1yr
4. Pain in abdomen since 1yr
5. Acute on chronic retention of urine since 3days

**History of present illness-**

1. Pt was having symptoms of chronic retention of urine since 1to1.5 yrs.
2. Two days before date of admission pt was admitted in pvt hospital for acute retention of urine with urosepsis where he was operated for suprapubiccystostomy under L.A
3. In pvt hospital pt was advised surgical procedure for urethral stricture.Pt came in Aryangla Hospital Satara to avoid surgical procedure.

**Past history -**

No H/O HTN, DM, TB OR any major illness.

**General examination -**

G.C. good, afebrile

Pulse-66/min

B.P-130/80 mm of hg

**C.V.S** - s1s2 normal

**C.N.S** - conscious and oriented

**R.S** - mild bill. Basal crepts.

R/R - 20/min

P/A .soft mild tenderness over lower abdomen

**1.Lab investigation -**

HB-9 gm%

WBC-15900/cumm

R.B.C-3.90 millions/ul

DC- N-92, L-06, E-1, B-00, M-01

PLT-167000/cumm

BSL®- 118 mg/dl

B.U.L- 122 mg/dl

Sr. CREATININE-3.1 mg/dl

URINE R AND M -

Pus cell-30-40/hpf

Others normal

**2. USG(ABD+PELVIC)**

Bladder shows minimally thickened irregular wall s/o chronic cystitis.Other no obvious abnormality seen.

**3.RGU-**

Distal penile stricture 2cm length

Penoscrotal junction stricture 2cm length

**DIAGNOSIS** – Urethral stricture

**CAUSE-** infective cause

**PROCEDURE OF UTTARBASTI -**

**Pre-op -**

Prepare

Informed written consent

Pre op iv antibiotics, antacids and antiemetic

StanikSnehan with tiltaila and swedan with bashpasweda

**Operative -**

1. Supine position given
2. Painting and draping done
3. Xylocain gelly 2% 10cc inserted thr penile urethra
4. Then urethral dilation done with male urethral dilator 22f.
5. Suprapubiccather which is previously inserted clamped.
6. Uttarbasti preparation 40cc inserted by bladder syringe into bladder the urethra.
7. Then Foleys cather inserted thr urethra and clamped.
8. Pt then shifted in word in good condition.

**Post op -**

1. After 3 hr urethral clamp released.
2. Clear urine with uttarbasti preparation seen in urosac.
3. Pt discharged on same day with open urethral catheter and clamped suprapubic catheter.
4. Pt dischared with
  - a) Bruhatvarunadi kadha 4tsf tds
  - b) Gokshuradi guggulu 2bd
  - c) Chandraprabha vati 2bd
 } for 7days
- 5.pt advised f/u after 7days.

**FOLLOW UP CHART -**

F/U.NO	DATE	COMPLAIN	WBC	BUL	SR.CREAT	P.C IN URINE	UTTARBASTI PROCEDURE	RX GIVEN
1	30/04/15	Pain in abd. Less No other complain	10000	90	2.00	10-20	Done. Suprapubicca-theter removed	SAME AS ABOVE
2	07/05/15	No pain at all	7500	45	1.2	5-10	Done	Same as above
3	14/05/15	No any fresh complain	7000	35	1.1	1-2	Done.Then urethralCatheter Removed. Pt. passedurine withgood flow Stream. No dribbling.	Same as above
4	20/05/15	No any fresh complain. No burning No dribbling Good urine Flow	7300	30	1.00	3-4	UROFLOWM-ETRY-16ml/sec RGU DONE - No urethral stricture seen	Same as above

**DISCUSSION -**

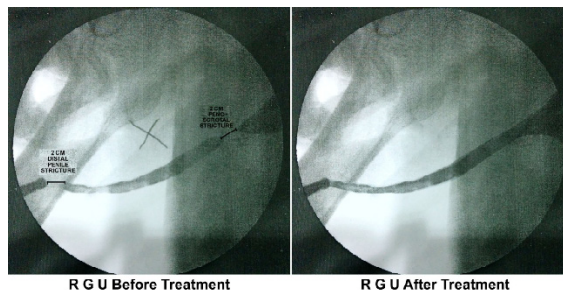
1. Main cause of urethral stricture is chronic cystitis and urethritis.
2. After urethral dilatation urethral narrowing got wide.
3. After use of uttarbasti chronic infection of bladder and urethra get significant reduced and cured.
4. During treatment Leucocytosis, renal function tests, and pus cells in urine show significant curative changes.
5. Uroflowmetry show good urine flow after treatment.
6. RGU- shows no urethral stricture seen after treatment.

**MODE OF ACTION -**

1. Main cause for urethral stricture is chronic infection of urinary bladder which is controlled and cured by uttarbasti.
2. Urethral dilatation also helps in release urethral stricture.
3. Til Tail ( omega 6) has antioxidant and antibacterial properties.
4. Madhu is demulcent, antioxidant, strengthens the wbc which fight against bacterial and viral diseases, initiate growth of healthy granulation tissue.
5. Saindhav-84 elements  $\text{Na}^+$ ,  $\text{Mg}^+$ ,  $\text{Ca}^{2+}$ - healing, improve circulation, remove toxins.

**CONCLUSION -**

1. Pt adviced surgical treatment in private hospital, but by using standard uttarbasti procedure surgery should be avoided.
2. Uttarbasti show best result in infective urethral stricture.
3. It can be given on OPD basis and patients do not require any hospitalization
4. Procedure is cost effective
5. It proves to be a significant treatment in urethral stricture.



**REFERANCES -**

1. Shalya Tantra vignanam; Dr. Ram SundarRao, G.S.I.M. ; Vijayavada, 2002Saushruti; Dr. RamanathDvivedi, M.A. A.M.S. Ph.D., Eighth edition, 1998, Chaukhamba Amarbharati Prakashan-varanasi-22100.
2. Sushruta-Samhita: Sutrasthanam Sanskrit Text with "Ayurvedarahasyadipika" Hindi Comentry; Dr. Bhaskar Govind Ghanekar B.Sc. MBBS., Reprint 1998, MeharchandLachhmandas Publications, New Delhi 110002 India.
3. DravyaGunaVidnyan; Prof. Vd, Vishnu MahadevGogate, First Edition 11 Feb 2008,VaidyaMitra Prakashan, Pune.
4. DhanvantariNighantu; Prof. PriyaVrata Sharma, Fourth Edition 2005, Chaukhambha Orientalia, Varanasi.
5. BhavaprakashaNighantu of ShriBhavamishra, Dr. K.C.Chunekar, A.M.S, Reprint 2006, Chaumhambha Bharati Acadamy, Varanasi.
6. Charaka Samhita : Pandit Kashinath Pandey, Dr. Gorakhnath Chaturvedi, Choukhamba Bharati Academy, 2001
7. Sushruta Samhita : Kavi.Dr.Ambikadatta Shastri , Choukhamba Bharati Academy , 2007
8. Bhaishajyaratnavali : kavirajshrigovinddassen; edited by prof. sidhhinandan Mishra, Chaumhambha Sur Bharati prakashan, Varanasi, 2009
9. Bhaishajya kalpana vidnyan, dr.awadhbihariagnihotri, Choukhamba Bharati Academy ,1987.
10. Surgery Notes, Second Edition, Reprint Nov.2000, D.K.PublishingHous
11. Schwart's Principles' of Surgery; F.CharlesBrunicardi, M.D. F.A.C.S., Eight Edition2005, Mc GRAW-HILL Medical Publishing Division.
12. Manipal Manuel of Surgery; K. RajgopalShenoy MBBS. M.S.,, Second Edition, CBS Publishers and Distributors, NEW Delhi, India.
13. Smith 'general urology,17<sup>th</sup>edition,McGraw hill.
14. <http://iex123.hubpages.com/health-benefits-of-sesame-oil>
15. <http://pradiiphira.hubpages.com/hub/honey-ayurveda>
16. <http://ayurvedicdietsolutions.com/saindhav-salt.php>

**Case Study :****Congenital Uterus A Case Study**

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**Introduction :**

A female patient of age 14 years came with a complaint of Pain in abdomen. (Continuous dull pain) along with constipation. To rule out appendicitis patient was advised a regular whole abdomen USG. USG revealed that there was a malnourished rudimentary uterus measuring about only 1cm Dimensions of which were not revealed as it was very small to specify. In modern medicine there was no non surgical treatment the patient decided to start ayurvedic Medicine. As such patients are rare there was no previous record, a grass root level of thinking was implemented.

**Materials and Methods :**

Female patient age 18 years came with complaints of pain in abdomen and poor appetite. Study reveals that 5-6% population suffer from uterus anomalies. USG showed ?Hypoplasia of uterus. To begin with diagnosed as vata vyadhi (1) because it is understood any organ not attaining its full growth is due to vata dosha (2)(7) after Prakruti parikshan it was observed that vata dominant the constitution Structure was small bony and skinny. Agni dourbalya was noted. Further Avastha was inspected it was in Amaavastha showing signs and symptoms like shul, malavrodh, vibhandh. Pain was mainly due to vibhandh. (4) Acharya Charak has clearly stated that when vyadhi in Amaavastha, ama pachan should be first line of treatment. So the patient was started with Deepaniya and Pachaniya medicine were started followed by Anuloman chikitsa.

Kriminashak medicine (krimikutar was given in dose of 500 mg daily for 10 days followed by Anuloman chikitsa) Hingwasthak churna was given along with ghrita, koshna jal anupan after meals (drug was selected because being pachan it is also vata anuloman ghrit worked both as agni deepan and strogami also along with warm water) (5) Dasmoolaristam was also given for vata dosha It did the anuloman work and not allowed the vata dosha to increase in body. After 3 weeks the pain in abdomen subsided and patients appetite also increased.

Next stage was to follow the Niram avastha line of treatment (6) Uterus comes under Apan vayu region dosha was also Vata so matra basti was Started (7) Basti being Ardha chikitsa was started.(3)(8) Every month 8 matra basti were given Niruha basti was given whenever required. Bala tail was used for matra basti and Dasmool kadha was used for Niruha basti.



Line of treatment was same for next 6 months A routine USG was done to see if there was any further development. It revealed that uterus size grew by 1 cm. Seeing the positive result it confirmed that line of treatment was correct. So we continued the treatment. After jatharagni ama pachan dhatuagnimandhya was treated. Aargyavardhini (250 mg) was given to patient along with ghrith as anupan for 45 days. Dhatuagni vardhan chikitsa was started. Lagumalini (250 mg) was given to patient in addition to it Balaristam was also added in medicines.

Results were encouraging height and weight of patient started to grow. At this stage lagumalini vasant was stopped and Suvarna malini vasant was started with a small dose of 125 mg and increased gradually. Now 8 Matra basti was given every fortnight along with Niruha Basti. Shatavari Kalp was added in treatment and patient was advised to do the abhangya daily with Bala oil. Oil used for matra basti was siddha oil from Ashwagandha and bala prepared as per Sharangdhar Samhita Patient was given ashwagandha siddha dugdha because Acharya Charak has said Ashwagandh is rasayan,vajikar and has rejuvenating properties. Bala being vata nashak has nourishing properties without creating agnimandhya.

Results : Pubertal changes were noted. After continuous 18 months of treatment patient reached menarche and underwent first menstrual cycle.

After this matra basti was given only 8 days in 30 days for three months until regular menstrual cycles were established

#### Discussion

- Congenital uterus (hypoplasia) can be treated If the patient is in growing years.
- Continuous matra basti sometimes with Niruha basti helped to control vata dosha
- Ama pachan chikitsa mainly Hingwaastak churna with ghrith anupan helped for ama pachan and agni vardhan.
- Throughout treatment Dasmoolaritam was given as vata anuloman along with kosha jal.
- Aarogyavardhini helped in dhatwaagni mandhya has increased dhatu agni. mainly working on Pakwashaya It helped to absorb kleda which would cause hindrance in absorbing tailas.
- Laghumalini vasant was started after the use of Aarogyavardhini mainly sukshma kalp has the property of penetration.
- Suvarna malini vasant was also mainly used for its rasayan and Vajikaran properties.
- Ashwagandha tail was used for Vajikar properties along with basti Ashwagandha dugdha was given because of its action stated by some acharayas on Uterus.
- To sum up step by step treatment by simple and few medicines helped the uterus to grow to 5cm (slightly less than normal) and
- Patient could reach menarche.

**Conclusion :**

Vata dosha can present itself in multiple forms with as many as permutations and combinations. Being the only mobile dosha in body needs to be always kept under control. Agni plays the major role in the stage of disease. Ama avastha has to be properly diagnosed and if present should be first line of treatment. Then comes the Dhatwa-agni which are important in maintain the body healthy and disease free. Panchkarma mentioned in ancient text helps to boost the vital elements of body It not only eliminates the toxic and harmful elements but also keeps the dosha and dhatus in normal states and ensures the normal functions of all the systems.

Rasayan Vajikaran regimes of medicines are exclusive discussed in Ayurveda and from Above it is clear that they are still effective in day to day life , for tissue building and regeneration of tissues.

References : Number of references : 8

- 1) Charak Samhita( sutra sthan 20/12)  
Author Shri Satyanarayan Shastri, Vidyotini Hindi commentarty Publication Chaukhama Bharati Academy, Varanasi Edition 17<sup>th</sup>,1991
- 2) Charak Samhita Chikitsa sthan 28/20  
Author Shri Satyanarayan Shastri, Vidyotini Hindi commentarty Publication Chaukhama Bharati Academy, Varanasi Edition 17<sup>th</sup>, 1991
- 3) Sushrut Samhita Chikitsa sthan 4/20  
Author Ambika dutta Shastri, Ayurved tatva sandeepika (Hindi commentary) Publication Chaukhama Sanskrit Sansthan, Varanasi Edition 6<sup>th</sup>,(2044)1991
- 4) Madhav nidan  
Author Sudarshan Shastri, Madhukosh (Hindi commentary) Publication Chaukhama Sanskrit Sansthan, Varanasi Edition 7<sup>th</sup>,(158)1999
- 5) Charak Chikitsa 28/89-90  
Author Shri Satyanarayan Shastri, Vidyotini Hindi commentarty Publication Chaukhama Bharati Academy, Varanasi Edition 17<sup>th</sup>, 1991
- 6) Charak Chikitsa 28/75  
Author Shri Satyanarayan Shastri, Vidyotini Hindi commentarty Publication Chaukhama Bharati Academy, Varanasi Edition 17<sup>th</sup>, 1991
- 7) Yogratnakar vata vyadhi 3/5  
Author Lakshmipati Shastri, Vidyotini (Hindi commentary) Publication Chaukhama Sanskrit Sansthan, Varanasi Edition 7<sup>th</sup>,(2056)1999
- 8) Sushrut Chikitsa 4/20  
Author Ambika dutta Shastri, Ayurved tatva sandeepika (Hindi commentary) Publication Chaukhama Sanskrit Sansthan, Varanasi Edition 6<sup>th</sup>,(2044)1991

**Case Study :**

## **Role of Ashwagandha Ghrit in Oligospermia**

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**Abstract :**

In infertile couples the male partner is directly responsible in about 20-30% cases. Male infertility can be caused by all sorts of sperm defects i.e BEEJ DOSHA {low count, low volume and low motility. Irregular shape, etc}. Amongst these Oligospermia i.e sperm count < 20 million/ml is mostly found. Acharya Shushruta had explained eleven SHUKRA DOSHAS in sharir sthana. Amongst them KSHIN SHUKRA resembles oligospermia. Uttarbasti of ashwagandha ghrita has proved to be a boon in oligospermia. In this case study ashwagandha ghrit uttarbasti has significantly increased the total sperm count, motility and normal morphology just three settings simultaneously treating erectile dysfunction in the same patient.

**Reference No. 6**

**Key words** :- Oligospermia, male infertility, Uttarbasti, Ashwagandha ghrit

**Introduction :**

Infertility is a widespread problem. For about one in five infertility in the male partner, male infertility can be caused by problem that affect sperm production or the sperm transport process. Acharya Sushruta explained the eleven Shukra dosha in Sharir sthana. Among them Kshin Shukra resembles Oligospermia. The beeja is included in four essential factors for Garbhotpatti i.e. fertilization. Shukra dosha is one cause for Male infertility. In contemporary science, Oligospermia is one cause for male infertility.

It has been widely documented that, in addition to conventional therapies, many individuals with sexual dysfunction often seek alternative therapies. It is noteworthy that, from ancient times, Ashwagandha has been used by Ayurvedic practitioners as an aphrodisiac to improve on matters related to infertility and sexual activities. Numerous human and animal studies have validated the aphrodisiac and testosterone-enhancing effects of Ashwagandha Ayurveda has stood always as a ray of hope in many diseases when patients have got ultimatum from others. Uttarbasti is (intra uterine / intra vesicular) per urethral instillation of medicines. Dushta shukra is one of the indications for Uttarbasti.

**Aim & Objectives**

**Aim** - To study male infertility

**Objectives** - To assess the role of Uttar basti in Oligospermia

**Study design** - Open clinical study

**Source of data** - OPD patient

**Sample Size** - One Patient

**Material and Method**

Ashwagandha Ghrit - Nagarjuna company

Oral medicines - Ashwagandha, Shatavari, Gokshur, Talimakhana, Pushpadhanva Ras, Kamdhudha Ras, Gokshuradi Guggulu Gandhak Rasayan.

Uttar Basti - with all aseptic precautions 40 ml of Ashwagandha Ghrit uttarbasti was given.

**Semen Analysis**

**Observation** - A 32 years patient with complaining of erectile dysfunction, premature ejaculation, depression with infertility. Advice for semen analysis reports reveals total sperm count is 10-15 mil/ ml, sperm motility >40% and normal morphology >40% on 05-12-2014. Sperm motility and normal morphology is on border line. After four settings of uttarbasti repeated semen analysis was done. Report shows that sperm count significantly raised i.e. 40-45 mil/ml sperm motility >70% and normal morphology >70% on 11-01-2015. The food taken by human is converted into different tissue elements and there is a determined process for it & it takes fixed time. For Shukra utpatti if it is not being in a proper manner it can be changed by use of medicines and different process like uttarbasti.

**Semen Analysis : Table 1:** Reports of semen analysis before and after treatment

Sr. No	Test	Normal Value	Before Treatment	After Treatment
1.	Place of collection	In lab	-	-
2.	Duration of abstinence	3-5 days	4 days	4 days
3.	Method of collection	Masturbation	-	-
4.	Liquefaction period	15-60 min	30 min	30 min
5.	Appearance	Homogenous grey-opalescent	Homogenous grey-opalescent	Homogenous grey-opalescent
6.	Volume	2-5ml	2ml	4ml
7.	Viscosity	Present	Present	Present
8.	pH	6.4-8.0	8.0	8.0
9.	Total sperm count	40-120 mil/ml	10-15mil/ml	40-45mil/ml
10.	Sperm motility (viability)	>40%	>40%	>70%
11.	Motility grade	Rapid & progressive	Rapid & progressive	Rapid & progressive
12.		Normal morphology	>40%	>40% >70%
13.		Pus cells	Nil	Nil Nil

**Discussion :**

Infertility is defined as the failure to conceive after 12 months of unprotected intercourse with the same partner. Twelve months are the lower reference limit for time to pregnancy by the World Health Organization. Male infertility is the inability to cause a pregnancy. It is often due to low sperm count. Acharya Sushruta had explained eleven *Shukra Doshas* in sharir sthana. Amongst them *Kshin Shukra* resembles oligospermia. Uttarbasti is useful in dusta shukra. Four setting of (weekly one) ashwagandha ghruta Uttarbasti gives significant result i.e. increased total sperm count, sperm motility as well as sperm morphology. Sushruta explain the property of ghruta is vrushya. Ashwagandha act as antioxidant, maintain genetic integrity of sperm cell, by preventing damage to sperm. Experimental studies have shown that treatment with Ashwagandha induced testicular development and spermatogenesis in immature Wistar rats by directly affecting the seminiferous tubules improved prosexual behaviour of sexually sluggish mice, and increased testicular daily sperm production and serum testosterone level As per Acharya Sushruta, generation of shukra dhatu takes place in one month; this is what dhatu utapatti nyaya where shukra dhatu form on 30<sup>th</sup> day from ahara sevan. Study reveals that count of sperm gets increased in one month.

**Conclusion :**

In this present study Ashwagandha ghrut uttarbasti shows marked improvement in volume, low sperm count, motility and morphology of the sperm. Further study is required for more accurate result with increased sample size.

**References :**

1. Anant Ram Sharma Sushruta Samhita vol II, Susruta vimarshani Hindi commentary, chaukhamba Surbharti prakashan Varanasi, Sharir Sthana chapter 2, Pg No. 13
2. Abdel Rahaman HA. Et. Al. Extract of plant has direct spermatogenesis influence on semniferous tubules of immature rats, presumable by excreting testosterone like affect one (J-Ethenopharmacol 2001 Apr 75 (1):1-4
3. Anant Ram Sharma Sushruta Samhita vol I, Susruta vimarshani Hindi commentary, chaukhamba Surbharti prakashan Varanasi, Sutra Sthana chapter 45, Pg No. 366
4. Siddhinanda Mishra Bhaishyja Ratnawali, Chaukhamba Publication Varanasi, Reprint 2009, Pg No. 1089
5. Anant Ram Sharma Sushruta Samhita vol II, Susruta vimarshani Hindi commentary, chaukhamba Surbharti prakashan Varanasi, Chikitsa Sthana chapter 37, Pg No. 470
6. Vijay Ambiye, Clinical Evaluation of the Spermatogenic Activity of the Root Extract of Ashwagandha (*Withania somnifera*) in Oligospermic Males: A Pilot Study Evidence Based Complementary Alternative Medicine Nov 28, 2013

Review :



**Review Article - Review of Panchabhautik  
Properties of Rakta Dhatu  
with Respect to Pressure, Flow,  
Velocity and Viscosity of Blood**

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**ABSTRACT -**

Human health depends on balanced state of Dosha, Dhatu, and Mala. Dhatu are building blocks of body. Among seven Dhatu, Rakta Dhatu is most important as it carry out the function of Jeevana. Sushruta has explained specific properties of Rakta Dhatu on the basis of Pancha Mahabhuta present in it. These properties facilitate circulation of Rakta Dhatu (Whole Blood) through large & small blood vessels. Circulation is important as Rakta conducts Prana (Oxygen) to every cell of body.

Imbalance in these Panchabhautik properties of Rakta Dhatu adversely affect circulation of Rakta Dhatu (Whole Blood) due to which, cells do not get enough Oxygen & Nutrients.

So, Panchabhautik properties are established and elaborated in this article for better understanding of circulation of Rakta Dhatu.

**(Total Reference No. -10)**

**Key words** - Panchabhautik Properties of Rakta Dhatu, Blood Pressure, Flow, Velocity, Viscosity.

**INTRODUCTION -**

Circulation of Rakta Dhatu under normal pressure is a extremely important for healthy life.

**Panchabhautik Properties of Rakta Dhatu described by Sushruta1-**

According to Ayurveda, every matter is composed of Pancha Mahabhauta. Sushruta has explained functions of Rakta Dhatu with respect to its Panchabhautik composition and it can be applied to understand blood flow in the vessels.

Every Mahabhuta imparts specific feature to Rakta Dhatu which is shown in following table1-

Mahabhuta	Properties
Pruthvi	Vistra gandha-Fishy smell
Ambu	Dravata -Fluid state
Teja	Raga-Red colour
Vata	Spandan-Circulation
Akasha	Laghuta -Lightness

**AIM -**

Compilation and elaboration of Panchabhutik Properties with respect to blood Pressure, Flow, Velocity and Viscosity.

**OBJECTIVES -**

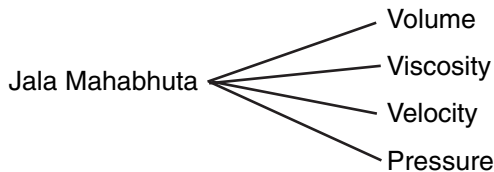
1. Collection of references in Samhitas.
2. Explanation of Panchabhutik Properties
3. Association between Panchbhutik Properties and blood Pressure, Flow, Viscosity and Velocity.

**MATERIAL AND METHODS -**

Every Dravya (matter) has its own properties. Rakta Dhatu is a dravya (matter), as it holds specific Properties.

Panchabhutik Properties of Rakta Dhatu -

1. Ambu (Jala) Mahabhuta maintains fluid state (Dravata) of Rakta, so that Rakta (Whole Blood) can flow in blood vessels.
2. Red colour of Rakta Dhatu (Blood) shows existences of Teja Mahabhuta in it.
3. Circulation (Spandan) of Rakta Dhatu under certain pressure and force is maintain by Vayu Mahabhuta.
4. Aakash Mahabhuta maintains lightness (Laghuta) of Rakta Dhatu which is important to maintain circulation of Rakta Dhatu.
5. Fishy smell (Vistra Gandha) of Rakta Dhatu indicates presence of Pruthvi Mahabhuta in Rakta Dhatu.

**Jala/Ambu Mahabhuta -**

Jala Mahabhuta maintains fluid state of Rakta Dhatu. Jala Mahabhuta in Rakta Dhatu (Whole

Blood) allows circulation of Rakta through big and micro vessels. Jala Mahabhuta in Rakta allows Vishyandan (Percolation) of Prana (Oxygen) out of vessels in to cell and cellular wastes are diffused back in Rakta Dhatu<sup>3</sup>.

Jala is also essential to maintain 5 liters of blood volume .The average blood volume of adults is about 7% of body weight, or about 5 liters.60% of whole blood is plasma and 40% is Erythrocytes<sup>4</sup>.

Though Rakta Dhatu shows domination of Jala Mahabhuta, it is three times more viscous than water. Blood Viscosity is the thickness and stickiness of blood. It is a directly measure of the ability of blood to flow through the vessels. Viscosity and Flow both are balanced by Jala Mahabhuta. Viscosity of blood affects flow of blood in blood vessels. Peripheral resistance of blood flow is directly proportional to Viscosity of blood<sup>5</sup>.

According to Hagen Poiseuille equation, more the Viscosity, greater the resistance. When Viscosity increases blood Velocity become slow<sup>6</sup>. Blood Viscosity maintains laminar flow or streamline flow of blood. Whenever blood become more viscous, blood cannot flow in a streamline, and affects Velocity of blood<sup>6</sup> .

Jala Mahabhuta maintains blood Viscosity which in turn affects Pressure, flow and Velocity of blood. Imbalance in Jala Mahabhuta thus affects Hemodynamics adversely.

#### **Teja Mahabhuta -**

Teja Mahabhuta maintains Raga (Red colour) of Raka Dhatu. Role of Teja Mahabhuta is not only just restricted to colour but it also affects Viscosity, Velocity and flow of blood. Increased Teja Mahabhuta (Temperature) reduces blood Viscosity which sequentially increases blood flow and blood velocity<sup>7</sup>.

#### **Vayu Mahabhuta -**

Vayu Mahaabhuta facilitate circulation (Spandan) of Rakta Dhatu (Whole blood).In human being, Vata Dosha is a mediator of Vayu Mahabhuta. Vata Doasha is also composed of Aakash Mahabhuta, so any imbalanced condition of Vayu as well as Aakash Mahabhuta would adversely affect Velocity, Flow, and Pressure of blood flowing through vessels.

Among 5 types of Vata Dosha, Vyana Vayu controls Velocity and Flow of Rakta Dhatu under definite Pressure through heart as well as through blood vessels.

Vyan Vayu (Vayu Mahabhuta) controls blood circulation, blood volume and blood flow. Heart, arteries, arterioles, capillaries, venules, and vein are the part of circulation. Arteries transport blood under high pressure to tissues. Arterioles are the smaller branches of the arterial system. They conduct blood to capillary. The function of capillaries is to exchange fluid, gases, electrolytes between the blood and interstitial fluid. They have numerous minute capillary pores which allow water to pass through them. Venules collect blood from capillary and empty into vein. Veins transport blood back to the heart<sup>8</sup>.

Vyana Vayu controls circulation of Rasa and Rakta Dhatu. Function of circulation of Rasa,



Rakta (Whole Blood) is to transport Oxygen and nutrients to tissues and to collect waste products away. The rate of blood flow through most tissues is controlled in response to need of tissue. When blood flows through micro vessels, it immediately returns by way of veins to the heart. Heart responds to this increased venous return and pumps more blood into arteries and needed tissue receive sufficient blood flow<sup>8</sup>.

Vyana Vayu (Vayu Mahabhuta ) maintains Pressure in various portion of circulation. Due to Aakasha and Vayu Mahabhuta, arterial Pressure alternates between systolic pressure level of 120mm of Hg and diastolic Pressure 80 mm of Hg. In aorta mean Pressure is 100mm of Hg. As blood flows forward in systemic circulation, Pressure gradually falls and capillary Pressure varies 35 mm of Hg at arteriole end and 10mm of Hg near venous end<sup>8</sup>.

These variations in Pressure of circulation in aorta, arteries and capillaries depend on balanced state of Vyana Vayu (Vayu Mahabhuta).

#### **Aakasha Mahabhuta -**

Aakasha Mahabhuta maintains lightness (Laghutva) of Rakta Dhatu. Lightness of Rakta Dhatu can be correlated with specific gravity of blood, which is 1.0621. Role of Aakash Mahabhuta is not only just restricted to lightness (Laghutva) but Aakasha Mahabhuta is related to vasodilatation & vasoconstriction. Akasha Mahabhuta represents 'Kha' (Lumen/cavity/space) of blood vessels. Blood Velocity and blood flow depends on not only Viscosity but also on diameter (Lumen) of blood vessels. Under normal condition, lumen of arterioles are dilated or constricted as per need to tissue. When tissue needs more nutrients, local blood flow to needy tissue increases by the way of vasodilatation. When blood Flow to tissue increases, it ultimately returns to heart which sequentially increase cardiac output. According to Ayurveda, Vyana Vayuu (Vayu Mahabhuta) controls diameter of blood vessels by either the way of Vasodilatation or vasoconstriction, which alters Velocity, Pressure and flow of blood. Decreased state of Aakasha Mahabhuta results in vasoconstriction causes obstruction to blood flow by increasing resistance to flow<sup>8</sup>.

#### **Pruthvi Mahabhuta -**

Pruthvi Mahabhuta offers particularly unpleasant metallic odor to Rakta Dhatu which is due to presence of Iron in Hemoglobin. Moreover Pruthvi Mahabhuta also affects Specific gravity of blood because Gurutva (heaviness) is a feature of Pruthvi Mahabhuta. More the Specific gravity less the Velocity and blood flow. Hence both Aakasha and Pruthvi Mahabhuta regulate Specific gravity<sup>9</sup>.

Specific gravity of blood is the ratio of weight of volume of blood to the weight of the same volume of distilled water, measured at 25° C; Specific gravity of blood is 1.058-1.0629.

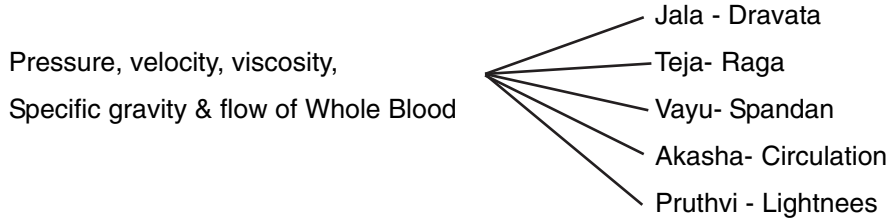
High Specific gravity of blood increases blood Viscosity which naturally increases peripheral resistance to blood flow, increases blood Pressure and reduces blood flow to local tissue<sup>5</sup>.

Along with Laghuta (Lightness) and Vistra Gandha (fishy odor), Aakasha and Prithavi Mahabhuta play important role in balancing Specific gravity of Rakta Dhatu Aakash and

Pruthvi Mahabhuta balance lightness and heaviness respectively to maintain Specific gravity of Rakta Dhatu at 1.0621.

### DISCUSSION :

Balanced state of Jala, Teja, Vayu, Aakasha and Pruthvi Mahabhuta of Rakta Dhatu are extremely important for maintaining Velocity, Viscosity & blood flow under specific Pressure to each tissue. When tissues are more active, they need more Oxygen and nutrients. In these conditions, local blood vessels dilate to increase blood flow. When blood flows through tissue it ultimately returns by the way of veins to the heart. Heart responds automatically to flow of blood and pumps the blood ultimately into arteries, which is nothing but cardiac output. Therefore local blood flow, systemic circulation, venous return, cardiac output are interdependent which are controlled by Panchabhautik Properties of Rakta Dhatu (Whole Blood)<sup>10</sup>.



### Effects of Imbalance Of Mahabhuta On Rakta Dhatu-

- Excess of Jala Mahabhuta would increase volume of blood which would lead to Hypertension due to high cardiac output.
- Imbalance of Jala Mahabhuta would affect blood Viscosity, which in turn would affect blood flow in vessels.
- Excess of Teja Mahabhuta would decrease blood Viscosity which would increase Velocity of blood and push blood forcefully forward.
- Imbalance of Aakasha Mahabhuta would alter diameter(Lumen) of blood vessel. Excess Aakasha Mahabhuta would result in vasodilatation leading to Hypotension. Vasoconstriction due to decreased Aakasha Mahabhuta would increase peripheral resistance, which would slow down blood flow and it would result in Hypertension.
- Excess of Pruthvi Mahabhuta would affect Specific gravity and Viscosity of blood which would affect flow and Velocity of blood.

### CONCLUSION

- Panchabhautik Properties of Rakta Dhatu described by Sushruta can be linked with Pressure, Flow, Velocity, and Viscosity of blood.
- Circulation of Rakta Dhatu (Whole Blood) is an outcome of Panchabhautik Properties which are nothing but Hemodynamics explained by Sushruta.

- Hemodynamics explained in Sushrut Samhita shows development of medicinal science which has stated systemic & microcirculation very clearly.
- Hemodynamics explained in Sushrut Samhita permit tissue oxygenation and nutrition.
- Patho-physiology of circulatory disorders can be analyzed in better way by understanding Panchabhautik Properties from the perception of modern physics.
- Finally, basic concepts should be supported, added & enhanced by incorporating principles of modern sciences for enrichment of Ayurveda.

#### REFERANCES-

1. Vaidya Yadavaji Trikamji Acharya, Sushrut Samhita: Nibandha Sngraha commentary by Dalhan, Chaukhamba Sanskriti Sanstan, Varanasi, edited reprinted 2012, Sutrastan Adhyay 14, Shonitvarniya Shlok no-14/9, Page no-60.
2. Vaidya Yadavaji Trikamji Acharya, Charak Samhita: Ayurveda- Dlpika Commentary by Chakrapanidatta, Chaukhamba Surbharati Prakashan, Varanasi, edited reprinted 2005, Sutrastan Adhyay 1, Deerghajeevitiy Shlok no-1/51, Page no-13.
3. Krishna Rmchandra Shastri Navre, Astangahridayam: Sarvangasundara of Arunadatta and Ayurvedasayana of Hemadri, Krishna Academy, Varanasi, edited reprinted 2000, Sutrastan Adhyay 9, Dravyavidnyaniya Shlok no-9/6, Page no-166.
4. Textbook of Medical Physiology by C. Guyton and Jonh E. Hall, Elsevier publication, 11th edition, reprinted in 2008, Chapter-25-The Body Fluid Compartment: Extracellular and Intracellular Fluid ; Interstitial Fluid and Edema, Page no.293.
5. Text Book of Practical Physiology by CL Ghai, Jaypee brother's medical publishers- 8th edition, reprinted in 2013, Section one –Hematology, Page no. 137.
6. Textbook of Medical Physiology by C. Guyton and Jonh E. Hall, Elsevier publication, 11th edition, reprinted in 2008, Chapter-14-Overview of the Circulation; Medical Physics of Pressure, Flow, and Resistance, Page no.165.
7. Text Book of Practical Physiology by CL Ghai, Jaypee brother's medical publishers- 8th edition, reprinted in 2013, Section one –Hematology, Page no. 136.
8. Textbook of Medical Physiology by C. Guyton and Jonh E. Hall, Elsevier publication, 11th edition, reprinted in 2008, Chapter-14-Overview of the Circulation; Medical Physics of Pressure, Flow, and Resistance, Page no.161,162,163.
9. Text Book of Practical Physiology by CL Ghai, Jaypee brother's medical publishers- 8th edition, reprinted in 2013, Section one –Hematology, Page no.134.
10. Textbook of Medical Physiology by C. Guyton and Jonh E. Hall, Elsevier publication, 11th edition, reprinted in 2008, Chapter-14-Overview of the Circulation; Medical Physics of Pressure, Flow, and Resistance, Page no.163,164.

Review :



## **Study Of Vamana Karma in Kaphaj disorders**

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### **ABSTRACT**

Among the five Pradhana Karmas of Panchakarma, Vamana Karma is especially used in Kaphaj disorders. This theory is preventive, preservative, promotive, curative and rehabilitative. Kapha dosha accumulates and aggravates Hemant Ritu (winter season) and Vasant Ritu (spring season) respectively. Panchakarma is also indicated in healthy states (C.Su. 16/13-16) for Shodhana. According to Ayurvedic texts, after doing Samyak Vamana (proper Vamana) a person experiences lightness of the body, Kantha (throat/voice), and Shirah (head) and weakness.

**KEY WORDS-** Shodhana Karma, Vamana Karma, Samsarjana Karma

### **INTRODUCTION**

The main goal of Ayurveda is maintaining the health of a healthy person by preventing him from illness. This immortal science not only looks into the cure of disease, but gives prime importance to the prevention of disease and hence maintains a state of equilibrium of all factors within the body and entire universe.

Ayurveda practices on the theory of Tridosha (Vata, Pitta and Kapha). Panchakarma is professed for eliminating the vitiated Doshas from the body. Specific therapy such as Vamana amongst the Panchakarma is practiced for Kapha Dosha, Virechana for Pitta Dosha, and Basti for Vata Dosha predominantly. This therapy is preventive, preservative, promotive, curative and rehabilitative. Literally, Vamana Karma means to persuade therapeutic vomiting or expelling out the contents of the stomach including vitiated Doshas through oral route, which is indicated for the purification of Urdhwa Bhaga (upper part) of the body<sup>1</sup>, it is the main sthana of Kapha Dosha. For eliminating the vitiated Dosha, Ayurveda has emphasized to practice these therapies.

### **DEFINITION :**

तत्र दोषहरणं उर्ध्वं भागात् वमनसंज्ञकम्

]Bayam vaa Sairrmalaivarocanaaivdrocana saM&a laBato

Ch. Ka.1/4

The act or the action of expelling the impurities i.e. vitiated Doshas through the upper channel is known as Vamana (emesis).

### **SYNONYMS :**

Chhardi, Chhardana, Vami, Ullekhana, Lekhana, Virechana, Vireka, Samshodhana

### **PLACEMENT OF VAMANA KARMA:**

In Panchakarma, before performing any other karma, “Vamana Karma” has to be done first. The reason behind keeping Vamana ahead of Virechana is that, if Virechana is executed without Vamana, it causes the heaviness or might produce Pravahika because the provoked Kapha descends to Grahani and covers it.<sup>2</sup>

### **BENEFITS OF VAMANA KARMA:**

- The best line of treatment for the Kaphaja disorders is Vamana Karma which is the first measure amongst Panchakarma.<sup>3</sup>
- Sushruta asserts that just like the flower, fruits and branches, which are destroyed at once as soon as the mother tree is rooted out, the diseases originated due to excessive Kapha are subdued after the elimination of Kapha through the process of Vamana<sup>4</sup>
- To prevent oneself from Kasa (cough), Upalepa (stickiness in the throat), Swarabheda (hoarseness of voice), Atinindra (sleepiness), Tandra, Aasya Daurgandhya (foulsmell in mouth), Kapha Praseka, Visha Upasarga (afflictions produced because of toxins) and Grahani dosha, a person should timely undergo vamana karma.
- **Vasantika Vamana (emesis in spring season)**

According to Ayurvedic classics, Vamana procedure is specified for the expulsion of Kapha Dosha. Kapha Dosha is exasperated in Vasant Rutu; hence, Vamana is specified in spring season roughly in the month of March and April.

### **INCLUSION CRITERIA**

- Age between 15 and 60 years.
- Individuals suffering from Kapha or Kapha associated with Pitta disorders.

### **EXCLUSION CRITERIA**

- Individuals of hypertension, diabetes, renal diseases, peptic Ulcer, jaundice, acute infections, dehydration and other chronic diseases which are contraindicated for Vamana Karma as detected by clinical history and investigations.
- Age group: Less than 15 years and more than 60 years.
- Pregnant and lactating women.

### **AIMS AND OBJECTIVES**

1. To assess the role of Vamana Karma in Kaphaj disorders.
2. To evaluate the efficacy of Vamana in healthy individuals.

### **MATERIALS AND METHODS**

#### **Vamana karma**

The main procedure can be classified as:

1. Purva Karma
2. Pradhana Karma
3. Pashchata Karma

#### **Purva Karma (Pre-operative preparation)**

#### **Pachana and Deepana (digestives and appetizers)**

- Before starting snehapana Deepana and Pachana drug are given to increase Jatharagni and lightness of body.
- Pachana dravya like Trikatu Churna, PanchakolaChurna, Agnitundi Vati, Chitrakadi Vati etc. can be used for this purpose.

#### **Abhyantara Snehana (internal oleation)**

Shuddha Ghrita or Siddha Ghrita give in increase dose for three to Seven days as per the requirement till achieving the signs and symptoms of proper Snehana.

First day - 50 ml

Second day - 100 ml

Third day - 150 ml

Fourth day - 200 ml, and so on, not beyond seven days.

### **Abhyanga (massage) and Swedana (fomentation)**

After Abhyantara Snehana on next day, do Abhyanga with Tila Taila followed by Sarvanga Swedana.

### **Dietetic guidelines during Purva Karma**

#### ■ Diet during the days of Snehapana

Individuals are advised to intake ample amount of liquid and warm food, easy to digest mixed with little fat. It is neither sticky nor complex. Also one is instructed to drink lukewarm water.

#### ■ Diet on previous day of Vamana

Heavy diet like plenty of milk, curd, sweets and Khicadi made from black gram recommended to an individual.

### **Pradhana Karma (Induction of Vamana):**

1. Induced Vamana in the early morning.
2. Ask the patient to sit in a comfortable Vamana chair of the height of knee joint.
3. Record Pulse and blood pressure before, during and after the Vamana Karma.
4. Ask the patient to drink milk full of stomach (Aakanthapana)
5. Then give the Vamana Yoga to the patient.
6. Keep a wide mouth vessel ready to collect the vomitus.
7. Then instruct the patient to vomit without straining.
8. The urge may be excited by opening wide the lips, the palate, the throat and by slightly bowing the upper part of the body.
9. The dormant urge may be excited by tickling the throat with two well manicure fingers.

10. In the course of emesis when actual vomit is being thrown out, forehead and chest of the patient is held, umbilical region of the patient is pressed and back of the patient is gently massaged in upward direction.<sup>7</sup>
11. According to the classical texts, evaluate the Vamana based on Pravara (highest), Madhyama (moderate) and Hina (lowest) Shuddhi (cleansing).<sup>8</sup>

### **Pashchata Karma (Post-operative care)**

1. Keep the patient under observation After Vamana Karma and put the patient on special diet until they achieve Agnideepti and Bala.
2. Advise Dhūmapana and Gandūsha after Samyaka Vamana.<sup>9</sup>
3. Wash mouth, hands and feet after Vamana and take rest for an hour.<sup>9</sup>
4. Advise to avoid loud speeches, sitting or standing in one position for long duration, excessive walk, excessive rage or excessive depression, exposure to excessive cold, heat, dew, to flowing winds, long journey, night waking, day sleep, to retain or provoke urges. Frequently, untimely, excessive, less, contradictory and also avoid heavy diet.<sup>10</sup>

### **Samsarjana Karma: (special dietetic schedule)**

1<sup>st</sup> day - Thin rice gruel without spices and fat once a day.

2<sup>nd</sup> day - Thick rice gruel without spices and fat twice a day.

3<sup>rd</sup> day - Rice and liquid soup of green gram and rice without spices and fat twice a day in moderate quantity.

4<sup>th</sup> day - Liquid soup of green gram and rice with spices and fat twice a day in moderate quantity.

5<sup>th</sup> day - Normal diet

6<sup>th</sup> day - Normal diet

7<sup>th</sup> day - Normal diet

### **ASSESSMENT CRITERIA**

#### **Vegiki criteria:**

- a. Hina - 3-4 Vega
- b. Madhyama - 5-6 Vega



c. Pravara - 7-8 Vega

**Maniki criteria:**

a. Hina - 1 Prastha

b. Madhyama - 1 ½ Prastha

c. Pravara - 2 Prastha

(Prastha = 540 ml).

**Antiki criteria:**

This criteria is on the basis of continuation of the Vamana until the pitta is not appear in the vomitus.

**Laingiki criteria:**

It is on the basis of positive signs and symptoms produced after Vamana.

**DISCUSSION :**

■ Properties of Vamaka Dravyas -

1. Ushna      2. Tikshna
3. Sukshma    4. Vyavayi
5. Vikasi      6. Urdhwa Bhagahara

1. Due to Ushna Guna, it produces Pachana, Dahana, Svedana and spreading of the Drug at cellular level. Vishyandana in the body is produced due to Lavana, hence Vamana Dravyas are administered with Lavana.
2. Tikshna Guna of Vamaka Dravya is liable for its quick action, Sodhana, Pachana, Chhedana and Sravana of Doshas in their own places.
3. With the help of Sukshma Guna, the Vamana Dravya enters at the level of micro circulatory channels (Srotasas) and leads to Pachana and Vishyandana of Doshas and ultimately directs Doshas towards Koshtha, from where they are eliminated easily.
4. Due to Vishyandi and Vikasi Gunas, the Vamaka Dravya reaches at the cellular level (all Dhatus) without being digested and produces Sandhi Saithilya i.e. Doshas Lina in Dhatus are attacked by the Vamaka Dravya and migrated to Koshtha for elimination.

5. Vamaka Dravyas produce Vamana due to it's "Urdhwa Bhagahara Prabhava".  
( Ch. Ka. 1/5)

### CONCLUSION :

- ◆ Vamana karma has significant result in kaphaj disorders.
- ◆ Akanthapana is a crucial measure, which has its explicit impact over the duration of Vamana and amount of the medicine to be ingested.
- ◆ Vamaka Dravya mainly acts on stomach of an individual. In the stomach it works on the very root cause of the vitiation of Kapha. The vitiated Kapha present in entire body is alleviated and expelled out through the mechanism of Vamana and disease process is suppressed up to the maximum level. The Snehana and Svedana therapy aggravates the Doshas i.e. Kleda of the body is increased. Kleda from the body is eliminated in the form of Vomitus. This is because of Ushna and Tikshna Guna of Vamaka Dravyas.
- ◆ The channels (Srotasas) from the Sanga, created by vitiated Kapha, Meda and Ama are evacuated by Vamana karma. Maximum Doshas are expelled out from the body.

### REFERENCES :

1. Agnivesha, Charaka, Dridhabal Charaka Samhita, Kalpa Sthana, Madankalpa Adhyaya, 1/4, Bramhanand Tripathi, Charaka Chandrika Hindi Commentary, Vol. II, 6th ed. Chaukhambha Surbharati Prakashan, Varanasi, 1999; pp. 1072
2. \*\*Ibid.Chiktsa Sthana 33/18.
3. \* Ibid.Sutra Sthana 25/40.
4. \*\* Ibid.Chiktsa Sthana 33/12.
5. \*\* Ibid.Chiktsa Sthana 33/11.
6. Ibid, Charaka samhita, Sutrasthana. 15(12)
7. Charaka samhita, Sutrasthana. 15(11)
8. Ibid, Charaka samhita, Siddhisthana. 1:14–16.
9. Ibid, Charaka samhita, Siddhisthana. 15(14)
10. Ibid, Charaka samhita, Siddhisthana. 15(15)
11. Santoshkumar Bhatted A study on Vasantika Vamana (therapeutic emesis in spring season) Apreventive measure for diseases of Kapha .Ayu. 2011 Apr-Jun; 32(2):181–186.

**Review :**

## **The Concept Of Masanumasika Garbhini Ahar Paricharya**

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**Abstract :** **Pregnancy** is physiological and Extra food is required satisfying the needs of the fetus. It is the time when the organs and systems develop within. The energy used to create these systems comes from the energy and nutrients in the mother's circulation, and around the lining of the womb, such is the reason why correct nutrient intake during pregnancy is so important.(6)

Key words: Garbhini,Ahara,Charaka, Sushruta,Vagbhata, Bhela & Harita ,modern:

### **INTRODUCTION :**

Every living being has inherent, intense desire to continue one's own race. After marriage, to become mother is one of the most cherished desires of every woman. Pregnancy is a physiological event. In pregnancy the diet should be adequate to provide for the maintenance of maternal health, needs of the growing fetus and strength and vitality, also required during labor, and for successful lactation.

The systemic examination and advice of a woman during pregnancy is known as antenatal care. In pregnancy, increased calorie requirement is to the extent of 300 over the non-pregnant woman. She should eat adequate to gain the optimum weight 11kgs. In pregnancy, ideal diet should be nutritious, easily digestible rich in proteins, minerals and vitamins.

Ayurveda emphasizes the importance of proper attention during pregnancy in Garbhini paricharya for 9 months.

Dietetic advice should be reasonable and realistic with due consideration of socio-economic condition, food habits and taste of individual.

### **OBJECTIVES :**

1. A brief view on Masanumasika Garbhini Ahar Paricharya
2. To highlight the importance of Ahar in the nourishment of Garbhini and Garbha.

### **REVIEW OF LITERATURE :**

Dietetics advised by various author are as follows :

#### **1) REGIMEN FOR THE FIRST MONTH OF PREGNANCY :**

**Charaka :** From the first month itself she should take non-medicate milk repeatedly in desired quantity (considering her digestive power and strength). Congenial diet should be taken in morning and evening.

**Sushruta :** Sweet, cold and liquid diet.

**Vagbhata :** She should take medicated milk, timely in specific quantity (the quantity which does not produce indigestion and the time or twice i.e. morning and evening). Even in these days for first twelve days she should take ghruta extracted from milk (clarified butter extracted from milk) and medicated with shaliparni and palasa, water already boiled with gold or silver and cooled be taken as a after drink. Sweet, cold, liquid and congenial diet should be taken twice i.e. morning and evening.

**Harita :** Madhuyasti, parusaka and madhukapuspa available drugs should be taken with butter and honey followed by use of sweetened milk.

**MODERN :** light, nutritious, easily digestible & rich in proteins, minerals and vitamins.

## 2) REGIMEN FOR THE SECOND MONTH OF PREGNANCY :

**Charaka & Vagbhata I :** Milk medicated with madhura drugs.

**Sushruta :** Sweet, cold and liquid diet.

**Harita :** Sweetened milk treated with kakoli.

**Modern:** folic acid 1gm. Milk, egg, green leafy vegetables.

## 3) REGIMEN FOR THIRD MONTH OF PREGNANCY :

**Charaka & Vagbhata I:** Milk with honey and ghruta.

**Sushruta :** Sweet, cold and liquid diet, specially cooked sasti rice with milk,

**Harita:** Krasara (olio prepared with rice and pulse).

**MODERN:** Ascorbic acid 50mg, FeSO<sub>4</sub> 60mg, Calcium 1gm, Thiamine 2gm, Riboflavine 2mg.

## 4. REGIMEN OF FOURTH MONTH OF PREGNANCY :

**Charaka :** Butter extracted from milk in the quantity of one aksha or milk with butter.

**Sushruta :** Cooked sasti rice with curd, dainty and pleasant food mixed with milk and butter and meat of wild animals.

**Vagbhata I:** Milk with one aksha of butter.

**Bhela & Harita :** Medicated cooked rice.

**MODERN:** Iron rich foods, green leafy vegetables & honey.

## 5. REGIMEN FOR FIFTH MONTH OF PREGNANCY :

**Charaka & Vagbhata I** : Ghruta prepared with butter extracted from milk.

**Sushruta** : Cooked sasti rice with milk, meat of wild animals along with dainty food mixed with milk and ghruta.

**Bhela** : Yawagu (rice gruel).

**Harita** : Payasa (rice cooked with milk and sweetened).

**MODERN**: Iron rich foods, green leafy vegetables, curds, eggs & milk.

#### 6. REGIMEN FOR SIXTH MONTH OF PREGNANCY :

**Charaka and Vagbhata I**: Ghrta (prepared from milk) medicated with the drugs of madhura group.

**Sushruta** : Ghrta or rice gruel medicated with goksuru.

**Bhela** : Ghruta or rice gruel medicated with goksuru.

**Harita** : Sweetened curd.

**MODERN**: More Iron rich foods, green leafy vegetables, curds, eggs & milk.

#### 7. REGIMEN OF SEVEN MONTH OF PREGNANCY :

**Charaka and Vagbhata I**: Same as in sixth month.

**Susruta** : Gurta medicated with prethaparnyadi (vidandhadi) group of drugs. This helps in proper growth and development of fetus.

**Harita** : Ghrtakhanda (a sweet dish).

**MODERN**: More Iron rich foods, green leafy vegetables, curds, eggs & milk.

#### 8. REGION OF EIGHT MONTH OF PREGNANCY:

**Charaka** : Rice greed prepared with milk and mixed with ghruta should be given

**Sushruta** : Anulomana (regulation or putting in right direction) of vayu, the Asthapan basti (evacuative enema) should be given with decoction of badaari mixed with bala, atibala, satapuspa, palala (pestled sesamum seeds), milk, curd, mastu (sour butter), oil, salt, madanaphala, honey and ghruta. She should give unctuous gruels & meat soup of wild animals.

**Vagbhata** : Same as Caraka & Susruta

**Harita** : Advised use of ghrutapurka (a kind of sweat preparation).

**MODERN**: Inrease 300 k cal a day (daily intake is 2200 to 2400 k.cal) is recommended for last three months.

#### 9. REGIUM FOR NINTH MONTH OF PREGNANCY :

**Charaka & vagbhata** : Advised use of Anuvasana basti with oil prepared with the drugs of madhura group or the same as used in eight month (A.S). Vaginal tampon of this very oil should be given for lubrication of garbhashthana (uterus but here cervix) and garbhamarga (vaginal canal and perineum).

**Vagbhata II** : Prescribed meat-soup with cooked rice and fat (preferably ghruta) or rice gruel mixed with good quantity of fat.

**Harita** : Opins that in ninth tenth month different cereals should be used

**Bhela** : Anuvasana basti with oil should be given

**Sushruta**: Not prescribed any specific dietetic regimen specifically of ninth month.

### DIET IN PREGNANCY :

Pregnancy is a remarkable anabolic process whereby out of food, vitamins, minerals and hormones, a 3.2 kg. Baby is born in the 9 months. The diet should consist 1 liter of milk, plenty of green vegetable and fruits, salt sufficient for tasty food, protein first class containing all amino acids and majority of the fat should be animal type contains vitamins A and D. Pregnancy diet should be adequate if diet is inadequate mother may suffer various ways.

- 1) The osteomalacic mother may give birth to fetal rickets baby and there is also chance of premature baby.
- 2) There is evidence that if pregnant women receive a diet that deficient in Calcium and Vitamin D, the infants are predisposed to rickets and dental caries.

**Calories** (energy) : The human body needs energy for its basal metabolism to build and replace tissue to compensate the excretory loss and for daily physical and mental activity. In pregnancy 300 Kcal additional is needed.

Daily requirement for pregnant women is 2200-2500 Kcal.

**Proteins** : The proteins are made up of simple substances called amino acids.

Uses : Proteins are used in building the fetus placenta and membranes in providing for hypertrophy uterus and breasts and to furnish a reserve for loss in parturition puerperium and lactation.

Source : Animal source milk, meat and eggs, plant source, pulses, cereals, nuts, beans effect of deficiency. Low protein intake may cause fall in the serum protein with consequent edema and preclampsic toxemia and microcytic anemia.

Daily requirement : 60mg in pregnancy.

**Carbohydrates and Fats**: Should use optimum requirement and supplied us an ordinary diet, fish contains n-3 fatty acids; fish is recommended instead of fish oil since the latter is not palatable. Fats are the reserve fuel of the animal kingdom. Cholesterol usually forms cell membrane and serves as the base for the formation of hormones (Cortisol, estradiol,

testosterone). Fat also provide fat soluble vitamins ADEK and remain long in stomach Thus producing sense of satiety.

Source : Ghee, butter, fish oils, groundnut oil, gingely oil, cotton oil, sunflower oil, coconut oil.

Essential fatty acids requirements : 20-30% total dietary energy.

**Carbohydrates:** Carbohydrates supply energy for the immediate use of the body. The main source of energy soon after a meal is carbohydrate.

Source : Rice, Wheat, bajra, pulses, fruits, honey, jaggery.

Daily Requirement : 50-75 gms per day.

**Vitamin Requirement :** Vitamins are complex chemical substances require by the body in very small amounts. They do not yield energy, but acts as catalyst in various processes. Vitamins are two groups. 1) Fat soluble: Vit. A,D.E.K

Water soluble : Vit. B and Vit. C

**Retinol (Vitamin A) :** It is anti-infective and act as of value in preventing puerperial sepsis. Plays crucial role in normal vitamin, connected with skeletal growth, needed for health of mucous membrane, skin and epithelial cells.

Sources : Liver, egg yolk, butter, cheese, fresh green leaves, carrots, mango liver and fish liver oil.

Deficiency causes: Fatigue, anemia, degenerative changes in cornea and conjunctiva and serious age defects.

Daily requirement: For pregnant 6000 I.U.

**Vitamin D :** This is the calcifying Vitamin and controls absorption and utilization of calcium. It scares in natural foods. It required for healthy bones and teeth.

Source: Sunlight, milk, egg, butter, cheese and fish liver oil.

Effects of deficiency: Calcium deficiency, rickets in children, osteomalacia in adults.

**Vitamin E (Tochopherol):** It is known as "Antisterility vitamin.

Deficiency causes : Sterility, abortion.

Sources : Egg yolk, vegetable oils, wheat, germ oil.

Daily requirement : 15 IU.

**Vitamin K:** It is necessary for prothrombin formation in the liver which one of the factors fro-clotting of blood.

Source: Fresh green vegetables (spinach), fruits. It also synthesis in by intestinal bacterial.

Deficiency causes : Blood clotting time prolonged leads to generalized bleeding.

By administering Vit. K to pregnant woman in the last month of pregnancy over labour, the prothrombin level can be raised, and the incidence of hemorrhage due to trauma in delivery reduced.

Requirement : A lower prothrombin level can be contracted by ever 1 or 2 mg of vitamin K, if there is no liver damage.

**Vitamin B Complex** : The most important of the known factor of Vitamin B complex are B<sub>1</sub> ( aneurin, thiamin), B<sub>2</sub> (ribofamin and nicotinic acid), B<sub>6</sub> (pyridoxine) and B<sub>12</sub>.

**Thaimine B** : Is essential for the utilization of carbohydrate in the body. Essential for maintenance of appetite and digestion. Fundamental role is brain metabolism.

Sources : Dried yeast, unmilled cereals, pulses, oil seeds, ground nuts.

Deficiency cause : Beri Beri, Poly neuritis of pregnancy, wernicks, encephalopathy, retinal, Haemorrhages, hyper emesis gravida.

Deficiency of Vit. B causes : Atony of involuntary muscle in pregnancy thus may play role in constipation. In atony of the ureter that predisposes to pyelitis in the biliary stasis, that predisposes to gall stones, and in the aetiology of primary uterine inertia, and post partum haemmmorage.

Daily Requirement : 1.5 mg/day.

**B2 Riboflavin** : Riboflavin functions as a coenzyme in tissue oxidation and respiration, and is involved in protein, fat and carbohydrates metabolism.

Sources : Liver, meat, milk, eggs, kidney and greeny leafy vegetables, riboflavin is synthesized by bacteria in the large intestine, which is in additional source.

Deficiency causes : Angular stomatitis glossitis chelosis, burning sensation in the eyes. Congenital skeletal deformities.

Daily requirement : 1.5 mg.

**Nicotomic Acid** : Nicotomic acid is the anti dermatic vitamin and it is claimed that deficiency causes pellagra. Deficiency developed preeclamptic toxemia.

Source : Liver, groundnut, whole cereals, pulses, meat, fish, cereals especially maize.

Deficiency : Demotitis, diarrhoea and dementia, glositis and stomatitis usually occur.

Daily Requirement : 17 mg.

**Pyrodoxine B<sub>6</sub>** : Peridoxine is said to be vale in vomiting of in pregnancy. Plays an important part in the metabolism of amino acids, fats and carbohydrates.

Source : Liver, meat, fish, while cereals and legumes.



Daily requirement : 1.5 mg.

**B<sub>12</sub> (Cynaecobalamin)** : B<sub>12</sub> Is curative in pernicious anemia but has a little effect on tropical macrocytic anaemia of pregnancy in which folic acid another factor of the B-complex is preferable.

Sources : Liver, meat, eggs and milk are good sources, milk, cheese especially legumes, potatoes, whole grain, yeast.

Deficiency : Megaloblastic anemia, demyelinating neurological lesions & infertility.

Requirement : 2mg

**Vitamin C (Ascorbic acid)** : Ascorbic acid is concerned with the metabolism of connective tissue, wound healing, Haemorrhagic phenomena appear deficiency of ascorbic acid. It helps in absorption of Iron. Ascorbic acid protect against infections.

Sources : Amla, orange, guava, lime, tomato, bengalgram, Germinated pulses, potato, green leafy vegetables, cabbage, radish.

Deficiency : Swelling gums, Scurvey accidental haemorrhages.

Requirement : 40mg./ day.

**Minerals** : Body contains about 24 minerals which is needed for 1) formation of bones and teeth 2) Maintenance of osmotic pressure of body fluids 3) blood formation by iron and normal functioning of thyroid by iodize.

**Calcium** : Calcium is need by the body for the formation of bones and teeth, for coagulation of blood, regulation of neuronmuscular irritability.

Sources : Milk, Cereals, green leaves, custard oat meal, wholesome bread.

Effects of deficiency : Rickets Hypoplasia, anal defective calcification of teeth, dental care, osteomalasia to mother, restlessness, sleeplessness twitching crumps, pains in the pelvic bones back and thighs, with difficulty in walking and perhaps violent movements of the fetus. Calcium deficiency causes toxemia of pregnancy and uterine inertia.

Requirement : 1200mg/day.

**Phosphorus** : A daily in take of 2 mg, is considered necessary, for formation of bone teeth. Some vegetable combination with phytin; concern about protein calcium rich foods.

**Iron** : Iron is component of haemoglobin. The function of iron in the body is “oxygen support” and cellar respiration.

Deficiency : Iron deficiency may also impair immune deficiency, hypochromic anemia, premature births, and neonatal deaths.

Source : Liver, meat, fish and eggs, cereals, pulses, and vegetables, especially green leafy

vegetables are the most important. Important sources are nuts, oil seeds, jaggery, dried fruits, apricots and dates.

Daily requirement : 40mg / day.

**Iodine** : It is required for the synthesis of the thyroid hormones, throxine and throinine.

Sources : Sea foods, seafish, sea salt, vegetables, milk, meat, cereals, cabbage, fish liver oil, iodized salt, spinach.

Deficiency causes : Goitre.

Daily requirement : 76-150 mg/ day

**Zinc** : Zinc is a component of many enzymes. It is active in the metabolism of glucides and proteins and in required for the synthesis of insulin by the pancreas and for the immunity function.

Daily requirement : 15-20mg / day.

**Fluids** : Fluid intakes should be adequate. 6-10 glasses water daily.

**As a general guide the diet in pregnancy should contain the following :**

- Two pints of milk daily, including that taken in custards, cocae etc.
- One or two substantial serving of green vegetables cabbage, spinac, or lettuce daily, 1 to 2 potatoes, preferably boiled in their skin.
- Atleast one egg daily.
- 2 medium sized oranges or orange juice daily.
- Seafish twice or more weekly.
- Liver once weekly.
- Two teaspoon cord liver oil daily.
- The rest of the diet can be made up as the women wishes.

#### **DISCUSSION :**

Describing the benefits of dietetic regimen prescribed for the woman having normal development of fetus, the woman remains healthy and delivers the child possessing good healthy energy or strength, voice compactness and much superior to other family members. Further use of this regimen from one to ninth month her garbhadharini (fetal membrames or vaginal canal), kuksi, sacrual region, flanks and back become soft, vayu moves in to its right path or direction faces, urine and placenta are excreted or expelled easily by their respective passages, skin and nail becomes soft, woman gains strength and complexion and se delivers easily at proper time a desired excellent healthy child possessing all the qualities and long life.

- Emphasizing the importance of woman's diet the rasa derived from the diet taken by the pregnant woman serves three purposes.
  - 1) Nourishment of her own body,
  - 2) Nourishment of the fetus and
  - 3) Nourishment of the breast or formation of milk
- During first trimester of pregnancy most women experience nausea and vomiting, thus cannot take proper diet. use of cold and sweet liquid diet and milk will prevent dehydration and supply required nourishment, besides the drugs of madhura group being anabolic will help in maintenance of proper health of mother and fetus.
- Fourth month onwards muscular tissue of fetus grows sufficiently Requiring more and protein which is supplied by use of meat-soup. By the end of second trimester most women suffer from edema of feet and other complication of water accumulation. Use of goksura a good diuretic in sixth month will prevent retention of water as well as its complications.
- The drugs of vidarigandhadi group are diuretic, anabolic, relieve emaciation and suppress pitta and kapha, their regular use in seventh month might help in maintaining health of mother and fetus. Most women experience constipation in late pregnancy due to pressure of gravid uterus over the bowels and effects of progesterone. Use of enema in eighth month we relieve this constipation, besides this may also effect the autonomous nervous system governing myometrium and help in regulating their function during labour. Tampon of oil may destroy pathogenic bacteria of vaginal canal and prevent puerperal sepsis besides this tampon may also soften vaginal passage thus help in normal labour. It is just possible that the regular use of tampon might influence autonomic fibers governing myometrium and help in regulating their functions. Besides this might soften the perineum and help in its relaxation during labour.

#### **CONCLUSION :**

1. Diet of Garbhini is very important for maintenance of her own health, proper nourishment and growth of the fetus.
2. Milk and drugs of madhur groups been advised for entire pregnancy period, milk is a whole diet, the drugs of madhur groups of anabolic, thus use of will helps in maintenance of mother growth and development of fetus.
3. By this month wise regimen Vayu moves in right direction gains strength and complexion and she delivered easily at proper time, a desired health child possessing all the qualities of long life.

#### **References :**

1. Book- Charaka samhita with Chakrapani commentary –Editor Yadav ji Trikam ji Acharya

Published by Choukhamba Sanskrit sansthan, edition 228-2004- shareer sthan adhyaya 4- shlok no- 20-24

2. Book- Sushrut Samhita with Nibandhasangrah commentary - Editor Vaidya Yadavji Trikamaji Acharya 42<sup>th</sup> edition; Published by Chaukhamba Prakashan. Year of Publication- 2008.- shareer sthan adhyaya 3- shlok no-18-30
3. Book-Ashtanga Hridaya With ArundattaTika- Editor Pandit Hari Paradkar Published by Choukhamba publication (2002)-adhyay 1- shlok no- 37-67
4. Book-Ashtanga Sangraha-Editor Vd. Shivprasad Sharma 19<sup>th</sup> edition; published by choukhamba sanskrut edition-adhyay 2-shlok no-12-28
5. Book-Human physiology By Dr.C.C.Chatterjee-Vol I edition 11<sup>th</sup> (2004) page no 667-721
6. Internet-google-pregnancy diet

Review :



## Study Of Nidraphalshruti In Relation With Panchatmak Vayu

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### ABSTRACT :-

Ahara(food), Nidr(sleep) and Brahmcharya are the Trayopastambha of life. Here in this study we doing Collection and compilation of references related to Nidra Phalshruti. And compile the references of Vatadosha and its types in relevant context. And establish the relationship between Nidra Phalashruti Lakshana and Panchatmaka Vayu.

**No. of References:- [ 8 ]**

**Key Words:** Nidra, Panchatmaka Vayu, Phalashruti.

### INTRODUCTION :-

Ayurveda, the science of life has mentioned various concepts, for the wellbeing of humans. There are two basic aims of Ayurveda, which are as follow, Ayurveda has mentioned its aim, to Swasthyrakshana (maintain the healthy status of a human being) and Vikaraprashmana (to cure the disease). [Ch.Su. 30/26]

On observing these two aims, we can understand that Ayurveda has laid stress on maintaining the health of a healthy person and also cures the diseases of those who are ill. It means Ayurveda believes in maintaining good health, because if the immune system of the body is strong, then the threat of getting a disease is less. This clearly states that if someone wants to lead a diseased free life, then one should follow the concepts mentioned by Ayurveda. These concepts are mentioned in form of various preventive measures like Sadavrutapalana, Achar Rashayana, Dincharya, Rutucharya etc. The above quote is to be reviewed in light of today's fast and highly modified lifestyle. In today's era of industrialization, advanced techniques and research, methods are applied for economic gains. Due to this competition everyone is struggling to stay in the race which is automatically reducing one's attention of maintaining a good health. For better economic gains, people are neglecting their daily needs of having proper Ahara(food) and Nidra(sleep) at proper time. Due to these reasons people are becoming more prone towards an unhealthy state which ultimately will give rise to many diseases. This clearly indicates that these factors like Ahara(food), Nidra(sleep) etc. when not adhered to in proper quantity and time, can affect the health and life of an

individual.

Acharya Charaka has designated Ahara(food), Nidra(sleep) and Brahmcharya as the Trayopastambha(three pillar) of life. These Trayopastambha(three pillar) when taken in adequate amount at the right time provide stability to the body and when their balance is maintained, they provide Bala(strength), Varna(complexion) and Upachaya(Growth) to the body.[Ch.Su. 11/35]

Acharya Charaka also stated that to attain Dharma, Artha, Kama, Moksha, it is essential for human beings to maintain Svasthya(health) which can be achieved with the proper equilibrium of Trayopastambha(three pillar).[Ch.Su. 1/15]

Nidra(sleep) forms and plays a major role in one's life. It is important in maintaining Tridosha in Samyaavstha and a healthy life. Nidra(sleep) when taken in adequate amount and at proper time provides a pathway for healthy life. Adequate sleep leads to Arogya(health), Sharir Poshana(nourishment of body), Bala(strength), Vrudhi(growth), Shukra Vrudhi and healthy life and less or altered sleep leads to Roga(diseases), Karshya(emaciation), Kalaibya(sterility), Balahani(loss of strength) or even death. [Ch.Su. 21/36]

#### **AIM :**

To search the vast treasure of the classical texts for Nidra Phalshruti and its relation with Panchatmaka Vayu.

#### **OBJECTIVES :**

Collection and compilation of references related to Nidra Phalshruti.

To compile the references of Vata Dosha and its types in relevant context.

To study relation between Nidra Phalshruti and Panchatmaka Vayu.

#### **MATERIALS :-**

Ayurved Samhita

Other literature related to this topic.

#### **METHOD :-**

Study the meaning of Lakshana mention in Phalshruti of Nidra.

Establish the relation of Nidraphalshruti Lakshan in respect with Pranadi Vayu.

#### **OBSERVATION & DISCUSSION :-**

According to Vagbhatacarya, if Nidra(sleep) is taken on proper time & in proper measure, it gives Sukha(happiness), Pushti(nourishment), Bala(strength),Varna(complexion), Utsaha, Vrushta(virility), Jnana(knowledge), Agnidipti(good digestive fire), Dhatusamyam (equilibrium of Dhatu) and Jivitam(life). (Ah.su.7/53)

Similarly Acharya Susharuta, sleeping in time promotes Pushti(nourishment), Varna (complexion), Bala(strength), Utsaha, Aganidipatti(good digestive fire), Dhatusamyam (equilibrium of Dhatu) and Jivitam(life). [Su.Chi. 24/88]

### **Sukha (Happiness) :-**

While explaining Pratyaksha Pramana in Vimansthana Charakacharya has said that Sukha, Dukha, Icha etc are perceived by Mana & Atama. [Ch.Vi. 8/39]. The Sthana of Mana is Hrudya(heart). [Hemadri A.H.Su. 12/4]. And Vyan Vayu reside in Hrudya(heart). [A.H.Su. 12/7]

Sukha is one of the Phalashruti of Prakruta Nidra and above references shows relation between Sukha and Vyana Vayu. Thus, Vyana Vayu and Prakrut Nidra can be correlated. Similarly, Vagbhatacharya has mentioned

**“..BUDDHIHRUDYANEDARIYACHITTADHRUKA....”**

While explaining the Sthana and Karya of Prana Vata, which shows the interrelation of Prana Vata and Sukha in context of Nidraphalshruti.

### **Pushti(Nourishment) & Agnidiptti(Digestive fire) :-**

According to Shusrutachary, a person gets Pushti(nourishment), Varna (complexion), Bala(strength), Utsaha, Aganidipatti(good digestive fire), Dhatusamyam(equilibrium of Dhatu) due to proper Nidra(sleep). [Su.Chi. 24/88]

Shusrutachary clearly says that Prana, Apana & Saman Vayu do the function of Agnidipana and Sharirpusti(nourishment of body) by residing in their Prakrut Avastha and Sthana.[Su.Su.35/28]. From the above two Sutras, it can be concluded that Prakruta Nidra and Prakruta Vayu are both needed for Aganidipana which in turn will be responsible for a Pushta Sharira(nourishment of body) there by fulfilling “**Swastha Rakshana**”.

### **Vrusata (virility) :-**

Shukradhara Kala and Vyana vayu is Sarva Sharira Vyapi. Shukra Dhatu is the last among the Sapta Dhatu and thus is Prakruta only if the former Dhatu are formed properly. According to Sushrut, Shukra Dushti is due to Prakop of Vyana & Apana [Su.Ni.1/20], and Kalibya is one of the Shukra Dushtijanya Vyadhi. Its proves the relation of Vyana & Apana Vayu with Nidra.

### **Bala –Varna- Jnana (strength- complexion- knowledge) :-**

Bala(strength), Varna( complexion), Smruti(memory) are the karma of Prakruta Udana Vayu, Nidra Viparayaya will lead to Udana Dushti as mentioned in[A.H.Ni 16/22], ultimately leading to Bala(strength),Varna( complexion), SmrutiHani(loss of memory).

Buddhi is one of the Karma of Prana Vayu and Prakruta Nidra is one of the reasons to keep the Prana Vayu in its balanced state. This means that Jnana (here Buddhi) also depends on Prakruta Nidra.

**Utsaha :**

Archarya Hemandari says that “**PRYATANA** means **UTSAHA**” [A.H.Su. 12/5]

Utsah is a resultant of Aganidipana brought about by Prakruta Samana vata as well as it is the Karya of Udana Vayu. Nidra Vega Dharana, as already seen, brings about vitiation of Udana and Samana Vayu causing Anutsaha.

**Dhatusamyam :-**

Dosha, Agani, Dhatu and Mala being in equilibrium or in Samyaavastha and Prasanna Mana, Atama, Indriya collectively make a person Svastha(healthy). This means that all Dosha, Agani, Dhatu and mala need to be perfectly in the balanced state to help a person lead a healthy life. These are all intertwined and depend on each other. Ahara, Nidra, and Brahmacharya are the three pillars of life which helps to maintain equilibrium for sustaining the body. This clearly shows the importance of Nidra to maintain Dhatusamyam in the body to keep it in its healthy state.

**Jivitam (Life) :-**

Vata Dosha regulates all activities in the body and maintains the life. This is nothing but the normal functions of Prana, Vyana, Udana, Samana, Apana which ultimately brings the Jivana mentioned in the Phalashruti of Nidra.

**Result :**

Nidra phalshruti	Prana	Vyana	Udana	Samana	Apana
Shuka-dukh (Happiness-Misery)	✓	✓			
Pushti-karshya (Nourishment-Emaciation)	✓	✓		✓	✓
Agnidipti (Good digestive fire)	✓			✓	✓
Bala-Abalam (Strength-Weakness)			✓		
Vrushta- klibata ( Virility- Sterility)		✓			✓
Jnanam-Ajnanam (knowledge- Ignorance)	✓		✓		
Varna (Complexion)			✓		
Utsaha (happiness)			✓	✓	
Dhatusamyam (Equilibrium of Dhatu)	✓	✓	✓	✓	✓
Jivitam (Life)	✓	✓	✓	✓	✓

**CONCLUSION:**

- Nidra Phalshruti Lakshana & function of Panchatmak Vayu are interlink with each other.
- Maintain Panchatmak Vayu is helpful to achieving Phalshruti of Nidra.



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**REFERENCES :**

1. Vaidya Athawale Anant D, **Ashtang sangraha with Indu Tika**, Nandanvan', Shrimad Atreya Prakashan, Erandwane, Pune 4, India. Edition - Sept. 1980, ,
2. Prof.K.R.Shrikant Murthy, **Astang Sangraha** (English translation), Varanasi, Choukhamba, Edition – Fifth, 2007
3. Dr. kunte Anna M and Krishna Ramchandra Shashtri Navre, **Ashtang Hrudayam with commentaries Sarvangasundara of Arundatta and Ayurved Rasayana of Hemadri**, Varanasi, Chowkhamba Krishnadas Acadamy, Reprint 2006
4. Bramhanand Tripathi, **Ashtang Hrudaya**, Varanasi, Chaukambha Sanskrit Pratishthan.
5. Vaidya Jadavaji Trikamji Acharya, **Charaksamhita with Ayurveda Dipika commentary by Chakrapanidatta**, Varanasi, Chaukambha Subharti Prakashan.
6. R.K.Sharma and Bhagwandas, **Charak Samhita (English translation)**, Varanasi, Choukhamba, Second Edition 2003
7. Vaidya Jadavaji Trikamji Acharya, **Sushrutsamhita with Nibandhasangraha commentary of Shri Dalhanacharya**, Varanasi, Chaukambha Subharti Prakashan
8. Dr.Ambikadutta Shastri, **Sushrut Samhita**, Varanasi, Choukhamba Sanskrit sansthan, Second Edition 2004

Review :



## **Critical Study Of Vanaspati Suggested By Sushruta In**

### **Mritashodhan Procedure For Various Purposes**

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**ABSTRACT** - In the Rachana Sharir text, we found various references of Vanaspati. It is observed that Vanaspati are used in context either with description of Rachana of any organ or with some other ways. This study will be helpful to understand the Mritashodhan procedure. In which, various Vanaspati are utilized to cover dead body & for scraping purpose. Present availability, identification of such Vanaspati and their utility, which are in controversies, can be explored. This study will be encouraging for clear understanding of the Ayurveda concepts in modern era.

Total number of references - 12

**Key words:** Vanaspati, Mritashodhan, Kurcha, Aveshtanga.

#### **INTRODUCTION -**

Ayurveda anatomy, as described in Ayurveda samhita, is one of the oldest anatomical descriptions of the human body. It is known that the Ayurveda approach to study the human anatomy appears to be different from that of the modern anatomy.

There is a belief that, if Ayurveda approach to anatomy is developed in its uniqueness then that may facilitate us to understand the structure described by Ayurveda, but until now most of the time this approach is mysterious. Actually, this approach will certainly be helpful to develop independently the science of Ayurveda medicine especially its surgery division which is lacking far behind than surgery of modern era.

It should be noted that in the classical Ayurveda text, we come across with various references of Vanaspati. It is seen or observed that Vanaspati are used in context either with description of Rachana of any organ or some other ways like, various procedures e.g.- Making broom of Vanaspati to utilize it as a dissection instrument in Mritashodhan procedure.

Until now learners, PG scholars came across with variety of Vanaspati in relation with Rachana sharir, but most of the time without knowing the proper understanding of these Vanaspati, in particular, their identification, and use in present era etc.

Hence, I have taken Vanaspati from Mritashodhan procedure as stated by Sushruta and his commentators.

## **RIVIEW OF LITERATURE -**

### **I] Review of Ayurveda-**

#### **1. Regarding habitat of Sushruta -**

##### **[A] By reference Dalhan based on Kasyapa<sup>1</sup>-**

From this reference, north and south areas of Ganges shows two different types of ritus which are totally different from each other. North ritus has two parts of winter i.e. Hemant & Shishir, unlike north in South region same is divided in to Pravrut and Varsha for rainy season. But actually, there is no any such difference seen in these two areas immediate north and south of Ganges. Hence, north of Ganges similar to description can be considered at the vicinity of origin of Ganges in Himalaya.

**[B] By reference Mahabhashyakar regarding example of Shakparthivadi gana i.e.- 'Kutapvashaha Shoshurutaha Kutapshoshurutaha'<sup>12</sup>** It is clear that Sushruta used to utilize 'Kutap' as a head gear, which is usually meant for protection from sunstroke or rain and hence it can be positively interpreted by this reference that Sushrut's habitat was in the vicinity of Gangetic plain.

Hence, with interpretations of references A & B it can be optimistically interpreted that Sushrut's habitat somewhere between Gangetic plain to Himalaya.

#### **2. Regarding basic reference of Mritashodhan procedure<sup>1</sup>-**

While securing a dead body the following points should be checked-1-All the limbs are intact. 2-Death not due to poison.3-The deceased must not have suffered from prolonged illness 4-The cadaver is not beyond 100 years of his own age, i.e. not very old. After removing intestines and the fecal matter, place the body in a stout cage covered with mattresses or fibers of **Munja, Valkal, Kusha, Shana** or similar material. Should be made to decompose in a dark area. The cage is then immersed in a running stream where the current is not very strong, where there is no interference from the public. The body should be allowed to decompose in this water for seven days. When every parts is loose, it should be taken out and starting from the skin, every organ should be examined & peeled off with a brush of **Usir, bal, Vadu, Valvaj** or similar material. Every internal and external parts and every organ should be minutely observed by naked eye.

#### **Commentary of Dalhan<sup>1</sup> -**

1. If the dead body is not covered with Munja etc. then the body will not remain intact with all body parts owing to eaten away by aquatic animals like fish etc.
2. Body will get destroyed by aquatic animals if not kept in the cage.

**[A] Munjavalkushashanaadinamanyatmenaveshtitangm.****[I.] Munja -**

- ❖ **Etymology**<sup>3</sup> - Munjah (P.)Munjrate mrujyate anen.
- ❖ **Types**<sup>4</sup>- Bhadramunja , Munja
- ❖ **Synonyms**<sup>3</sup> -Mouajitranakhaya, Munjanak, Darbha, Dradmula ,Dradtrana ,Sara ,Bana ,Tejana , Munjataka , Sumekhala.

**❖ Review of modern literature-****1. Bhadramunja<sup>4</sup> -**

**a.] Botanical Name<sup>4</sup>-** Saccharum munja Roxb.

**Synonyms-** S. bengalense Retz. Erianthus munja Jesw.

**b.] Family<sup>4</sup>-**Gramineae

**Synonyms-** Poaceae

**c.] Appearance<sup>10</sup>-** It is a very large erect grass,5.5m long and grows in clumps. Culm biennial, pale, solid, pithy and smooth.

**d.] Functions-:** To cure blood born disease<sup>2</sup>, making mekhala.

**e.] Habitat<sup>5</sup>-** Growing in clusters on the river banks.

**f.] Distributions<sup>10</sup>-** Mainly in Punjab, U.P., Bihar, Bengal, Orissa, i.e. North India in Punjab and upper Gangetic plain.

**2. Munja<sup>4</sup> –** Smaller than Bhadramunja**g.] Photographs -**

Saccharum munja



S.bengalense



Erianthus munja

**[ II.] Valkal -**

- ❖ **Etymology**<sup>3</sup> - Valkal (P.Kli.) Valate samvrnoteeti.
- ❖ **Synonyms**<sup>3</sup> -Vrikshatwak, twak, twacha, Chhallakam

**VALKAL****[ III.] Kusha -**

❖ **Etymology**<sup>3</sup> - Kusham(kli. Pu.)ku papam shayati nashayatiĒ

Yadva kou bh mou shete rajate shobhate ityarthahaĒ

❖ **Synonyms** - Kusha, Darbha, Barhi, Sucyagra kusa ghasa

❖ **Review of modern literature -**

a.] **Botanical Name**<sup>4</sup> - *Eragrostis cynosuroides* Beauv.

**Synonyms** - *Desmostachya bipinnata* Stapf.

b.] **Family**<sup>4</sup> - Gramineae

**Synonyms**- Poaceae

c.] **Appearance**<sup>10</sup>- Thick, firm & perennial grass, 30cm. -1m.long.

d.] **Functions**<sup>2</sup>- To cure blood born disease, Skin disease - Leprosy

e.] **Habitat**<sup>10</sup>- forms big tussocks in sandy desert areas.

f.] **Distributions**<sup>5</sup>- Throughout the plains of India.

g.] **Photographs -**

*Desmostachya bipinnata* Stapf*Eragrostis cynosuroides* Beauv

**[IV.] Shana-**

- ❖ **Etymology**<sup>3</sup>- Shana+pachadhyach
- ❖ **Synonyms** -Derghashakh ,derghapallvha,Sunn,Sanai,Sunn hemp
- ❖ **Review of modern literature-**
- a.] **Botanical Name**-Crotalaria juncea Linn.
- b.] **Family**-Laguminosae
- c.] **Appearance**<sup>10</sup>-It is an important cultivated fibre plant and tall stiff shrub,8-10 feet long.
- d.] **Distributions**<sup>10</sup>- Cultivate all over India
- e.] **Function**<sup>2</sup>- To cure blood born disease, for skin diseases (ext. & int.) etc
- f.] **Chemical composition**<sup>6</sup>-In leaf –Very large amount of pichchhila dravya ,Vasha, Rala
- g.] **Photograph** -



Crotalaria juncea Linn.

**[B.] Ushirbalvenuvalvajkurchanamanytmen.****[ I.] Ushir-**

- ❖ **Etymology**<sup>3</sup> - Ushiraha (Pu.Kli.)vasha kantou.
- ❖ **Synonyms** - Ushir , Amrunala, Mrunala, Khas, Viranamula, Gaander, Bena, Cuscus grass
- ❖ **Review of modern literature-**
- a.] **Botanical Name**<sup>4</sup>- Andropogon muricatus Retz.  
**Synonyms**- Vetiveria zizanioides(Linn.)Nash.
- b.] **Family**-Gramineae

**Synonyms** - Poaceae

c.] **Appearance**<sup>10</sup>- It is a densely tufted perennial grass, with aromatic roots and rhizomes. Up to 2m. high.

**Leaf**-30-60cm. long, narrow, keeled, erect, glabrous and with scabrid margins. Radical leaves longer.

**Flower**-Inflorescence a panicle (15-40cm. long) of numerous slender racemes in whorls on a central axis, spikelets grey, green or purplish, 4-6mm. long, in pairs of which one is sessile and the other is pedicelled.

d.] **Functions**-For scraping purpose.

e.] **Habitat**<sup>10</sup>-Open marshy places.

f.] **Distributions**<sup>10</sup>-Throughout India

g.] **Chemical composition**<sup>6</sup>-Volatile oil, resin, pigment, amla dravya, calcium salt, iron oxide, kast bhag.

h.] **Photography** -



Vetiveria zizanioides



Andropogon muricatus

## [II.] Venu-

❖ **Etymology**<sup>3</sup> - Venu(P.)Aja+ajivruribhyo nichcha.

❖ **Synonyms**<sup>3</sup> Vansa, Tvaksara, Karmara, Tvacisara, Trnadhvaja, Sataparva, Venu, Maskara, Tejana, Baansa, Bamboo

❖ **Review of modern literature-**

a.] **Botanical Name**-Bambusa arundinacea Willd.

b.] **Family**-Gramineae

**Synonyms-** Poaceae

c.] **Appearance**<sup>10</sup>- It is a tall thorny bamboo

**Height-** Up to 30m.high, with many stems, 7.5-10 to 30-40cm. broad

**Leaf-**12.5-15cm. long, 2.5-3cm. broad

**Root-**Rootstock thick and central and bears bright green shining culms

d.] **Functions-**For scraping perpose.

e.] **Distributions**<sup>10</sup>- Throughout India

f.] **Photograph -**



*Bambusa arundinacea* Willd

[ III.]**Valvaj-**

❖ **Etymology**<sup>3</sup> -Va(Ba)lvajaha (Pu.) Valve parvate jayate iti.

Alt. Ref. - Balvaj - Komal trina,lata, bel<sup>7</sup>

- Valkal<sup>9</sup>

❖ **Synonyms** – Ulapaha

❖ **Functions-**For scraping perpose.

**III] Review of previous work done -**

**Dr. Pandit S.V.** has worked on Sushrutokta Mritashodhan method in 1996 “ **Modification of experimental hydro-dissection model for human cadaver based on principles of Ayurved and its probable application in the human cadaveric dissection.**” He has thoroughly studied dravyas relating ‘Aveshtitang’ & ‘Kurch’. In his experient he utilized ‘Shana (Crotalaria juncea) for covering the dead body and prepared brooms (Kurcha) of Ushir and



Venu with the help of Valkal and he tried in vain to dissect out the dead body with the help of aforesaid two Kurcha. Because, by his opinion, by keeping dead body in water only for '7' days is not sufficient to make dead body soft so as the scraping is possible with the help of aforesaid Kurcha. At last he had to utilize regular modern dissecting instrument for completion of dissection.

#### **MATERIALS -**

1. References about Vanaspati regarding aforesaid procedure collected from Sushruta samhita & its commentators.

#### **PROCEDURE - Mritashodhan procedure**

A.] Munjavalkalkushashanaadinamanyatmenaveshtitangm.

B.] Ushirbalvenuvalvajkurchanamanytmen.

2. Various Dravyaguna books required for description of Vanaspati.
3. Information in form of photographs etc. through Internet.
4. Camera for photography.

#### **METHODS -**

1. Thorough references about Vanaspati regarding aforesaid procedure collected from Sushruta samhita & their commentators and compiled in review of literature section.
2. Relevant and appropriate part of those references collected as a material and jot down in that section
3. Etymological derivation of nomenclature of Vanaspati and their synonyms carried out with the help of various Ayurveda shabdkosha and Sanskrit dictionaries considering its importance regarding identification.
4. Availability, identification and authentication of Vanaspati carried out alongside collaborative study with Dravyaguna and botany departments.
5. Meticulous interpretative study carried out of identified and authentic Vanaspati in concern with Rachana described by Sushruta.
6. Appropriate interpretation carried out based on methodical interpretative study.

#### **A.] Munjavalkalkushashanaadinamanyatmenaveshtitangm -**

In above reference Sushruta has described Mritashodhan procedure, after selection and preparation of dead body Sushruta has advised to wrap the prepared dead body with Vanaspati 1.Munja 2.Valkal 3.Kusha 4.Shana adinam. Here researcher's aim is to find out, what is the ultimate purpose of Sushruta behind this? Are these Vanaspati available in this era? Is identification possible of these Vanaspati? Is use of these Vanaspati has any chemical preservative effect? To rule out these queries researcher collected following information of

these Vanaspati.

### **B.] Ushirbalvenuvalvajkurchanamanytmen.**

In above reference Sushruta has described Mritashodhan procedure, after selection and preparation of dead body advised to Scraping the dead body by a Kurcha( broom) made up with Vanaspati like 1.Ushir 2.Venu 3.Valvaj and asked to use any one kurcha.

### **OBSERVATIONS -**

#### **A.] Munjavalkushashanaadinamanyatmenaveshtitangm.**

1. It is not clarified by Sushruta that which should be utilized?
2. Two species of Munja are described Bhadramunja & Munja?
3. Three different species of munja a) Saccharum munja Roxb., b) S. bengalense Retz., c) Erianthus munja Jesw.
4. Bhadramunja is very large, erect type of grass which grows near about 5.5 meter & Munja is smaller than Bhadramunja.
5. Munja used to cure blood born diseases & for making ropes?
6. If separately considered, then valkal of which plant. This is not clarified.
7. Kusha (Family: Graminae, B.N.: Desmostachya bipinnata Stapf.) is the perennial grass variety available throughout the plains of India growing between 30 cm to 1 meter.
8. Shana is with botanical name Crotolaria Juncea Linn. From Leguminosae family, important tall, stiff and fibre plant cultivated all over the India growing near about 8 to 10 feet.
9. Word Adinam means etcetera & Anyatamen means anyone utilized by Sushruta
10. Sushruta's habitat is probably considered as in the vicinity of Gangetic plain and hilly region.
11. **PURPOSE** - The above mentioned plants are used to cover the body.

**Purpose clarification** - by following interpretation

- i. To provide **mechanical protection** to the skin of the body from small aquatic predators like fish, which can enter the cage through its small passages.
- ii. To provide **external preservation**? Doubtful
- iii. To provide **support** by holding the organs or parts together which might be separated by the maceration effect of water or its force.

**Comment** : If there had been any specific purpose of using any **particular** plant, it **definitely would have been mentioned** by Sushruta.

**B] Ushirbalvenuvalvajkurchanamanytmen.**

1. **Ushir** is *Vetiveria zizanioides* Nash. From Graminae family. It is perennial grass growing upto 2 m. high distributed throughout India.
2. **Venu** is nothing but tall thorny bamboo from Gaminiae family with B.N. *Bambusa arundinacea* Willd. growing up to 30 m. high throughout India.
3. According to synonyms ( Komal trina, lata, bel) **Valvaj** is sort of soft grass.
4. Which type of Vanaspati should be used for scraping?
5. Which Part of these Vanaspati should be used?
6. Two different species of Usir a) *Andropogon muricatus* Retz. b.) *Vetiveria zizanioides*(Linn.)Nash.
7. Word Anyatamen means anyone utilized by Sushruta.
8. ushruta's habitat is probably considered as in the vicinity of Gangetic plain and hilly region.
9. **PURPOSE** - The above mentioned plants are used to slow scraping with the brushes.

Kurch of above meintion plants and other plants may be used.

Kurch-Means –Bunch of anything

- Bundle of grass
- Handfull of Kusa grass
- Peacock's feathers

It seems to be true that the scraping will not be possible without making a Kurch of above said material.

Hence we can say that plant which is available nearer the river can be utilized for scraping of the body.

**DISCUSSIONS-**

- **Panjrstham** – As river bed is rich in detritus feeders (e.g.-Crocodile etc.) hence, to protect the body from these animals, the body ought to be kept in a cage. Dalhan says in pursuance of this, 'Body will get destroyed by aquatic animals if not kept in the cage.' Here, it is neither clarified regarding the material for building the cage or its design.
- With interpretations of references from Dalhan and Kashyap it can be optimistically interpreted that Sushrut's habitat was somewhere between Gangetic plain to Himalaya. And it is seen with description available of all Vanaspati described by Sushruta that most of these are available throughout plain of the India.

**A] Regarding dravya used for aveshtitangm (i.e. Munja, Valkal, Kusha, Shana adinam anyatmen)**

In Ayurveda samhita, two types of Munja are described: Munja and Bhadra Munja<sup>4</sup>. If we observe the basic reference of mritashodhan<sup>1</sup> it is clear that Sushruta has not mentioned which type of the Munja should be utilized for covering the dead body. According to the description available, Munja is very large, erect type of grass and which grows near about 5.5 meter<sup>10</sup>. Nowadays, similar varieties of species of Munja are also available. According to modern botany, Munja comes under the family Graminae (Poaceae) with three different species 1. - Sacchurum munja Roxb 2. S.bengalense Retz 3. Erianthus munja jesw. But considering the fact that, the habitat of Sushruta was in the vicinity of river Ganges and the availability of Sacchurum munja Roxb species in the same area; one can easily come to the conclusion that, this Sacchurum munja Roxb species could be the one and same as described by Sushruta to cover the dead body.

Apart from aforesaid use of Munja described by Sushruta, Munja was also utilized to cure blood born diseases<sup>2</sup> and for making ropes, by this, one can say that Munja could be utilized as chemical preservative as well. But this may be questionable considering the scenario of other conditions pointed out by Sushruta like, with word adinam<sup>1</sup> he indicates use of other vanaspati than recommended one and with word anyatamen<sup>1</sup> he also denotes the use of any one vanaspati for covering the dead body. This clearly approves or support that the use of Munja was merely meant for covering the dead body and not as a chemical preservative.

The synonyms<sup>3</sup> of Valkal like, rikshatwak, twacha, twak, chhalakam clearly suggest valkal means nothing but the skin of tree. And Sushruta has advised it to utilize the same for covering the dead body without indicating Valkal of any specific tree. This supports that there is no any medicinal use (i.e. antibacterial) of valkal on dead body, hence, Valkal can be suitably utilized only to cover the dead body (for protection against effects of mechanical forces and small aquatic animals) which can be made available in pieces or of appropriate length as per the requirement depending upon the height of the particular dead body.

Kusha (Family: Graminae, B.N.: Desmostachya bipinnata Stapf.) is the perennial grass variety available throughout the plains of India<sup>10</sup> growing between 30 cm to 1 meter. Considering the available information it is suitably covers the dead body with purpose mentioned in aforesaid discussion of valkal.

Shana is with botanical name Crotolaria Juncea Linn. From Leguminosae family, important tall, stiff and fibre plant cultivated all over the India growing near about 8 to 10 feet. It can perfectly envelop dead body hence, no need to use its segments and provide requisite protection as recommended by Dalhana.

**Hence**, we can say that plants which are **available nearer the river** can be utilized for wrapping the body.

**B] Regarding Vanaspati used to prepare Kurch used as dissection instrument (Ushir, Bal, Venu, valvej kurchanam anyatamen)**

**Ushir** is *Vetiveria zizanioides* Nash. From Graminae family. It is perennial grass growing upto 2 m. high distributed throughout India. **Venu** is nothing but tall thorny bamboo from Graminae family with *B.N. Bambusa arundinacea* Willd. Growing up to 30 m. high throughout India. According to synonyms ( *Komal trina, lata, bel*) **Valvaj** is sort of soft grass.

Considering the status of the Vanaspati for making Kurcha for scraping procedure, it is seen that these are categorized under most pliable to stiffer variety. With suggestion of utilization of any one can be used to prepare Kurcha, it clearly mentions that which Vanaspati should be utilized is dependent upon the condition of the body after removed from water. Whether it is sufficient soft or not? That suggests the Vanaspati for preparation of Kurcha. By observing, the structure of these Vanaspati of Mritashodhan regarding stiffness and indication of use of either or, we can say that if you have time in hand then keep the body in water until it get scrapable by the use of Kurch of Ushir. And if you don't have sufficient time in your hand then keep the body in water at least until it gets scrapable with Venu. This indirect guide line might have suggested by Sushruta by indicating the use of either Vanaspati as a scraping broom.

## CONCLUSIONS-

### A.] **Munjavalkushashanaadinamanyatmenaveshtitangm.**

There is no use of these Vanaspati as an antibacterial hence, **any one** of the plant mentioned by Susruta or **any other available in the vicinity & suitable for the purpose** ( i.e. protection against effects of mechanical forces or against aquatic predators ) can be utilized for covering the dead body.

### B.] **Ushirbalvenuvalvajkurchanamanytmen.**

Kurch of any one of the mentioned plants or other can be used suitably. That available in the surrounding area & suitable for scraping the dead body as per the availability of time or condition of the body either ++++ soft or + soft.

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## REFERENCES -

1. Sushruta samhita – (Nibandh sangraha, commentary by Shri Dalhanacharya) edited by Vaidya Jadavji Trikumji Acharya, Chaukhambha Surbharati prakashan Varanasi, reprint-2012, C-S.Sh.5/49,P-369,S.Su.6,P-24).
2. Modification of experimental hydro-dissection model for human cadaver based on principles of Ayurved and its probable application in the human cadaveric dissection. **(MD dissertation title -1996-Dr.S.V.PANDIT )**

3. Shabda Kalpadrum - (Commentary by Raja Radha Kanta Deva,Chowkhamba Sanskrit Series Office, Varanasi,Edition-1967, Part-1<sup>st</sup>, P-275. Part-2<sup>nd</sup>, P-157. Part-3<sup>rd</sup>, Page-741. Part-4<sup>th</sup>, P-299, 495,3 01. Part-5<sup>th</sup>, P-14).
4. Bhavaprakasa Nighantu (Commentary by Prof. K.C.Chunekar, Edited by Late Dr. G. S. Panday, Chaukhambha Bharati Academy,reprint-2113,Page 365, 367, 228, 250,148, 362).
5. Dravyaguna Vijnyana(Commentary by Prof. Dr.A.P.Deshpande,Prof Dr.Subhash Ranade,Shaniwar peth Pune,reprint July 2010,P-940,939,937,639).
6. Dravyaguna Vijnana(Commentary by Prof. P.V.Sharma, Chaukhambha Bharati Academy,reprint-2009,Vol-2<sup>nd</sup>,P-637,634,614,114,612).
7. Sanskrit Hindi Kosha(Edited by vaman shivram aapte, Chaukhambha Vidhya Academy,reprint-2014).
8. Sushruta samhita(English translation of text & Dalhan's commentary along with critical notes by P.V.Sharma,reprint-2010,Vol-2<sup>nd</sup>, P-182 ).
9. Parishadham Shabdartha shariram (Edited by P.Damoder Sharma Gaoda, Commentary by Raghbir Prasad Trivedi,Bedhanath Ayurveda Bhavan Limited Nagpur,reprint-1979,P-5).
- 10.Plants of Bhava Prakash(commentary by Prof.K.C.Chunekar,Dr.N.P.Hota,edited by Publised by –The director, Rashtriya Ayurveda Vidyapeeth, New Delhi,R.A.V.Publication1999,P-177,290,291,219,251).
- 11.Bhavaprakash of Bhavamisra(Text, English translation notes,appendeces and index by Prof.K.R.Srikantha Murthy,Vol-I,Krishnadas academy,Varanasi,edited-First 1998,P-252,254,219,251).
- 12.Kasyapa samhita or Vrddhajivakiya tantra(Revised by Vatsya with Sanskrit introduction by Nepal rajaguru Pandit hemaraja sarma with The vidyotini hindi commentary and hindi translation of Sanskrit introduction by Ayurvedalankar Srisatyapala bhisagacharya,Chaukhambha Sanskrit sansthan Varanasi,reprint-2012,P-38).

**Review :**

## **Understanding of *Prana* subtle in context with concept of *Bala***

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**Abstract :**

The Terminologies of oriental sciences are far inclusive whereas those of western world are exclusive in nature. *Prana* is considered as a type of *vayu* as well as a vitality element / subtle of body. Ayurveda is a wholistic medicine where the whole body is a consideration for diagnostic as well as therapeutics. Same is explored using literary review as a method. The article is evident that concept of '*bala*' & '*prana*', are far inclusive. There cannot be exact correlation with western biochemical medicine. Both of terms are responsible for vitality of human systems. The vitality element / vigor element because of which human systems can function at optimum & physiological level. The *prana* is again synonyms to *vayu* and hence *vayu* is called as *bhagwan* (god) in ayurvedic literature.

**Key Words :** *Bala*, *Prana*, Epistemology

**Reviewed reports :****Relevance:**

Asian medicines share few things in common. Such as considering disease as an imbalance in an holistic apparatus. Imaging living individuals as Microcosm in a macrocosm & emphasis on vitality elements. Although western sciences & medicine given it up concept of vital energy was central amongst Asian medical practices. *Prana* is the relevant ayurvedic term.

'Vitality & its expressions through energetic forms, such as prana in Indian medicine (much like 'qi' in Chinese medicine.) provide a unifying theme in these asian systems which consider body as a integral part of broader universe of order & experience, & part of greater whole that is connected by energy & spirit. <sup>1</sup>

The Terminologies of oriental sciences are far inclusive whereas those of western world are exclusive in nature. *Prana* is considered as a type of *vayu* as well as the same term is referred as vitality element /subtle of body.

**Meaning of word *Prana*:**

*Nirukti* of term '*prana*' is Praniti anen iti.

The word is made with *upasarga* of *Pra* applied to *dhatu* Ana. Meaning of *Ana dhatu* is to

breath, to respire, to move, to go

- 1) Meaning of *upsarga Pra* is before, forward, in front of, forth, filling, fulfilling. (As adjective): excessively, very, much.
- 2) Meaning of *Prana* : Breath in, inhale, the breath of life, breath, respiration, spirit, vitality, life.
- 3) *Prana* principle is one on which phenomenon of life depends.<sup>2</sup>

### **Prana Vayu :**

*Prana* *vayu* is situated at *moordha*, *ura*, *kantha*, *jivha*, *aasya*, *nasika*, and is responsible for *stheevan*, *kshavathu*, *udgara*, *shwasa*, *aahar karma*. (*Cha. Chi.28/6*)

The main seat of *prana* is *moordha* i.e. *shira*. (*Ah.Su. 12/4*) *Booddhi* principle resides in *shira*. *Bhelaacharya* mentions of *Shirastha hrudaya* as a place of *manas*.

The present review is about *Prana* as a vitality element/subtle *prana*. It is an important topic as phenomenon of 'life' depends on 'prana' itself. (*Charaka/chikitsa/28*)

### **Prana Subtle :**

**Nature of prana subtle:** *Agni*, *soma*, *vayu*, *satwa*, *raja*, *tama* & five *indriya* & *bhootatma* constitute the *prana* principle, says *Sushrutacharya*. ( *sharir / 4 /3* )

**Place of prana subtle:** *Charaka* has quoted *shankha dwaya* ( both temporal regions), *trimarma* viz. *shira* ( head), *hrudaya* (heart), *basti* ( Kidney/ Urinary Bladder), *kantha* ( throat) , *rakta* , *shukra ojas* & *guda* (anus) as *pranayatana* in *sootrasthana* (*cha. Su. 29/1*). In *sharir sthana* he has quoted *nabhi* & *mamsa* instead of both of *shankha* (*cha. Sha. 7/9*). In *Ashtang samgraha* *Jivha bandhana* is considered as *pranayatana* instead of *mamsa*. *Pranayatana* is the place where 12 *prana* are predominantly situated in body.

### **Concept of bala in ayurved:**

There is enormous literature available about term *bala*. *bala* types, *balavruddhikara bhava*, *balya gana* to mention few. The term is far inclusive & includes entities & mechanisms behind the phenomena of *sharir bala* (the one is examined by *vyayamshakti*) & *manas bala* & immunity.

### **Bala & Sharir bhava:**

- *Charaka* quotes that *prakruta shleshma* is *balam* whereas *vikruta shleshma* is *mala*.
- *Shrughatacharya* quotes that *oja* is *bala*.
- *Bala* is divided into *Sahaja*, *Kalaj* & *Yuktikrut* types.
- *Balavruddhikara bhava* include Having progeny of *balawan purusha* & having birth in *balakarak kala*, etc.



Thus ayurvedic concept of *bala* is a wholistic concept where *sharir bala*, *manas bala* & immunity all the meanings are expected.

This is why on a critical review of '*balya* action', T.S. Mahesh *et al* conclude that, 'Even though physical activity is the main parameter for *bala*, the other forms of *bala* are not to be ignored while evaluating the activity of *balya*.'<sup>3</sup>

#### Understanding of *Prana* subtle & *bala* relationship:

- In *Charaka Samhita sharirasthanas Rasaja bhava* for *garbhotpatti* include *prananubandha*. Commentator Chakrapani has quoted '*Prananubandha iti balanubandha*'.
- *Alpapranata* is *poorvarooopa* of *jwara* in both of Charaka Samhita as well as Ashtang Hrudayam.
- In his commentary on Charaka samhita, Chakrapani refers '*Manas bala hani*' as *Alpapranata*.
- On the same term in same context Arundatta refers *Stokabalatwam* as *Alpa pranata* whereas Hemadri quotes *Prano Balam*.
- Explaining the term '*prana virodhi*' in *jwara chikitsa*, Charaka Samhita, Commenter Chakrapani has said '*bala virodhi*', implying *prana* as a *bala*.
- Hemadri has very clearly quoted on his commentary on Ashtang Hrudaya chi 4.8, that *prana* is nothing but *bala*.
- Dalhana & chakrapani both on su.su.17/13, clearly quote that *prana* is equivalent of *bala*.
- On commenting on word *balavatam* (23/3), Dalhana quotes as *shaktiyuktam*.
- On su.su.45/47-48 where *godudgham* is quoted as *pranada*, acharya Dalhana clears it as *balakara*.

#### Discussion & Conclusion:

Interpretation of terms of oriental science like Ayurved is a job of great conscientiousness. Many of correlations & translations made by many of scholars are/were based on contemporary knowledge of physics & Chemistry. But when the dimensions of physics have changed to quantum physics & that of chemistry have changed to nano level, ayurvedic fraternity must be aware of it. Distinguished Professor Dr. Ram Harsh Singh says, '..... It seems conventional western biology and biomedical sciences still follow the principles of classical Newtonian physics which has become obsolete in some of its major aspects after the advent of new modern physics after the work of Albert Einstein and his theory of general Relativity and Quantum mechanics. Quantum physics, Nano-science and united field theories display a new canvas of scientific thinking warranting quick adoption of real modern physics by the biosciences and medicine which has not yet been done....'<sup>4</sup>

It is *Vayu* that is responsible for noble functions promoting all kind of actions, restraining & impelling mental activities, coordinating sense organs, configuring tissue elements of body. Also promoting speech, touch & sound, joy & courage stimulating *agni* & absorbing *dosha*. It moulds the shape of embryo, & is indicative of continuity of span of life. (Charaka, su.12/8)

Interestingly, *Prana* is synonymous to *Vayu*. Concept of *vayu* as a *dosha* is in accordance with a functional entity. But along with that *prana* is a term used as a vitality element of body. Vitality again depends on *bala*.

This is why while describing the chapter of vatavyadhi chikitsa, Charakacharya have quoted a verse that says, '*Vayu* is the *elan vitae*, *vayu* is the strength, *vayu* is sustainer of body of living beings, *vayu* is all pervasive, it is reputed as controller of everything in the universe.'

*Vayu* is quoted synonymous to *bala*. Chakrapani clarifies it that, *vayu* is responsible for *sharir dharana*, Same *sharir* is the base for *bala dharana*. In such regards *bala* is synonymous to *prana/vayu*.

#### Conclusion :

- 1) Interpretation of Ayurvedic terminology is a vigilant job as, ayurveda shares a enormous level of epistemological difference with todays western biochemical health sciences.
- 2) *Prana* is a *vayu* as well as a vitality element. Interpreting it as oxygen will be '*avyapti dosha*.'
- 3) *Vayu* is responsible for *sharir dharana*, Same *sharir* is the base for *bala dharana*. In such regards, *samhitas* have considered *bala* synonymous to *prana/vayu*.

#### References/ Bibliography :

- 1) Mark S. Micozzi, vital healing , Jessica kingslay publishers, 116, Penton ville road, London UK , 2011.
- 2) Sir Williams Monneire , Sanskrit- English dictionary
- 3) T.S. Mahesh *et al* Journal of ayurved & integrative medicine vol 5, april, Issue-2
- 4) Singh R H, edit, annals of Ayurved, vol 3 issue 1-2, 2014
- 5) Brahmanand Tripathi, Charaka samhita (Part 2), Chaukhamba Surbharati Prakashana
- 6) Yadavji Trikamji acharya, Charaka samhita & Chakrapani commentary; Chaukhamba prakashana varanasi, reprint 2011
- 7) Yadavji Trikamji acharya , Sushruta samhita with Dalhanacharya commentary, Chaukhamba prakashana varanasi, reprint 2011
- 8) Vartak S. G., Dosha dhatu mala vignayana
- 9) K. Sembulingam, Prema Sembulingam, Essentials of Medical Physiology, Jaypee brothers medical publishers, pvt ltd,6<sup>th</sup> edition.

Review :



## **“Survay Study Of Sharir Prakruti With Special Reference To Their Vulnerability Towards Depression”**

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### **Background and Objectives :-**

The development of depressive symptoms can lead to negative life, depression may lead to state of stupor, pessimism, sense of hopelessness and guilt, self-deprecation, and ideas or delusion of sin or crime, to them “a moment seems an eternity”. Such events in the lives of college students, leads them towards suicidal tendency so this study was an attempt to find whether there is any correlation between Sharir Prakruti and level of depressive symptoms with the help of standard and reliable Sharir Prakrutiparikshan profarma. Now a day it is important to study and add modern parameters in Ayurveda so that it can be explained in a proper and easy way to modern society.— References used (6)

**Key Words** : Prakruti , Manas , Depression

### **Introduction -**

Prakruti is one among the most important and most basic principles of Ayurveda. Prakruti form the basis in the study of wide range of aspects ranging from Sharir, Nidan to Chikitsa. Knowledge of Prakruti is therefore considered crucial in the field of Ayurveda. In this study only Vata Pradhan, Pitta Pradhan, and Kapha Pradhan Prakruti are taken under consideration.

### **Depression :-**

Depression is an extensive neurological life -threatening disorder, has been linked to abnormal Circadian rhythm or clock that affects individual in all communities. Depression frequently reduces the activity of person and causes disability with mood off, loss of interest or pleasure, decreased energy level, low self-worth, disturbed sleep, reduce appetite.

Depression is characterized by melancholic feelings of sadness, hopelessness, and pessimism.

Typical symptoms of depression include :

- ❖ Depressed melancholic feelings of worthlessness and inadequacy;
- ❖ Sadness;
- ❖ hopelessness;

- ❖ lack of interest in social activities;
- ❖ withdrawn silent demeanor;
- ❖ inability to concentrate;
- ❖ Both insomnia and frequent, excessive sleep.

Depression is a serious mental health concern that will touch most people lives at some point in their lifetime. Many people experience the first symptoms of depression during their college years. In 2011, the American College Health Association–National College Health Assessment (ACHA–NCHA - a nationwide survey of college students at 2- and 4-year institutions found that about 30%of college students reported feeling “so depressed that it was difficult to function” at some time in the past year.

Depression can affect student’s academic performance in college. Studies suggest that college students who have depression are more likely to smoke and other bad hobbies.

Genetic research indicates that vulnerability to depression results from the influence of multiple genes acting together with the environmental factors.

Concept of Deha-Prakruti can be correlate with Genetic constitution of modern science as it is said in Rasvaisheshik su.1.6.

Modern science disease diagnosis process does not take sufficient account of difference between the people but *Ayurveda* classify the people in different individual constitution i.e.*Prakruti*.

### **Materials**

Material for practical study :

The study was performed under two headings :-

Literary : The following material was studied-

- ❖ Study of Sharir Prakruti from Samhitas(Charaksamhita, Sushrutsamhita, Ashtang Sangraha&Hriday)
- ❖ Study of Depression as per modern science and its references in classic Ayurveda texts were studied( Brain’s Disease of the Nervous System 12<sup>th</sup> edition, API’ Merck Manual of Medical information)
- ❖ Sharir Prakruti Parikshan Proforma of “Ayusoft”approved by Center for Development of the Ministry of Communication And Information Technology, Government of India(C-DAC).
- ❖ Depression Anxiety and Stress ScaleQuestionnaire (DASS-21).

**Methodology :-**

- A group of 30 healthy students from B.A.M.S (first year) Bharati College of Ayurveda was taken as subjects for survey study.
- The Sharir Prakruti of these subjects was assessed by using “Ayu Soft” which is standard, reliable, and authentic and approved by Center for Development of the Ministry of Communication And Information Technology, Government Of India (C-DAC).
- Assessment Depression level was done with the help of Depression Anxiety and Stress Scale Questionnaire (DASS-21).
- Depression level (mild, moderate, severe) was compared with the Sharir Prakruti of volunteers.

**Inclusion Criteria :-**

- Sample size-30 healthy individual both male and female.
- Age-17-23years
- Individuals free from any major physical &mental illness.
- Individuals studying under same course.

**Exclusion Criteria :-**

- Above 23 years
- Individuals from outside institute, suffering from major mental and physical illness.

**Observation&Result :-**

Out of 30 volunteers, we observed that there were,

- I. Vata Pradhan,-8
- II. Pitta Pradhan - 14 , and
- III. kapha Pradhan Prakruti -8 individuals.

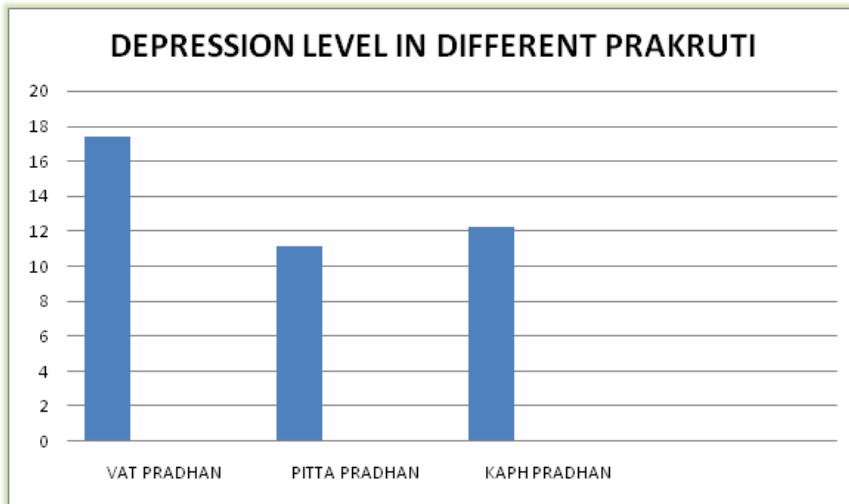
Following table shows, score of Depression level in volunteers according to their Prakruti.

**Table: Depression level score in different Prakriti.**

S .NO	Vata Pradhan Prakruti	Pitta Pradhan Prakruti	Kapha Pradhan Prakruti
1	13	9	9
2	18	10	21
3	21	10	22
4	15	8	7

5	10	12	10
6	14	16	11
7	22	12	9
8	26	11	9
9		16	
10		18	
11		10	
12		10	
13		6	
14		8	
MEAN	17.37	11.14	12.25

**Bar Diagram: Score of Depression level in Different Prakruti.**



Here on X-axis-Level of Depression,  
Y-axis-Vata, Pitta, & Kapha Pradhan Prakruti.

**CONCLUSION:-**

- Vata Pradhan Prakruti individuals are more vulnerable towards Depression.
- Pitta Pradhan Prakruti individuals are less vulnerable towards Depression.

- Experimental study shows that Vata Pradhan Prakruti has highest score in Depression level. (“Vat Rajogunbahula”).
- Average mean of Vata Pradhan is more than other two dominant Sharir Prakrutiis seen in this experimental study.

**Scope & Limitations :-**

Scope :-

- Further study can be done with large sample size.
- Separate study based on age and gender can be conducted.
- Study on before & after effects of Pranayam, Meditation etc on Depression level can be done.

Limitation :-

- This study was limited to only 30 individuals.
- This study was limited to only B.A.M.S. students.

**References :-**

1. Dr. Brahmanand Tripathi, AshtangHridiyam SharirSthan chapter 3/93-103, Chaukhamba Sanskrit Pratishthan Delhi.
2. Dr. Brahmanand TripathiAshtang Hridiyam Sharir Sthanchapter6/85-89, Chaukhamba Sanskrit Pratishthan Delhi.
3. (Hon Lt Col) Gurumukh S Sainani Editor (fifth edition) A.P.I. Textbook of Medicine, Published by Association of Physicians of India Bombay.
4. Sir Michael DonaghyEditor (12<sup>th</sup> edition) Brain’s Disease of The Nervous System: (pg no 133).
5. Dr. Brahmanand Tripathi Charka Samhita Viman Sthanchapter 8/96-98, Chaukhamba Surbharti Publication Varanasi.
6. Pandit shri Lalchandraji Vaidya Editor (fifth edition), ShushrutSamhita chapter 4/ 69 - 76. Motilal Banarsidas Publication Varanasi.

Review :



## Stress - an Ayurvedic review

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### Abstract

Modern mechanized era has given humans a greatest bane – the stress. The previous unpleasant experiences and complexes are the major cause of tension. Ayurveda advocates the inter-relationship between mind, body and soul. The body and mind constitute the substrata of disease and happiness. Ayurveda explains that the three principal cause of all illness either psychiatric or somatic are basic errors of ecological, intellectual and sensorial inputs.

Improper diet habits and continues work load has lead to different kinds of mental and physical stress on humanity. Stress can be understood as pathology in (Channels of Mind) *Manovaha Strotas* due to the aggravation of Mind (*Manasika Dosh*a) like qualities of Mind (*Raja* and *Tama*). Aggravation of Air (*Vata dosha*) also plays a key role in development of various symptoms of stress and depression. All these factors continue bombarding the organism leading to an unwholesome stressful state which over rides a limit leading to stress disorders resulting in physical and psychological ailments. Ayurveda advocates religious practices, psychological methods and physio pharmacological methods in the management of psychological disorders.

**Reference no:** - 6

**Key words:** - *Stress, Ayurveda, Maanovaha Strotas, Raja, Tama, Vata Dosh*a

### Introduction

In psychology, stress is a feeling of strain and pressure. Modern human beings are a victim of stress and its related disorders which threaten to disrupt the life totally. The emotional garbage like fear, hatred, jealousy etc. which gets accumulated in the subconscious mind cause a disruptive explosion in favorable circumstances. If an individual is ready to accept surroundings and make some alterations in his attitude, it can bring harmony. When one peacefully coexists with the surroundings and self, nothing can shake the equilibrium. Balanced utilization of time, mental faculties and object of sense organs is the cause of happiness. Modern life style, faulty diet, irregular sleep, addiction to alcohol, smoking, etc. are found to be the leading cause for stress related disorders. Stress is described as the outcome of psychological and environmental factors on physical or mental wellbeing. Stress



implies a challenge that requires behavioral, psychological and physiological changes to be successfully met which triggers hyper-arousal of counteracting reactions. In a healthy individual, the stress response (fight, fright, or flight) is provoked by a genuine threat or challenge and is used as a tool for appropriate actions and reactions. An anxiety disorder, however, involves an excessive or inappropriate state of arousal characterized by feelings of apprehension, uncertainty, or fear. In Ayurveda we find detailed information of stress as an etiological factor. Stress can be defined as any type of de arrangement in the functions of (thinking, decision making etc.) and powers (*Dhee, Dhriti, Smriti*) of mind (C.Sha.1/102). It is mentioned that any perturbation in the powers of mind (*Dhee, Dhriti, Smriti*) lead to *Pradnyaaparaadha* and it is the root cause of all diseases.

### **Stress an Ayurvedic Over view**

According to Ayurveda, health is not merely freedom from disease; it is essential that the Mind, Soul and Body are in excellent state so that the individual can perform his functions and fulfill his role in lie. Definition of Swastha also emphasizes equal importance to the mental state along with physical health (S. Su 15/48). Acharya *Charaka* names the core factors of life such as *Atma, Mana, Bhuddi, Manoartha* as *Adhyatama Dravya Guna Samgraha* (Ch. Su 8/13). These factors constitute the foundation on which all our inclination and declination in respect of both good and bad acts depends for their manifestation and occurrence. The knowledge is perceived by the proper combination of *Atma, Manas, Indriyas*, and *Artha*, without the completion of all these channels knowledge cannot be perceived. Here *Mana* is the bridge between materialistic and spiritual world. *Shariara* and *Manas* both are considered as *Rogadhistanas* (Ca. Su 1). An imbalance at mental level is usually reflected and re-enforced at physical level and vice versa. When allowed to persist for long time, the psychic and somatic disorders get combined with each other.

### **Etiopathogenesis of Stress**

*Manas* (Mind) is that which establishes the contact between the soul and body and which regulates the functions of the *Indriyas*. The subjects of mind are *Cintya* (things requiring thought), *Vicharya* (consideration), *Uhya* (hypothesis), *Dhyeya* (emotional thinking), *Sankalpya* (determination), *Indriabhigraha* (control of sense organs), *Svasyanigraha* (self restraint), and *Vichara* (consideration) represent the action of mind. When any of these faculties of mind gets affected it results in the 'abnormal status of mind'. *Charak* states that *Raja* and *Tama* are chief pathogenic factors of the mind and due to them many *Manasa Vikaras* are produced, which are as follows: *Kama* (excessive desire/feverishness), *Soka* (sorrow) and *Bhaya* (fear) vitiate *Vata* and *Krodha* (anger) vitiate *Pitta* resulting in psychosomatic symptoms (Ch. Ci 3/115) and (19/12). The main *Dosas* of the *Manas, Raja* and *Tama* are the causative factors of mental disorders, which are vitiated as a result of various types of desires and hatred Following three factors are responsible for the all physical and mental diseases (Ch. Su 1/37, 54, 57).

### **1. Prajnaparadha**

**2. Parinama****3. Asatmendriyarthasamyoga****Prajnaparadha :**

*Charak* mentions that *Dhi vibramsa* (impairment of intellect), *Dhrati vibramsa* (impairment of will) and *Smrti vibramsa* (impairment of memory) are the main causative factors of the mental disorders, which lead to evil *Karmas* and this stage is defined as a *Prajnaparadha*. It causes various types of physical and mental disorders i.e. *Kama*, *Krodha*, *Bhaya*, *Moha*, *Soka*, *Udvega*, etc.

**Parinama :**

Time factor has an important role to play as the cause of mental disorder. *Ayurveda* explains that result of all improper deeds (*Asatkarma*) will mature in time and when matures, the person will be afflicted with particular disorder. It is seen in some physical disorders and all mental disorders.

**Asatmendriyathasamyoga :**

Unwholesome contacts with senses are the third causative factor of mental disorder. They may be in the form of *Ati yoga* (excessive utilization), *A yoga* (non-utilization) and *Mithya yoga* (wrong utilization) of sense faculties (Ca. Sh 1/128). These three types of unwholesome contact of senses are aggravating the physical and mental disorders.

*Ayurveda* regards that diseases occur due to controlling the non-suppressible urges (*Adharaneeya Vegas*) or due to discharging the suppressible urges (*Dharaneeya Vegas*). When these urges are not controlled or discharged properly, mental tension and conflict may arise and various psychological and psychiatric illnesses may originate. At the biological level *Vayu* is the *Niyanta* i.e. controller and *Praneta* i.e. motivator of the mind (Ch. Su12/8) so any derangement in *Vata* will afflict mental activities. Vitiating *Vata* is responsible for derangement of *Indriyas* and *Manas*. Among the five subtype of *Vata*; *Prana*, *Vyana* and *Udana* are directly involved with mental activities. *Charak* states that grief, fear, anger, sorrow, excessive sleep and excessive awakening at night vitiate *Agni* which leads to many somatic disorders related to *Ama* (Ch. Vi 2/9). *Chandogya Upanishads* states that nutrition of mind is depending upon diet. One-third part of food is utilized by the mind; bad quality food may also vitiate mind, which may lead to the various types of mental disorders.

**DISCUSSION**

The octopus hands of stress have strangulated man disturbing his harmony within himself and the surroundings. According to *Ayurveda*, health is not merely freedom from disease. *Acarya Charak* states that *Ichha* i.e. desire and *Dvesa* i.e. hate are common factors of happiness and sorrow (Ca. Sa. 1/134), so that all mental disorders may be produced from these two factors. According to *Indu*, mind is vitiated by *Ragadi* i.e. desire etc. *Vikaras* of all human beings and give rise to anxiety, delusion etc. (As. H. Sh. 1/1 & its *Indu* comm.). A

person having *Sattvika Prakriti* never suffers from *Cittodvega* or other mental disorders. Quality opposite to the *Sattvika Prakriti* i.e. *Hina Sattva* or *Rajasik Prakriti* and *Tamasik Prakriti* are more prone to mental disorders. When *Alpa Sattva* (in adequate mental makeup or personality) person indulges in or is afflicted by *Manoabhighata* and *Pragnyaparadh*, it results in the imbalance of *Manas Dosha Raja* and *Tama* leading to the vitiation at bodily level by affecting *Prana*, *Udana*, *Vyana*, *Vayu*, *Sadhaka Pitta* and *Tarpak Kapha*, along with the vitiation of *Agni* & depletion of *Ojas* which present the psychosomatic presentation of disease. *Vata* is the controller and motivator of mind, any derangement in *Vata* will afflict mental activities. Vitiated *Vata* is responsible for derangement of *Indriyas* and *Manas*. The function of *Prana Vayu* is to control of *Buddhi*, *Citta*, *Indriyas* and *Hridaya*. *Udana Vayu* is responsible for memory; *Vyana Vayu* is responsible for different movements etc. Hence, the etiological factors of vitiation of *Prana*, *Udana* and *Vyana Vayu* may also affect the mental activities adversely. Vitiation of *Pitta* and *Kapha* can also be seen in some psychiatric disorders, *Pittakara Nidana* i.e. *Vidahi Dravyas*, *Krodha* etc. leads to provocation of *Sadhaka Pitta*, which is responsible for proper function of *Buddhi*, *Medha*, etc. *Kaphakara Nidana* i.e. heavy, sweet, cool food intake, excessive sleep etc. may cause vitiation of *Tarpaka Kapha*, which acts as a nourishment of *Indriyas*.

*Ayurvedic* psychiatry is a very well developed and vast stream. Contemporary treatment protocols and methods can trace its origin in the science of *Ayurveda*. Being a health science with holistic approach, *Ayurveda* looks at the mind as an integral part of life and health, thus recommends certain practices to control mind in view of achieving health. It advocates inter-relationship between the mind, body and soul as a whole. It deals with qualitative and quantitative aspects of man not only in individual perspective but also in relation to social environment. Some of the practices described by *Charak* are – to be truthful, abstinence from anger, practicing charity, practicing penance, good conduct, imparting spiritual knowledge, regularly studying scriptures, having respect for elders and persons having self control etc. All these conducts are very necessary for the prevention and treatment of psychological conditions.

## CONCLUSION

The four dimensional approach of life *Shareera*, *Indriya*, *Satva* and *Atma* is an holistic approach of *Ayurveda*. *Ayurveda* evolved through ages incorporating many principles and concepts. *Ayurveda* never limits a person just to his physical body, it elaborately explains about the soul, mind, intellect, senses and objects complex which constitute a man. The normalcy and coordinated function of these factors will result in the well being where as abnormality and in-coordination results in disease. An imbalance at mental level is usually reflected and re-enforced at physical level and vice versa. When allowed to persist for long time, the psychic and somatic disorders get combined with each other.

Stress is described as the outcome of psychosocial and environmental factors on physical or mental wellbeing. Stress implies a challenge (stimulus) that requires behavioral, psychological and physiological changes (adaptations) to be successfully met which triggers

hyper-arousal of counteracting reactions, a stressful state which over rides a limit leading to stress disorder resulting in physical and psychological ailments. *Ayurvedic* psychiatry is a very well developed and vast stream. When three categories of erroneous informational inputs i.e. ecological, intellectual and sensorial inputs continue bombarding the organism leading to an unwholesome stressful state which over rides a limit leading to stress disorder resulting in physical and psychological ailments. Following ethical, moral and social conduct, resorting to spiritual knowledge also helps to keep the mind and body free from the external and internal stressors.

### **References**

1. Acharya Charaka, Charaka Samhita, with Ayurveda- Dipika Commentary edited by Vaidya Yadavaji Trikamji Acharya, 7th edition, Cha ukhambha Orientalia, Varanasi,(2002).
2. Acharya Susruta - Susruta Samhita, Nibandhasangraha Commentary of Shri Dalhanacarya, Nyayachandrika Commentary of Gaydas, Edited by Yadav Sharma; Chaukhamba Orientalia Varanasi,Third Edition(2003).
3. Acharya Vagbhatta-Astanga Samgraha with commentary by Indu (Ram Shastri Kinjavadekar) Citrasala Press, Pune, 1940, Part-III.
4. Harrison's Principles of Internal Medicine, 16<sup>th</sup> Edition: Mcgraw- Hill Book Company, London.
5. Davidson's Principles and Practice of Medicine: Edited by C.R.W. Edwards, I.A.D. Bochier, C. haslet, E.R.Chivlers.
6. Fast fact- Stress and Strain By James Campbell Quick & Carry L.Cooper

Review :



## **Ayurvedic Perspective Towards Overuse Sports Injuries In Swimmers**

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### **ABSTRACT**

Regarding sports medicine and sports related ailments, direct references and readymade management plans are not available in Ayurvedic literature. It is the need of time to elaborate the Ayurvedic concepts in the context to sports medicine. This diagnostic survey study evaluates the aetiology, pathogenesis and prognosis of overuse injuries in Ayurvedic perspective to improve the effectiveness of sports medicine by prevention and to develop an Ayurvedic treatment protocol considering the Lakc anas, Hetus and SaC pr´pti of overuse injuries which will benefit both the Physicians and sports persons.

**References :** (11)

**KEY WORDS :** Sports medicine, overuse sports injuries, VO2 Max, Fatigue, Bruce treadmill test, PRTEE score, Bala.

### **INTRODUCTION**

People who make the same motions over and over in their jobs, sports, or daily activities are more prone to overuse injuries. Excessive practice is a part of sports men's career and life. Overuse injuries have become common as there is increasing number of young people participating at an early age, training year round and competing at specialized or elite levels. Professional sports players spend hours for training and practicing certain movements and actions every day. Cut throat competition and intense desire to win in any sports game leads to unbearable stress for a sports person. For an active sports person, overuse injuries are the resultant of excessive practice in an attempt to improve rapidly and for a beginner poor or unskilled technique may predispose to overuse like improper equipment, incorrect playing surface and training errors. Over use syndromes which are often ignored have become more crucial than acute / traumatic injuries as identifying the etiological factors create hurdles in the diagnosis and treatment of overuse injury.

Recent studies estimate that 30% to 50% of paediatric sports injuries are caused by overuse; with the frequency equal among boys and girls. For adult patients, the proportion of injuries that are due to overuse is even higher. In an international study of 2 years with 453 elite athletes, 60% of swimmers injuries were due to overuse, compared to 15% of soccer's injuries. Athletes who had overuse injuries lost 54% more time from training and competition

than those who had acute injuries. (Stanitiski CL. Common injuries in preadolescent and adolescent athletes: recommendations for prevention. *Sports Med.* 2009 Jan; 7(1)).

### **REVIEW OF PREVIOUS WORK DONE**

1. Dr. Amal.G.Krishnan - Evaluation on the effect of AbhyaE ga with Svedana in the betterment of performance in sportsmen w.s.r to athletic sprint events Dept. of Panchakarma, Rajiv Gandhi University of Health Sciences, Karnataka (2010-11).
2. Patil Mahesh Bhaskar Rao - Sprouting the spirit of Kalari Cikitsa in the field of sports medicine- Dept. of Samhita and Siddhant, Kerala University (2003).
3. Dr. Pritesh A. Dave Sports medicine in Ayurveda w.s.r. to Sarira Bala Vriddhi Dept. of Samhita Siddhant, Institute of Post Graduate Training and Research in Ayurveda, Gujarat Ayurveda University, Jamnagar.

Works have been done in the field of Ayurvedic aspect of sports medicine. But no study has been carried out to evaluate the status of Dosha, Dhatu and Mala, considering the signs and symptoms and etiological factors of overuse injuries. Hence this survey study was done to evaluate all the etiological factors, signs & symptoms and probable line of treatment of overuse injuries.

### **MATERIAL & METHODOLOGY**

#### **MATERIAL**

- Brihatrayi with its commentaries
- Other allied literature related with sports medicine.
- 100 Sports persons of age group between 15-35 yrs specialized in swimming for survey study.
- Questionnaire with consent form.

#### **METHODOLOGY**

##### **A. LITERARY STUDY**

- References regarding overuse sports injury and fundamentals of sports medicine were studied.
- All aspects of Bala, and Vyayama and Ativyayama were studied.
- Information regarding overuse injuries was collected and scrutinized.
- Symptoms of overuse sports injury were correlated with Ayurvedic terminology and effort was done to evaluate SaC pr´pti Line of treatment at the level of Doc a, Dh´tu and Mala.

**B. SURVEY STUDY**

- Since the subject is vast regarding the possible causative factors and symptoms overuse injuries associated with one specific sport (swimming) was surveyed for better assessment.
- Final questionnaire was prepared considering all the signs and symptoms of overuse injuries in swimming along with the etiological factors, which was revised after pilot study.
- Objective parameters were designed. Which are,
  - Cooper 12 min run test
  - Bruce Treadmill test
- Consent of each volunteer was taken.
- Survey study of 100 sports persons specialized in swimming was done according to the signs, symptoms and probable causative factors of overuse injuries.
- Statistical analysis was done after collecting data of 100 sports persons, all Lakc R #í- anas were analyzed.

**INCLUSION CRITERIA**

- Sports persons specializing in Swimming who actively participate at zonal, state and national level events were only considered for survey study.
- Age group between 15-35 years.
- Sports persons who are training at least for last 2 yrs in specific sport were only considered.
- Individuals of both genders were considered.

**EXCLUSION CRITERIA**

- Sports persons with acute/traumatic injuries were excluded.
- Sports persons with any kind of addictions like smoking, drinking alcohol etc were excluded.

**SURVEY STUDY**

Observation of all 100 swimmers was done according to various factors such as :

- ❖ **Bala Par+ ´kc a**
- ❖ **Objective Parameters:**
- ❖ **Subjective Parameters:**
- ❖ **Vih´ra (Exercise & others)**

## ❖ 'hara

**Psychological factors****RELEVANCE OF OBJECTIVE PARAMETER**

Ativyayama and Mithya Vyayama is considered as an important causative factor for Pranavaha Srotodushti (Cha.Vi.5/10). The heart and Mah´srotas are the sites of origin of Pranavaha Srotas. The characteristic manifestation of the vitiation of these channels is respirations that are too long, restricted, aggravated, shallow or frequent associated with sound and pain.

Objective parameter for study of overuse/over exertion has been developed on the principle that Internal Prana getting support from the external Prana(strength of the body) maintains the body.

Sports person/ Swimmers with good breathing capacity will have good Oxygen intake & high VO2 Max value which results in less Fatigue symptoms. In Sports person/ Swimmers with less breathing capacity will have less Oxygen intake resulting low VO2 Max value. Hence anaerobic pathway is utilized more in them which will eventually lead to more over exertion / Fatigue symptoms due to more lactic acid accumulation. This lactic acid accumulation creates an acidic environment in tissues which is the reason behind overuse (fatigue) symptoms. This can be correlated to Pitta Duc ti. Increased wear and tear in tissues (breakdown more than building up) accounts to Vata Dushti.

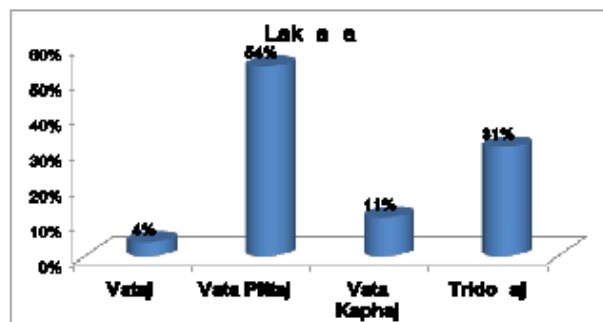
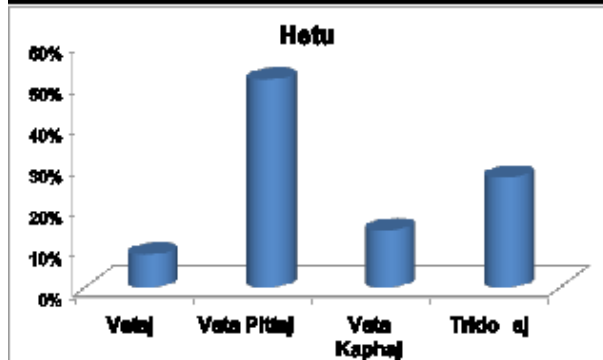
From the survey it was observed that only 34 cases have good VO2 Max value. Since VO2 Max determine an athlete's capacity to perform sustained exercise and is linked with aerobic endurance, perform sustained exercise and is linked to aerobic endurance. Hence it can be concluded that there is a very high probability for them to get affected with Overuse injuries.

**STATISTICAL ANALYSIS**

- ❖ In this survey study individuals were categorized in seven groups as per their Hetu & Lakshan. I.e. Vata, Pitta, Kapha, Vata-Pitta, Vata-Kapha, Pitta-Kapha & Tridoshaja
- ❖ As there were no patients found with Dushti of Pittaj, Kaphaj & Pitta-Kaphaj; the number of patients in these groups was zero which was insignificant so these groups were excluded.
- ❖ The remaining four groups were statistically analyzed using Chi square test. As a result of chi square test the data was significant at p value of 0.001.
- ❖ As there was 51% & 54% occurrence of Hetu & Lak[´an respectively from Vata-Pittaj group, it can be concluded that this category of Hetu & Lak[´an is significant.



Do a-Duṣṭi	Hetu	Lakṣaṇa
Vataj	8%	4%
Vata-Pittaj	51%	54%
Vata-Kaphaj	14%	11%
Vata-Pitta-Kaphaj	27%	31%



## 1. NIDANA PANCAKA OF OVERUSE INJURY

The concept of Ativyayama along with other Hetus found in literary study and survey study were combined & an effort was done to establish Nidānpāncaka of Overuse sports injuries.

### DOSHAJA CONFIGURATION OF HETUS & LAKSHANAS IN OVERUSE INJURY

According to Doṣā, Hetus & Lakṣaṇa's are divided into three categories Vata Pitta & Kapha.

#### Vata Dushti

- ❖ Ativyayama, Mithyayama, Prataraṅga, Pradhavana, Plavana & Adhyasana, Vicamasana, Ajirna bhojana, Rookcanna, Laghvanna, Z'itanna Katu Rasa sevana are the major Vihāraja & Aharaja Hetus responsible for Vata Duṣṭi seen in survey. Besides this, Viharja Hetus Ratrijagraha, Yanayan, Anabhyanga, also cause Duṣṭi of Vyan & PranaVayu which are the main entity responsible for Deha Bala.

- ❖ As per the above Hetu Sevan Vata gets vitiated, resulting in various symptoms like Vividha Vedana, Sthambha, Graha, Daurbalya, Nidralpata, Malabaddhata, etc.

### **Pitta Dushti**

- ❖ Ayasa, Ajirnabhojana, Vidahyanna, Ushna, Lavana, Tikshna, Kshara sevana are the major Hetus responsible for Pitta Dushti seen in survey.
- ❖ Vitiated Pitta elevates Sarvadehika Ushma resulting in variety of symptoms found in patients like Amlodgara (seen in 72%), Sadaha mootrata (Burning sensation)(seen in 20%), Atiswedata (Excessive sweating) (seen 68%), Durgandha (Bad odour) (seen in 44%).

### **Kapha Dushti**

- ❖ Abhishyandi Ahar, Snigdha, Guru, Madhura Ahara are the major Aharaja Hetus responsible for Kapha Ducti seen in survey. Still these were not often leading to as much of Kapha Ducti due to the Atyadhika Rookshata of body in these persons. Amongst Viharjanya Hetus

Divaswap, Atiasana etc were prominently seen, as these Hetus vitiate Kapha which give rise to Medo saithilya showing variety of symptoms like Gaurav, Alasya etc. Moreover Divaswap in a limitation has been advised to people who are exhausted with exercise.

### **Agni Ducti**

Agni gets vitiated due to Adhyasana, Ajirna bhojana, Atimatrasana, Atyambupana, Ruksanna Sevan, Guru Ahara Sevan, Divasvap and R'tri jagaraGa, and Manas Bhavas like Cinta (Rasavaha SrotoDusti Hetu), Soka, Bhaya (Vata V[uddhi) resulting in the production of Ama. Ama ! Margavarodha !less nourishment supply to the further Dhatus ! Dhatu Kshaya ! Vata Vruddhi.

### **2. PURVARUPA :**

As this is Anukta Vyadhi, Purvarupa is not mentioned in Ayurvedic texts and modern science. According to the guideline Purvarupa are traced from history of patients (C.Ci.28/19). Symptoms which are not clearly exhibited (Ma.Ni.Vijayarakshita)

### **3. RUPA :**

Rupa is concluded on the basis of observations found in survey study which are classified under the following headings.

- ◆ Sarvadehika Dosh Dushti Lakshana
- ◆ Dhatu Dushtiti Lakshana
- ◆ Sthanika Lakshana

**Sarvadehika Dosha Dushti Lakshana**

- ◆ **Vataj**: Angamarda, Shwasa (HW´udayadrava), Cimcimayana (SphuraG a), Kampa (Spandana), Malabaddhata, Gadhavarchas, Adhmana, Anidra, Alpanidrata. When the body is afflicted by excess of morbid Doc as, whose body is Rukc a, who has less Agni, due to the obstruction of channels the aggravated Vata causes frequent distensions (Adhmana)(Ch.Si.6/58).
- ◆ **Pittaj** : Amlapitta, Daha, Mutradaha, Ushmadhikya, Atisweda, Durgandha
- ◆ **Kaphaj** : Alasya, Aruchi, Agnimandya, Atinidra
- ◆ **Vata Pittaj** : Ayasa/Srama/ Klama /Glani/Sada

**Vata Pittaj Kaphaj: Daurbalya****Dhatu Dushti Lakshana (Ch.Su.17/63-69)**

- ◆ **Rasa** - Aruchi, Agnimandya, Srama
- ◆ **Rakta** - Tvak Vaivarnya, Sparasahatvam
- ◆ **Mamsa** - Ruja, Graha, Sthambha, Pindikodveshtanam
- ◆ **Meda** - Sandhishutanam, Ayasa
- ◆ **Asthi** - Satatasandhishabdata (Sashabdatvam), Sandhisoola, Sandhishaithilyam, Toda, Bheda,
- ◆ **Majja** – Seerya Durbala Laghu Asthi, Sandhi Vislesha, Daurbalya

**Mala Dushti Lakshana (Ch.Su.17/69-73)**

- ◆ **Purisha** - Purisha sanga, Gadha varchas,
- ◆ **Mootra** - Sadaha mutrata, Mukhasosha, Trishna
- ◆ **Sweda** - Atisweda, Alpasweda, Durgandha

**Sthanika Lakshana**

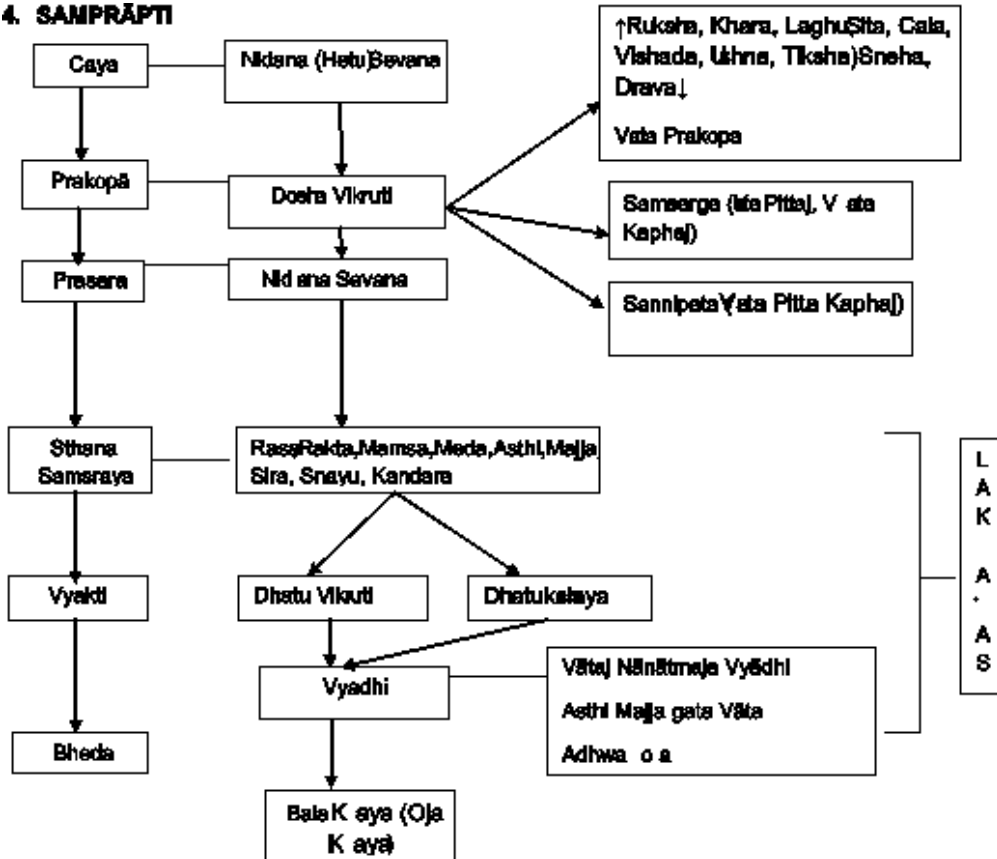
- ◆ **Vataj** : Ruja, Vyatha, Angamarda, Toda, Bheda, Pindikodveshtanam, Satata sandhi sabdata (Sashabdatvam), Graha, Stambha
- ◆ **Pittaj** : Sparshasahatvam, Raga aruG a VarG a, Ushnata,
- ◆ **Kaphaj** : Gaurav
- ◆ **Vata Kaphaj**: Graha, Stambha

When the Vata in the body gets occluded by Kapha, the aggravated Vata causes spasms in different parts of the body. Here the Z+ 'ta GuG a of Vata is affected.

◆ **Vata Pittaj:** Sparshasahatva,Ushnata,Ayasa/Srama/Glani/Sada

◆ **Vata Pitta Kaphaj :** Sotha

#### 4. SAMPRĀPTI



#### 5. SAMPRĀPTI BHANGA ( LINE OF TREATMENT)

**Gunas** - Ahara, Aushadha having Snigdha, Guru, Brumhanaa Gunas

**Rasas** - Madura, Amla, Lavana C.Ci.15/200)

**Upakrama** – Agni Dipana, Pachana

**Snehana**

**B´hya Snehana** like Abhyanga, Pichu, Utsadana with oils like (Murivenna, Dhanwantaram Taila or Kuzhampu, Karpasasthyadi Taila, Bala Tail)

**Swedana** like Nadi Sweda, Avagaha, b ac tika saali Pinda sweda, Pizhivil

**Dh´ra** - Sarvanga/ Ekangga (Sirodhara)

**Lepana** - Nagaradi, Jatamayadi, GW´uhadhoomadi

**Bandhana** - Vata Hara, Vedana Sthapaka

**Abhyantara Samana**

**Kwatha** - Mustadi Marma Kashaya, PrasaraG yadi

**Gutika** - Dhanwantaram

**Avaleha** - Kooshmandavaleha

**Choorna** - Aswagandha

**Sneha P´na** (Bala Taila Avarti, Ksheera Bala Avarti)

**Rasayana** – Ghruta Ksheerabhyasa,

**Panchakarma** – Basti- Niruha won't be suitable.(Matra, Anuvasana, Brumhana)

**Yoga** - PraG ayama, Different Asanas for flexibility.

**Gana** - Balya, Jivaniya, Brumhaniya, Sramahara, and Vedanasthapana drugs, Angamarda Prasamana

**Dravyas** –Drugs of choice Rasna, Punarnnava, EraG da, Bala, Aswagandha, Arjuna.

## CONCLUSION

- There is direct impact of Ativyayama on Bala and Agni.
- The base line of Bala should be identified and exercise should be modified accordingly.
- Overuse injuries are the result of Vata-Pitta Duc ti followed by Dusya Duc ti along with Agni Mandya in the given sample.
- The primary Hetu of overuse injuries is Ativyayama & MithayVyayamain the given sample. Secondary Hetus are also significant for proper diagnosis and treatment.
- Priority should be given to increase Prana shakti in sports persons to prevent Overuse injuries. Hence advice should be given to sports persons& trainers regarding the same.
- Increase of training should be done gradually in accordance with Prakruti, Bala, K´la.

## REFERENCES

1. Brihatrayi with its commentaries

2. Ayurvediya Sabda kosha, part I and II, Vaidya Veni Madhav Shastri Joshi. Vaidya Narayan Hari Joshi, Maharashtra Rajya sahitya & Sanskrit Mandal Mumbai 1968.
3. Ayurvediya Triskandhakosha, Edited by Vaidya Gadgil Dilip Prabhakar, TMV Publications, Pune, 2004.
4. Athletic Ability & the Anatomy of Motion, By – Rolf Wirhed, Translated by – A.M. Hermansson, Wolfe Medical Publications Ltd, London, 1984 reprint 1992.
5. Ayurvedic Encyclopaedia, Lakshmi pathi A, Chaukamba Orientalia, Varanasi, 2004; Vol-1.
6. Ayurvediya Kriya Sarira: Vaidya Ranjit Rai Desai, Shri Baidyanath 'yurveda Bhavan Ltd., Nagpur, 8th edition, 1999.
7. Physiological Basis of Human Performance, By Benjamin Ricci, Lea & Febiger Publications, Philadelphia, 1967.
8. Scientific basis of athletic conditioning, Clayne R. Jensen, (P.E.D.) and A. Garth Fisher, (Ph. D.), Lea & Febiger Publications Philadelphia, 1979.
9. Sports Medicine, C.S. Jayaprakash, Jay Pee Brothers Medical Publishers, New Delhi, 2003.
10. Sports Medicine, Rajiv Gulati, Ali Irani, Ikram Hussain, M.A. Bilal Hussain, Paras Medical Publisher, Hyderabad, 2011.
11. A comparative study of the effects of yoga and swimming on pulmonary functions in sedentary subjects, Gupta SS, Sawane MV, International Journal of Yoga 2012; 5(2): 128-133.

Review :



## **A Critical Review On Viruddha Ahara With Special Reference To Samskara Viruddha**

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### **ABSTRACT**

**Background:** Food sustains the life of living beings. Physical growth, development, nourishment, strength, intellect and happiness are all getting from food. *Ayurveda* is emerged from nature and hence describes the values of food in nature. *Ayurveda* established the principles of processing of food through which the natural quality of food may be altered. A unique concept that *Ayurveda* explains is *Viruddha Ahara*. *Viruddha* indicates the opposite or incompatibility of the substances having no affinity for each other. *Viruddha Ahara* vitiates the factors in the body and will not help in expelling the same. *Ayurveda* explains *Viruddha Ahara* in the context of dietetics. Consumption of *Viruddha Ahara* will be a cause for diseases. *Samskara Viruddha* is one of the type of *Viruddha Ahara*. **Aim :** To assess the effect of *Viruddha Ahara* with special reference to *Samskara Viruddha*. **Objective :** To review the literature on *Viruddha Ahara* with an emphasis on *Samskara Viruddha*. **Methodology :** **Materials** - Materials of the works are conceptual materials. All available authentic books viz. *Samhitas* and their respective commentaries have been referred for the specific materials. Articles possessing the concerned topics. Lexical, medical literature, periodicals, research paper, monographs, etc. Different related websites on internet have been used as literary materials. **Methods** – The allied literature has been referred keenly to throw light on *Viruddha Ahara* concepts and its causative factors for several diseases. The compiled literary material has been analysed and evaluated to form the conceptual base of this study. **Conclusion:** *The Viruddha Ahara* is an etiological factor for many diseases by causing vitiation of Agni affecting the digestive system balance of the body. The occurrence of the diseases can be stopped by avoiding the consumption of *Viruddha Ahara*. *Samskara Viruddha* causes harm by opposing each other's qualities between the *Dravyas*. In *Samskara Viruddha* the food incompatibility is due to the production of unusual dangerous qualities due to improper processing.

**Key words:** *Ayurveda, Viruddha Ahara, Samskara Viruddha.*

### **INTRODUCTION**

*Ayurveda*, the science of life which is vast and ancient is relevant in the present era also. In the contemporary medical science importance is given to the diagnosis and treatment of diseases. *Ayurveda* focuses not only on the above aspects of medical science but also

more on the healthy living and well-being of mankind. *Ayurveda* has given extreme importance to the wholesome diet in all aspects which plays a beneficial role in promotion of health and prevention of diseases. A balanced diet maintains the balance among the body elements, also can be considered as a wholesome diet. The food taken as per *Aharavidhi* (*Ayurveda* dietetics) leads to proper growth and development of the body. If the *Ahara* (food) is taken judiciously and according to the *Ahara Vidhi Visheshayatana* (codes of dietetics) then only the benefits of food will be fully achieved. The alterations in diet and preparation style of food leads to ill health. The improper food causes the harmful effects to the body. According to *Ayurveda* the non-beneficial or the harmful food is termed as the *Ahita Ahara*. The unwholesome food habits include intake of junk food, refrigerated food, fast food, etc. A unique principle explained by *Ayurveda* in relation with unsuitable food style is *Viruddha Ahara*. *Viruddha Ahara* is defined as the food which vitiates the morbid factors in the body and will not help in expelling the same.<sup>1</sup> The consumption of such food that is incompatible will give rise to various ailments.<sup>2</sup> *Charaka Samhita* explains eighteen types of *Viruddha Ahara*<sup>3</sup> and *Sushruta Samhita* as *Karma (Samskara) Viruddha*, *Samyoga Viruddha*, *Mana Viruddha*, *Rasa Viruddha* etc.<sup>4</sup> *Samskara Viruddha* is one of the types of *Viruddha Ahara* which is due to improper processing of food.

#### **AIM**

To assess the effect of *Viruddha Ahara* with special reference to *Samskara Viruddha*.

#### **OBJECTIVE**

To review the literature on *Viruddha Ahara* with an emphasis on *Samskara Viruddha*.

#### **METHODOLOGY**

##### **Materials:**

##### **Source of data:**

- Review of all available classical texts on *Viruddha Ahara* and *Samskara Viruddha* effect.
- Articles from journals and other published works.
- Related source of data from the website.

##### **Method :**

- Present study is literary based and method was followed as per the objective of the study. Here relevant literary references were compiled from different classical texts and commentaries and sorted in order to generate the review, so as to fulfill the aims according to the objective.

##### **Ahara :**

Any substance which is to be taken or swallowed in, through the throat is said as *Ahara* (*Shabda Kalpa Druma*).<sup>5</sup>



*AcharyaChakrapani* explains *Ahara* as that which is ingested and thus it includes in itself both diet and drugs.<sup>6</sup>

Food is a substance which when taken in the body is able to build up or repair tissues, protects against ill health (disease) and supply material for protection of health and energy (By Major B. N. Khan in his Book named as Nutrition).

The consumption of food in proper quantity, in proper time which is endowed with all the qualities are the *Samyak yoga* of the *Aharamaatra* and the *Asamyakyoga* is opposite to this and *Tyaaga* of *Asamyak yoga* has to be followed.

The *Asamyak yoga* of consumption of *Ahara* was classified into seven types. They are *Sankeernaashana*, *Viruddhaashana*, *Amaatraashana*, *Ajeernaashana*, *Samashana*, *Adhyashana* and *Vishamaashana*.

- *SankeernaAshana* is consuming the food in prohibited areas, prohibited places, etc. This can be taken as not following the rules of *AshtaVidhaAhaaraVidhiVisheshaAyatana*.
- *ViruddhaAshana* is consuming the *AhitaAshana*.
- *AmaatraAshana* is consuming less or more quantity of food.
- *AjeernaAshana* is consuming the food in *AjeernaAvastha*.
- *Samashana* is the intake of combination of *Pathya* (wholesome) and *Apathya* (unwholesome) food articles together.

For the proper understanding the *Dravyas* are mainly classified as *AharaDravyas* and *OushadhaDravyas*. *AharaDravyas* are *Rasa Pradhana* and *OushadhaDravyas* are *VeeryaPradhana*.

### **Dietetic Regulation in Ayurveda:**

*Aharamay* be wholesome or unwholesome. The wholesomeness of *Ahara* depends on the Dose variation, Time, Method of preparation, Habitat, Constitution of body, Diseases and Age of an individual.<sup>7</sup>

The rules to be followed by healthy as well as disease persons are –

1) *Ushna* , 2) *Snigdha*, 3) *Maatraavat*, 4) Consumed after the digestion of the previously digested food, 5) *Veerya-AviruddhaAhara*, Taken in an *IshtaDesha*- where it is provided with *SarvaUpakarana*, 7) Not to be taken in a hurry, 8) Not to be taken very slowly, 9) To be taken alone, 10) To be taken without talking and laughing, 11) To be taken with the involvement of *Manas* (Mind), 12) To be taken after giving due regard to food and oneself.<sup>8</sup>

*AcharyaCharaka* explained eight factors which determine the utility of various types of food known as *AshtaVidhaAhaaraVidhiVishesha Ayatana*.<sup>9</sup>

These factors are 1) *Prakruti*, 2) *Karana*, 3) *Samyoga*, 4) *Raashi*, 5) *Desha*, 6) *Kaala*, 7) *UpayogaSamstha* and 8) *Upayokta*.<sup>10</sup>

**PrashastaAharakaala– Proper time for taking food :**

When faeces and urine are passed out, sensory and motor organs are clear, body is light, eructation is pure, Heart is cheerful, flatus is passing, desire for food has appeared, exhaustion has passed off and belly has loosened, food should be served. This is the time for taking food as approved by physicians.<sup>11</sup>

**Hita– AhitaAhara :**

The *Ahara* is explained as *Hita* (suitable) and *Ahita* (unsuitable) in *Samhitas*. The *Hita* and *AhitaAhara* according to *AcharyaCharakais* “the food articles, which maintain the equilibrium of bodily Dhatus and help in eliminating the disturbance of their equilibrium, are regarded as *HitakaraAhara* otherwise they are considered as *Ahitakara* to body.

*AcharyaCharaka* has stated that *Hitakara* diet is the only cause of growth and development of body and *Ahitakara* diet is the only cause of disease. The concept of *Hita-AhitaAharaDravya* includes *Samaanya-VisheshaSiddhaanta* and *YugapadKshayaVruddhi*.

**THE CONCEPT OF VIRUDDHA AHARA :**

“Vi + Rudh + Kta– VirodhaVishishta “ (*ShabdaKalpaDruma*)

The term ‘*Viruddha*’ is formed from the root “*RudhirAavarane*” added with a prefix ‘*Vi*’ and a suffix ‘*Kta*’ which means “*VirodhaVishesha*” i.e., contrast or opposite in particular.

This leads to two factors- on combining two or more things; - the stronger one shade or over powers the weaker ingredients.

This has been accepted principally in *Ayurveda* also. It has been stated that in a combination of so many opposite qualities the majority of power packed qualities over power the weaker qualities.

The other meaning of ‘*Viruddha*’ indicates the combinations of two substances which are not having an affinity for each other. So far this interpretation of *Viruddha* is concerned; it has been applied in *Ayurveda* in the context of dietetics and various combinations having no affinity for each other. It may be understood that such types of *Ahara* or the food stuffs which are composed of substances having no affinity at all may be defined as ‘*Viruddha*’ or ‘*ViruddhaAhara*’.

**Synonyms of Viruddha :**

The synonyms of *Viruddha* are *Viruddha*, *Vipareeta*, *Vilakshana*, *Visangata*, *Ayogy*, *Anupayukta*, *ParasparaViruddha*, *Pratyaneeka*.

**Definition and Characteristics :**

Definition - “*VirodhaYukte*” (*Vachaspatyam*)

That which resists or hinders is known as ‘*Viruddha*’.

“*Viruddham - Deshakaalaprakrutisamayogavipareeta*” (*Vachaspatyam*)

The act in contrary to the Place, Time, Nature and Combination is ‘*Viruddha*’.

Characteristics - That which acts antagonistic to the *DehaDhatu*s (tissues of the body) is known as ‘*Viruddha*’.

The Drugs and Diets which are unwholesome for the normal *Dhatu*s and *Doshas* of the body are opposed to their proper growth, but some act because of their mutually contradictory qualities; some by combination; some by the method of preparation; some by the virtue of place, time and dose and some by their inherent nature.

The substances that cause vitiation of *Doshas* in the body but do not expel them out are known as ‘*Viruddha*’ and so they remain antagonistic to the *Dhatu*s.

Whatever food aggravates *Doshas* but does not expel them out or vitiates *RasaadiDhatu*s and give rise to disorders are termed as ‘*ViruddhaAhara*’.

The drugs and Diets that dislodge the *Doshas* but do not expel them from the body are regarded as Unwholesome.

*AcharyaCharaka* again stated 18 types of ‘*ViruddhaAhara*’. They are *DeshaViruddha*, *KaalaViruddha*, *Agni Viruddha*, *MaatraViruddha*, *SaatmyaViruddha*, *VaataadiViruddha*, *SamskaraViruddha*, *ViryaViruddha*, *KoshtaViruddha*, *AvasthaViruddha*, *KramaViruddha*, *ParihaaraViruddha*, *UpachaaraViruddha*, *PaakaViruddha*, *SamyogaViruddha*, *HridayaViruddha*, *SampadViruddha* and *VidhiViruddha*.

5 types of examples of *ViruddhaAhara* are given by *AcharyaSushrutain HitaahiteeyamAdhyaya* as -

*SamyogaViruddha*

*Karma Viruddha(SamskaaraViruddha)*

*ManaViruddha(MaatraViruddha)*

*Rasa, Virya, Vipaaka- Viruddha*

*TaratamayogayuktaViruddha*.

**Table 1 – Context of *Viruddha Ahara* in *Samhitas***

Sl .No.	<i>Samhita</i>	<i>Sthana</i>	<i>Adhyaya</i>
1	<i>Charaka Samhita</i>	<i>Suthra Sthana</i>	<i>Atreyabhadraakaapyiyam</i>
2	<i>Sushruta Samhita</i>	<i>Suthra Sthana</i>	<i>Hitaahiteeyam</i>
3	<i>Ashtanga Samgraha</i>	<i>Suthra Sthana</i>	<i>Viruddhaanna Vijnaaneeyam</i>
4	<i>Ashtanga Hrudaya</i>	<i>Suthra Sthana</i>	<i>Annaraksha</i>
5	<i>Bhavaprakasha</i>	<i>Purva Khanda</i>	<i>Mishraprakarana</i>

*Acharya Sushruta* mentioned *Samskara Viruddha* as *Karma Viruddha*

*Acharya Dalhana* explained the term “*Karma*” can be considered as “*Samskara*”

### ***Samskara Viruddha* :**

*Samskara* (processing) is the process results in the transformation of the inherent attributes of substances.<sup>12</sup>

Transformation of the attributes is effected by dilution, application of heat, cleansing, churning, storing, maturing, flavouring, impregnation, preservation, container, etc.<sup>13</sup>

The incompatibility of preparation is that where food or food substance is converted into poison during the course of preparation.

As for example, in the case of the peacock’s flesh prepared in castor plant pot.<sup>14</sup>

The various methods of preparation are used for processing of diet or food substances to get more qualitative properties but when these methods are not according to the rules and regulations of dietetics. One cannot get more qualitative properties but instead get the harmful effect of food substances which is just like poisonous effect to the body tissues (*Dhatus*). So this type of *Samskara* (processing or preparation) is called as *Samskara Viruddha* due to harmful effect on the body tissues.

*Acharya Sushruta* has also stated *Samskara Viruddha* as “*Karma Viruddha*”.

In the same way *Ashtanga Samgraha* and *Ashtanga Hrudaya* are giving examples of *Samskara Viruddha*, which are mostly similar to the view of *Charaka Samhita* and *Sushruta Samhita*.

### ***Viruddha Ahara* is not causative factor for all diseases:**

#### **Factors pacifying ill effects of *Viruddha Ahara*<sup>15</sup>-**

*Acharyas* have stated that *Viruddha Ahara* become harmless in following situations. In these circumstances dietetic incompatibility becomes neutralized.

- If the incompatibility is homologous to the person concerned.
- If dietetic incompatibility is very slight (in quality and in quantity).
- If the person concerned is with strong digestive power.
- If the person (consumer) is young.
- If the person takes unctuous elements continuously.
- If the person is strong because of physical exercise.

#### **Other factors related -**

The unwholesome diet may not produce any disease if the person’s body is either very

corpulent or too emaciated or having loose muscles, blood and bone or weak or nourished with unwholesome food or accustomed to the intake of less food or having weak mind are unable to resist diseases. On the other hand persons having opposite type of physical constitution are capable of resisting diseases.<sup>16</sup>

■ **ViruddhaAhara not causing bad effects -**

■ In certain conditions *ViruddhaAhara* will remain harmless to the body and effects are nullified. Here are some examples quoted from commentaries which fail to follow *Viruddha* effect

■ *Agnisamparka*

■ *Agnisamparka* is the explanation given by *Arunadatta* in which *Dugdha* and *Lashuna* are not *Viruddha* by the combination of heat.<sup>17</sup>

■ *Dugdha+Lashuna=Viruddha*

■ *Dugdha +Lashuna+Heat=Not Viruddha*

■ *Anekadravyasamyoga*

■ Due to the combination of many *Dravyas* their combined effect will be different from that of *Viruddha*.<sup>18</sup>

■ *UshnaMadhu* is harmful to the body. But when it is taken in combination with other *UshnaVamanaDravyaKwatha* it does not cause harm to the body. Here *Anekadravyasamyoga* is the reason for not causing any harm to the body.

■ *Dravyaprabhaava*

■ *AcharyaSushruta* has stated *Rasa Viruddha* but by *Dravyaprabhaava Shadrasaatmaka Aharais* not considered as *Viruddha*.<sup>19</sup>

**ViruddhaAhara and pathogenesis:**

➤ **Factors of Rogotpattiby ViruddhaAhara**

*Ahara* is said to be responsible for *Dhatu's Samya* and *Vaishmya*. But *Aharais* not the only cause for this. The other causes for diseases manifestation are *Kala*, *Prajnaaparaadha* and *Asaatmya-IndriyaarthaSamyoga*.

*AcharyaCharaka* also stated fourth etiological factor as *Karma* (*Cha.Sha.1/97*). *Karma* is also a factor for *Dukkha* (disease) and can be included under *Prajnaaparaadha*

All the causes of the *Rogotpatti* can thus be included under these three factors and can be considered as causative factors for disease due to *ViruddhaAhara*

➤ **Pathogenesis depends on type and duration of ViruddhaAhara**

As mentioned earlier, there are eight or eighteen types of *ViruddhaAhara*. Diseases of

different systems depend on the type and duration of intake of *ViruddhaAhara*.

For example if person take *SamskaraViruddha* or *SwabhavaViruddha* (i.e poison). Then he suddenly gets some diseases like diarrhea, vomiting, constipation etc. and sometime these diseases also lead to death.

On the other hand, all type of *ViruddhaAhara* is not capable of inducing diseases suddenly and they may produce after long term intake of *ViruddhaAhara*.

E.g. *Kala Viruddha*, *Desha Viruddha*, *VidhiViruddha* cannot produce diseases immediately.

Considering these type of pathogenesis *ViruddhaAhara*, one question may arise here that how pathogenesis is induced by *ViruddhaAhara*

If the *ViruddhaAhara* is strong or intensity of *ViruddhaAhara* is high or it is in heavy quantity then one will get such diseases, which occurs in system of alimentary tract

If the *ViruddhaAhara* is weak in quality and quantity, but it is taken for a long period then it cannot produce disease suddenly but the slightly vitiated *Dosha* gets accumulated and in spite of accumulation, if one continues unwholesome food substance, then as *AcharyaCharaka* states the morbid humours (*Doshas*) spread from the alimentary tract to the peripheral system of diseases and then person gets diseases of peripheral system which are chronic in nature.

#### **Vitiation by *ViruddhaAhara* :**

*ViruddhaAhara* is similar to *Vishai* terms of the effects it produces in the body. A person regularly follows a diet which is marked by *ViruddhaAshana*, *Adhyashana* or *Ajeernaashana* ultimately reaches a stage of *AamaVisha* which is as fatal as any other *Visha*.

*Visha* acts in different way inside the body- *TeekshnaVisha* causes immediate death or toxic effects whereas *Gara* or *DooshiVisha* have a long term effects the effect of *ViruddhaAhara* has to be studied in the lines of *Vishai*.e., it can cause immediate death as that of *Teekshnavisha* or produce devastating diseases as that of *Gara* and *DooshiVisha*.

The *ViruddhaAharajanyaRogas* has been classified based on the vitiation *Agni*, *Dosha*, *Dhatu*, *Strotas* and *RogaMargas* affected.

#### ***Agni* vitiation by *ViruddhaAhara* :**

*Agni* is responsible for health as well as disease. *Acharyashave* stated that *Agni* is root for several diseases. *ViruddhaAhara* causes the vitiation of *Agni*

Thus the *Agni* mostly gets vitiated by *ViruddhaAhara*. This vitiated *JatharaAgni* does not digest even the lightest of food substances, resulting in indigestion (*Ajeerna*). This undigested food material turns sour and acts like a poison, which is called *AamaVisha* in *Ayurveda* terminology<sup>20</sup>

*AcharyaCharaka* has also stated, if one takes a diet by avoiding the *Vidhi* of *Ahara* then he

gets the disorder of assimilatory systems. Here by word “*Vidhi*” one should take *Ahara* according to *Ashtavidha- Ahara- VisheshaAyatana* and *ViruddhaAhara* is nothing but it is a diet which is opposite to *Ashtavidha-Ahara-VisheshaAyatana*.

*AcharyaChakrapaani* mentioned that one should consider four types of indigestions (by term may be *AamaAjeerna*, *VidagdhaAjeerna*, *VistabdhaAjeerna* and *RasasheshaAjeerna*).

#### **Tridosha Vitiation by ViruddhaAhara :**

*AshtangaHrudaya* has stated that by the intake of *ViruddhaAhara* all the three *Doshas* get provoked.<sup>21</sup>

#### **Srotas Vitiation by ViruddhaAhara :**

In general food substances and activities (*Vihara*) which are similar in quality to body humours and deleterious to the body elements, vitiate the body channels- *Srotas*.<sup>22</sup>

Therefore it is clear that such types of food substances which are similar to body humours are vitiating the *Srotas*.

These types of food substances become *ViruddhaAhara* for *Doshas*, Example – *Desha-Viruddha*, *Kaala-Viruddha*, *Prakruti- Viruddha*, etc.

In same way by word “*DhaatubhihiViguna*” *AcharyaChakrapaani* pointed out that one should take non –homologatory food substances and activities by word *DhaatubhihiViguna*. Nonhomologatory food substances can be considered as a type of *SatmyaViruddhaAhara*.

Thus by *ViruddhaAhara*, all responsible factors of disease get vitiated and lead to disease formation.

## **DISCUSSION**

A research work is complete when it is thoroughly analyzed and properly discussed. *Ahara* is the prime need of every individual and human beings are reflection of a sort of food which has been ingested by them. Today the food and food habits are changing according to the changing life style of present inhabitants. Every disease which is caused by *ViruddhaAhara* has its own treatment based on the principle given by *Acharyasi.e*, *Shodhana* by *Vamana* and *Virechana*, *Shamana* and *NidanaParivarjana* by the intake of *HitakaraAhara*. *AhitaAhara*, *MithyaAhara* and *ViruddhaAhara* all produce an antagonistic effect in the body. Hence these concepts can be approached with a paradigm of *ViruddhaAhara*.

The prime most factors for the maintenance of health are *MaatraavatAharai.e*, intake of appropriate quantity of food and properly processed food. As *Ayurveda* believes in *PratipurushaSiddhanta*, the quantity of food intake differs from each individual based on one’s *Agnibala* and quantity of medicine depends on the severity of the disease and the strength of the individual. Hence the quantity of food can either be *Utkrishta* (excess), *Madhyama* (moderate) and *Alpa* (a little). When the quantity of food exceeds the prescribed

limit and in improper processing (*Samskaara*) it produces *AamaPradoshaVikaaraas* like *Visoochika* and *Alasaka* and in lesser quantity produces *VataDoshaPrakopa*. “*Viruddha – Adhyashana – AjeernashanaSheelinaPunaraamadoshamAamavishamityaachakshate* !” When *ViruddhaAhara*.e, either in contradictory quantity or contradictory processing are taken it leads to *AamaVisha*.

## CONCLUSION

The conclusion is the final attempt of a study to form a preposition which will be achieved after considering the evidence and arguments. The results and facts obtained are to be discussed and analysed to get a conclusion.

- The proper intake of *AharaDravyas*(food substances) is essential for achieving healthy living. *Hita– AhitakaraDravyas* causes *Hitakara* (good) effect on one part of body and *Ahitakara* (bad) effect on other part of the body. This type of understanding is related with *SvasthaAvastha* of an individual.
- *AharaDravyas* are not contradictory with each other, but they produce contradictory effects in certain conditions due to the influence of *Desha, Kaala, Maatra, Samskara, Samyoga*, etc. *ViruddhaAharaDravyas*(Incompatibility of food substances)remain opposite to the qualities of *Dhatus*
- *ViruddhaAhara* plays an important role in producing a number of diseases. So a proper *AharaVidhi* and *Anna RakshaVidhi* have to be followed. All *ViruddhaAhara* can be *Ahita* but not vice versa. Like *Adhyashana, VishamaAshana*, etc., *ViruddhaAshana* is also coming under faulty or improper intake of food substances.
- *SamskaraViruddhais* that in which the food substance is converted into *VishaSvabhaava* (Toxic nature) during the course of improper mode of preparation. *Ahara*if not prepared according to the *AshtaAharaVidhiVisheshaAayatanac*an be considered as *Viruddhac*ause any type of eighteen varieties of *ViruddhaAhara*.
- It can be concluded that majority of the *ViruddhaAhara* is a etiological factor for many diseases by causing vitiation of *Agni* affecting the digestive system balance of the body. The occurrence of the diseases can be stopped by avoiding the consumption of *ViruddhaAhara*.

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**REFERENCES**

1. Agnivesha, Charaka Samhita. Revised by Charaka and Drudhabala with the Ayurveda Deepika commentary of Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan. Ed. reprint, 2004, Pp.738, p.150.
2. Agnivesha, Charaka Samhita. Revised by Charaka and Drudhabala with the Ayurveda Deepika commentary of Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan. Ed. reprint, 2004, Pp.738, p.151.
3. Agnivesha, Charaka Samhita. Revised by Charaka and Drudhabala with the Ayurveda Deepika commentary of Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan. Ed. reprint, 2004, Pp.738, p.150.
4. Sushruta, Nagarjuna, Sushruta Samhita with Nibandha Sangraha Commentary of Dalhana and Nyayachandrika of Gayadasa on Nidanasthana. Edited by Acharya Yadavji Trikamaji. Varanasi: Chaukhambha Orientalia. Ed. 8,2005, Pp.824, p.94-97.
5. Raja Radhakantha Deva Bahadur, Shabda Kalpa Druma, Volume I. Published by Nag Sharan Singh, Nag Publications, Delhi; 4<sup>th</sup> Part, Reprint 1987. Pp.315 p.58.
6. Chakrapani, Ayurveda Deepika commentary on Agnivesha's Charaka Samhita. Revised by Charaka and Drudhabala, Edited by Yadavji Trikamji Acharya. Varanasi: Chaukhambha Orientalia. Ed. reprint, 2011, Pp.738, p.150.
7. Agnivesha, Charaka Samhita. Revised by Charaka and Drudhabala with the Ayurveda Deepika commentary of Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan. Ed. reprint, 2004, Pp.738, p.236.
8. Agnivesha, Charaka Samhita. Revised by Charaka and Drudhabala with the Ayurveda Deepika commentary of Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan. Ed. reprint, 2004, Pp.738, p.236.
9. Agnivesha, Charaka Samhita. Revised by Charaka and Drudhabala with the Ayurveda Deepika commentary of Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan. Ed. reprint, 2004, Pp.738, p.235.
10. Agnivesha, Charaka Samhita. Revised by Charaka and Drudhabala with the Ayurveda Deepika commentary of Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan. Ed. reprint, 2004, Pp.738, p.235.
11. Sushruta, Nagarjuna, Sushruta Samhita with Nibandha Sangraha Commentary of Dalhana and Nyayachandrika of Gayadasa on Nidanasthana. Edited by Acharya Yadavji Trikamaji. Varanasi: Chaukhambha Orientalia. Ed. 8,2005, Pp.824, p.814.
12. Agnivesha, Charaka Samhita. Revised by Charaka and Drudhabala with the Ayurveda Deepika commentary of Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan. Ed. reprint, 2004, Pp.738, p.235.

13. Agnivesha, Charaka Samhita. Revised by Charaka and Drudhabala with the Ayurveda Deepika commentary of Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan. Ed. reprint, 2004, Pp.738, p.235.
14. Agnivesha, Charaka Samhita. Revised by Charaka and Drudhabala with the Ayurveda Deepika commentary of Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan. Ed. reprint, 2004, Pp.738, p.151.
15. Sushruta, Nagarjuna, Sushruta Samhita with Nibandha Sangraha Commentary of Dalhana and Nyayachandrika of Gayadasa on Nidanasthana. Edited by Acharya Yadavji Trikamaji. Varanasi: Chaukhambha Orientalia. Ed. 8,2005, Pp.824, p.98.
16. Agnivesha, Charaka Samhita. Revised by Charaka and Drudhabala with the Ayurveda Deepika commentary of Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan. Ed. reprint, 2004, Pp.738, p.178.
17. Arunadatta, Sarvangasundara commentary on Laghu Vagbhata's Ashtanga Hrudaya. Edited by Vaidya Paratakara Harisahasri. Varanasi: Chaukhambha Sanskrit series. Reprint 2010, Pp.956, p.134.
18. Agnivesha, Charaka Samhita. Revised by Charaka and Drudhabala with the Ayurveda Deepika commentary of Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan. Ed. reprint, 2004, Pp.738, p.151.
19. Agnivesha, Charaka Samhita. Revised by Charaka and Drudhabala with the Ayurveda Deepika commentary of Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan. Ed. reprint, 2004, Pp.738, p.149.
20. Agnivesha, Charaka Samhita. Revised by Charaka and Drudhabala with the Ayurveda Deepika commentary of Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan. Ed. reprint, 2004, Pp.738, p.517.
21. Laghu Vagbhata, Ashtanga Hrudaya with commentaries of Arunadatta and Hemadri. Edited by Vaidya Paratakara Harisahasri. Varanasi: Chaukhambha Sanskrit series. Reprint 2010, Nidana Sthana 1/19-22, Pp.956, p.445.
22. Agnivesha, Charaka Samhita. Revised by Charaka and Drudhabala with the Ayurveda Deepika commentary of Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan. Ed. reprint, 2004, Pp.738, p.252.

Review :



## **Concept Of Agni (Digestive Fire) In Ayurvedic & Modern Perspective**

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### **ABSTRACT**

Ayurveda, Indian system of medicine is popular and well know globally. Basic reason is the fundamental principles of ayurveda have proved their time tested importance. One of them principle is, role of Agni or Digestive fire in the body. Ayurvedic compendia have explained details about Agni (Digestive fire), Sthula pachana (Primary or gross digestion) & Sukshma pachana (Tissue metabolism). For treating any patient, understanding of Agni concept with contemporary knowledge of modern medicine will be immensely helpful.

While explaining the importance of Agni ayurveda quotes “Rogaha sarve api manda agnau...” (Ashtangahrudaya, nidan sthan 12), this means all the diseases are created due to weak digestive fire or faulty metabolism.

This article is an attempt to explain ayurvedic Agni concept in more vivid manner & clarifying some points with the knowledge of modern physiology.

(References no.- 13)

**KEY WORDS** – Agni, Jatharagni, Bhutagni, Dhatwagni, Pachana, Digestive juices, Metabolism,

Dhatu poshana nayay.

### **INTRODUCTION -**

Agni concept is important in healthy condition as well as in diseased condition. According to ayurveda the person is called healthy when he has balanced condition of Dosha (Bio energy), Dhatu ( Body tissue), mala (Waste products) & Agni (Digestive fire).

### **Functions of Agni -**

When digestive fire is working efficiently, the person can enjoy the benefits of its normal functions. These are explained in charak chi. 15/2. From excellent digestive fire or Agni person will get a Long healthy life (Ayu), Health (Swasthya), Physical strength (Bala), Energy

(Utsaha), Proper nutrition & growth of body (Upachaya). Normal metabolic process will be reflected externally as well by radiating skin color, complexion & texture. Not only this benefits but Ayurveda explains that even life & death condition of person depend on normal Agni. This means when body metabolism is extremely distorted it can cause death.

Ayurveda believe that Agni is like fire, a form of thermal energy. Energy requires medium to perform it's normal function. For example, electrical energy can be experienced by moving fan and blowing lamps similarly Agni, Thermal energy works through the medium of pitta dosha (Ref. Agni reva sharire, pitta antarrgataha kupita akupita..... Charak sutra sthana 12) In this verse (shlok) dual functions of Agni are explained i.e. physiological & pathological functions. Physiological condition of Agni will be responsible for – Digestion, normalcy in vision & body heat, normalcy of complexion, valour, joy & happiness etc.

Pathological condition will be responsible for- Indigestion, loss of vision, Hyperpyrexia, abnormality in colour complexion, anger, sorrow & anxiety etc.

### **Types of Agni -**

In each cell of the body, conversion & metabolic process is taking place, which occurs due to Agni. So, ideally we can say there is Innumerable numbers of Agni's like Innumerable numbers of cells. But for practical purposes mainly 13 types of Agni's are explained as follows -

1) Jatharagni - 1

2) Bhutagni - 5 ( Parthiwagni, Apyagni, Tejasagni, Vayavagni, Akashiyagni)

3) Dhatwagni - 7 (Rasagni, Raktagni, Mamsagni, Medagni, Asthiagni, Majjagni, Shukragni)

### **Where & how these Agni's work?**

#### **Sthula pachana** (Primary digestion or Gross digestion) -

It takes place from mouth to large intestine. Digestion is a transformation or parinama in Sanskrit. Digestion converts heterogeneous substances to homogeneous substances. For example, proteins are converted into amino acids, fats are converted into fatty acids & glycerol and carbohydrates are converted into glucose. Ayurveda explain the same thing in its own language. For example, Wheat is parthiv i.e. nutritious substance. But it is useful only when it is converted into body assimilable form. Ayurveda says this conversion take place in five forms like shabda (sound), sparsha (touch), rupa (dimensions, appearance), rasa (taste) & gandha (smell).

Conversion in structure, taste & smell can be easily understood by available instruments & chemicals. But change in shabda (sound) & sparsha (touch) is comparatively difficult to prove by present available investigations. It may require sophisticated or ultramodern techniques. For example, when wheat is converted into glucose, to test change in the sound we will need an instrument, which can record sound waves oscillations of wheat molecule & glucose molecule.

Digestion & conversion is taking place from (624) mouth to large intestine. Ptylin is present in

saliva which converts starch into Dextrin & Maltose i.e. why even if we chew a slice of bread or piece of chapatti, only you can feel its sweet taste. Gastric secretions contain Pepsinogen which is converted into Pepsin with the help of HCL. This Pepsin acts on proteins & converts it into Peptone & Proteoses. Gastric Lipase breaks the short chains of Triglycerides in Fatty substances.

In pancreas, with the help of Enterokinase, Trypsinogen is converted into Trypsin. This Trypsin acts on Chymotrypsinogen & form Chymotrypsin. This Chymotrypsin acts on Peptone & Proteoses & Diapetides are formed. Pancreatic Amylase acts on Starch & converted it into Dextrin & Maltose. Pancreatic Lipase acts on Triglycerides & converts them into Free Fatty Acids (FFA) & Glycerol. Erepsin from intestinal juice converts simpler Peptides into Amino acids. Intestinal Lactase acts on Lactose & converts them into Glucose, Maltase converts Maltose to Glucose. Intestine Lipase converts fats into Fatty acids.

All above said enzymes, all other digestive enzymes & gastrointestinal hormones CCK, Secretin & Gastrin can be considered as objective representative of Agni mentioned by ayurveda. Jatharagni is exists from mouth to large intestine in the form of energy for all sorts of digestive conversions.

#### **Awasthapak & functions of bhutagni -**

Ayurveda has mentioned 3 phases of primary digestion which are called Awasthapak. In the first phase i.e. Madhur awasthapak, mainly digestion of substance with madhur taste take place. Composition of madhur or sweet rasa is pruthvi (earth) + jala (water) mahabhut. Conversion of pruthvi & jala molecules will take place due to parthivagni & jalagni. In second phase i.e. Amla awasthapak amla i.e. sour taste substances are disintegrated. Tejasagni disintegrates tej predominant molecules from food. In the third phase of digestion i.e. Katu awasthapak, vaywagni & akashagni disintegrates vayu & akash predominant molecules from the food. Above 3 phases take place at mouth, stomach, small intestine, large intestine. In these 3 phases, predominantly disintegration of panchabhutik elements takes place. Bhutikagni's are responsible for this conversion or disintegration. So bhutikagni at primary digestion can be considered as a part of jatharagni.

After sara – kitta vibhajana i.e. separation of nutrients & waste part, ahara rasa or nutrient fluid is circulated in the whole body & then sukshma pachan or tissue metabolism starts. From rasa to shukra, 7 dhatu's are formed in their respective places or strotasas.

#### **Role of bhutagni in shukshma pachan -**

To understand this concept, let us again understand modern physiology aspects. Proteins are converted into amino acids in primary digestion. Amino acids are absorbed from villi & through the blood circulation they reach to liver. Now again amino acids synthesize different proteins molecules like hemoglobin in the blood & myoglobin in muscles. This type of conversion is done by bhutagni again. Similarly we can explain it in ayurvedic language. In sukshma pachana mamsa (muscles), meda (fats) these parthiv elements are formed. But parthivagni of mamsa & meda is different. This different type of conversion is possible only because of action of bhutagni's during sukshma pachana. Another example is apya or watery element. Jala or water is present in rasa dhatu, mutra or urine & in saliva as well. But

again difference in jaliya quality is because of action of apyagni in sukshma pachana.

### **Action of Dhatwagni -**

After seeing the role of bhutagni in sukahma pachana, some may get confused that what is the role of dhatwagni then?

Apyagni can provide water element to rasa dhatu. But rasa dhatu is also panchabhutik, so there are also other elements or molecules are present in rasa dhatu. Here, comes the role of dhatwagni, rasagni will form the total structure & composition of rasa dhatu as whole. Naturally dhatwagni's role will be wider than the role of bhutagni.

### **Dhatu poshan nyaya (Theory about tissue metabolism) -**

Ayurveda explains 3 important factors with relation to tissue metabolism as follows -

#### 1) Kedar kulya nayay (Theory) -

This theory explains that specific places, channels i.e. strotasa's are essential to get proper nutrition to the tissue. If channels are blocked, transport of nutrients & waste products will be hampered. This can damage to the tissue structure & quality. Practical example is myocardial infarction, due to coronary blockage.

#### 2) Kshirdadhi nayay (Theory) -

Lot of conversions or transformations process take place when milk products are formed from milk. Milk is fermented & curd is formed. Curd is churned & butter milk is formed. After cooking the butter we get ghee. In the human body also lots of conversion & transformation process take place due to various enzymes & hormones. Proteins form pulses, are acted upon by enzymes & then muscle proteins are formed. In formation of any tissue, conversion & transformation process is very important. This can be explained by kshirdadhi nayay or theory.

#### 3) Khale kapot nayay (Theory) -

Pigeon like birds has an ability to select the food grains from the dust & sand. Similarly in the human body each tissue & dhatu, select its own nutrients necessary for its growth or anabolism. For example, from the circulating blood, reticuloendothelium system will accept iron necessary for the formation of rakta dhatu or blood. Asthi dhatu or bone will select only calcium molecule for its anabolism. This theory explains selectivity action of body tissues during growth or anabolism.

### **SUMMARY -**

In the present article, attempt is made to clarify ayurvedic views about Agni's & pachana in scientific manner.

### **REFERENCES -**

- 1) Vaidya Yadavji Trikamji Acharya, Charak samhita, revised by Charak & Dridhabala with Ayurveda – Dipika. Commentary of Chakrapanidatta, Chaukhamba prakashan, Varanasi, Reprint-2011. Sutrasthan 12. Vatakalakalia, shok no. 11, pg. no. 80.
- 2) Vaidya Yadavji Trikamji Acharya, Charak samhita, revised by Charak & Dridhabala with Ayurveda – Dipika. Commentary of Chakrapanidatta, Chaukhamba prakashan, Varanasi,

- Reprint-2011. Chikitsa sthan 15. Grahani, Shlok no. 3, 4, pg. no. 512.
- 3) Vaidya Yadavji Trikamji Acharya, Charak samhita, revised by Charak & Dridhabala with Ayurveda – Dipika. Commentary of Chakrapanidatta, Chaukhamba prakashan, Varanasi, Reprint-2011. Chikitsa sthan 15. Grahani, Shlok no. 9, 10, 11, pg. no. 512.
  - 4) Vaidya Yadavji Trikamji Acharya, Charak samhita, revised by Charak & Dridhabala with Ayurveda – Dipika. Commentary of Chakrapanidatta, Chaukhamba prakashan, Varanasi, Reprint-2011. Chikitsa sthan 15. Grahani, Shlok no. 13, pg. no. 513.
  - 5) Vaidya Yadavji Trikamji Acharya, Charak samhita, revised by Charak & Dridhabala with Ayurveda – Dipika. Commentary of Chakrapanidatta, Chaukhamba prakashan, Varanasi, Reprint-2011. Chikitsa sthan 15. Grahani, Shlok no. 15, 16, pg. no. 514.
  - 6) Vaidya Yadavji Trikamji acharya, Sushruta sanhita of Sushruta with nibandhasangraha commentary of Shri Dalhanacharya & Nyayachandrika panjika of Shri Gayadas acharya on nidansthan, Chaukhamba orientalia, 7th edition – 2002. Sutra sthan 14. Shonitvarniya, Shlok no. 3, pg. no. 59.
  - 7) Vaidya Yadavji Trikamji acharya, Sushruta sanhita of Sushruta with nibandhasangraha commentary of Shri Dalhanacharya & Nyayachandrika panjika of Shri Gayadas acharya on nidansthan, Chaukhamba orientalia, 7th edition – 2002. Sutra sthan 14. Shonitvarniya, Shlok no. 10, pg. no. 60.
  - 8) Vaidya Yadavji Trikamji acharya, Sushruta sanhita of Sushruta with nibandhasangraha commentary of Shri Dalhanacharya & Nyayachandrika panjika of Shri Gayadas acharya on nidansthan, Chaukhamba orientalia, 7th edition – 2002. Sutra sthan 46. Annapanvidhi, Shlok no. 526, pg. no. 253.
  - 9) Bhisagacharya Harishastri Paradkar, Astangahrdayam composed by Vagbhata with the commentaries Sarvangasundara of Arunadatta & Ayurvedarasayana of Hemadri collated by Dr. Anna Moreswar Kunte and Krishna Ramchandra Shastri Navre. Chukhamba Prakashana, Varanasi. Series 4. Reprint – 2000. Nidan sthan 12. Udara Nidan, Shlok no. 1, pg. no. 513.
  - 10) Vaidya Rajendra R. Desshpande and Vaidya Shivaji Wahval, Sharir Kriya Vidnyan, Shantanu Prakashana, 6th edition – 2015. Part 1 – A, B. Ahara, Awasthapak, Agni vichar, Gastrointestinal tract, Basic components of food & metabolism.
  - 11) Vaidya Rajendra R. Desshpande and Vaidya Shivaji Wahval, Sharir Kriya Vidnyan, Shantanu Prakashana, 6th edition – 2015. Part 2 – A, B. Dhatu vichar.
  - 12) Textbook of Medical Physiology by C. Guyton and Jonh E. Hall, Elsevier publication, 11th edition, reprint in 2008, Unit 12, Chapter-64- Secretory fuctions of the Alimentary tract: Salivary secretions, Gastric secretions, Pancreatic secretions, Bile secretion, Small intestine secretions etc. pg. no.791.
  - 13) Textbook of Medical Physiology by C. Guyton and Jonh E. Hall, Elsevier publication, 11th edition, reprint in 2008, Unit 12, Chapter-65-Digestion & Absorption in the gastrointestinal tract. Digestion of carbohydrates, Digestion of proteins, Digestion of fats. Pg. no. 808.

Review :



## Adulteration And Substitution Of Herbal Drugs - A Review

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### ABSTRACT -

In India most of the population depends on traditional medicine for primary treatment. In the modernization of the world the 21<sup>st</sup> century generations are becoming aware of side effects and adverse reactions of synthetic drugs. So now a days there is an increasing interest in Herbal medicines for health care. Adulteration and Substitution of Herbal drugs becomes a life threatening problem in ayurvedic practice, pharmaceutical industry and pharmacy. Adulterants and substitutes are the common malpractices in herbal raw material trade. Adulteration is considered as an intentional addition of foreign substances to increase the weight of the product or to decrease its cost. Substitution of drugs are to be done when there is non availability of original drugs or less availability. Substitute should be similar in Characteristics, Guna and karma with original drugs which have same pharmacotherapeutic value. Substitute Drugs are mentioned in ayurvedic texts as **PRATINIDHI DRAVYAS (5)**. The selection of substitute dravyas are based on similarity of properties like *Rasa, Guna, Virya, Vipaka* but most important factor is its therapeutic action i.e *Karma*.

**KEY WORDS** - Adulteration, Substitution ,Herbal Drugs, Ayurveda.

### INTRODUCTION -

Adulteration is a practice of substituting the original crude drug partially or fully with other substances which is either free from or inferior in therapeutic and chemical properties or addition of low grade or spoiled drugs or entirely different drug similar to that of original drug substituted with an intention of enhancement of profits.(1)

Adulteration may also be defined as mixing or substituting the original drug material with other spurious, inferior, defective , spoiled, useless other parts of same or different plant or harmful substances or drug which do not confirm with the official standards.

Adulteration in herbal drugs causes major effect in the commercial use of natural products. The deforestation and extinction of many species and incorrect identification of many plants has resulted in adulteration and substitution of raw drugs .(2,3) Adulteration in market samples is one of the greatest drawbacks in promotion of herbal products. In adulterated drugs ,it is invariably found that the Adverse Event Reports are not due to the intended herb ,rather due to the presence of an unintended herb. The more effective the natural drug more is the



demand and the chances of non availability increases. To meet the growing demand, the natural drug is easily adulterated with low grade material.

### **METHODS OF ADULTERATING THE DRUGS -**

#### **1. With Standard Inferior Commercial Varieties -**

Adulterants resembles the original crude drugs morphologically, chemically, therapeutically but are substandard in nature and cheaper in cost. This is a most common type of adulteration.

Eg - Maricha (piper nigrum) is adulterated with papaya seeds.(4)

#### **2. With Externally similar inferior drugs -**

Inferior drugs may or may not have any chemical or therapeutic value .They resemble only morphologically same.

Eg - Cloves by mother cloves, Saffron with dried flowers of Safflower.

#### **3. With Artificially Manufactured Substance -**

This type is observed in case of costly drugs.

Eg - Artificially invert sugar is mixed with Honey.

#### **4. Replacement by Exhausted Drugs -**

Admixture of the same drug which is devoid of medicinally active substances as it has been extracted already. This is observed with volatile oil containing drugs. It is devoid of colour and taste due to extraction, natural colour and taste is manipulated with additives.

Eg - Clove, Coriander, Fennel.

#### **5. With Harmful Adulterants -**

Some harmful materials are collected from market waste materials and admixed with the drug. It is done for the liquid drugs. In Aasav and Aarishta there is formation of self generated alcohol but sometimes there is admixture of synthetic alcohol.

#### **6. With Powders -**

The drugs which are in form powders are adulterated.

Eg - Dextrin is added in Ipecacuanha, powered bark of drugs added with brick powered.

#### **7. Addition by Addition of Heavy Metals -**

Eg - Lead in pieces of Opium, Pieces of Limestone in Asafoetida. ( 9,10).

### **REASONS -**

#### **1. Confusion in Vernacular Names-**

In Ayurved Parpatta refers to *Fumaria parviflora*. In Siddha Parpadgam refers to *Mollugo pentaphylla*.

## 2. Lack of knowledge about authentic source -

Nagakesar the authentic source is *Mesua ferrea* but market samples are adulterated with flowers of *Calophyllum inophyllum*.

## 3. Similarity in morphology -

Eg - *Mucuna pruriens* is adulterated with other same family *Papilionaceae* having similarity in morphology.

## 4. Lack of authentic plants -

Eg - In Panchtrun Kush and Kash there is no correct authentication of both plants.

## 5. Lack of Good Collection Practices -

Careless collection from herbal collectors and herbal suppliers as they don't have knowledge of GCP.

- **Unknown reasons** - VIDARI is unknown authentic plant. Authentic source is *Pueraria tuberosa* and used drug is *Ipomea digitalis*.

## SUBSTITUTION - (4,5,6)

Substitution means using another drugs instead of original drugs when there is non availability of original drugs or less availability or may be available in small quantity. Substitute drugs are mentioned in Ayurvedic sanhitas as- Bhavprakash Nihantu, Bhaishjya Ratnawali and Yogrtnakar. Almost 46 pairs of substitutes are explained. The principles to select substitute drugs is based on similarity of properties as Rasa, GUNA, VIRYA, VIPAKA but most important factor is therapeutic action-KARMA.

Substitute is generally used when original drugs are not available or may be available in small quantity. When the drugs are less available in local area are replaced by other drugs known as substitute drugs. Acharya Vagbhata stated that in case of non availability of any particular drug in the preparation of compound formulation one should try to get another which is similar potent and has similar Rasa (Taste), Guna (Property), Virya (Potency) and Vipaka.

## REASONS FOR SUBSTITUTION - (7)

### 1. Non-availability of the drug -

Eg - Substitution for *Ashtavarga* *Dravyas*-Instead of *Meda* and *Mahameda* - *Shatavari* and instead of *Yashtimadhu* - *Dhataki pushpa* is used.

### 2. Uncertain identity of the drugs -

Eg - Instead of *Lakshmana* different species such as *Arlia quinquefolia*, *Ipomea sepiaria* are used.

**3. High Cost and more demand of the drug -**

Eg - Kumkuma being costly and demanded herb is substituted by Kusumbha.

**4. Geographical distribution of the drug -**

Eg - In Northern India Rasana (*Plucia lanceolata*) while in Southern India (*Alpinia galanga*).

**5. The adverse reaction of the drug -**

Eg - Vasa is used as Rakta-Pittahara, but due to its Abortifacient activity it has adverse effect.

**CRITERIAS FOR SUBSTITUTION -****1. Similarity in Rasa - panchakas -**

Eg - Bharangi and Kantakari.

**2. Exhibit similar therapeutic effects-**

Eg - Ativisha and Musta -

In formulation pradhan dravya i.e. main ingredient should never substituted.

**METHODS -****1. Substitution with Totally Different Drug -****Bharangi and kantakari.*****Bharangi******Kantakari***

**Rasa** - Tikta

Tikta

**Guna** - Laghu, Ruksha

Laghu, Ruksha

**Karma** - Kapha-vatahara

Kaphavatahara

**Vipaka** - Katu

Katu

**Glycosides** - Verbascoside, solasonine, solamargin, solasurine

**Activity** - Antihistaminic activity.

Both Bharangi and Kantakari are commonly used in Respiratory disease which related with Histamine release.

**2. Substitution of Different Species -**

Gokshur (*Tribulus terrestris*) Zygophyllaceae and (*Pedaliium mur*) Pedaliaceae. *T. terrestris* has the chemical constituents like Chlorogenin, Diosgenin, Rutin, Rhamnose and alkaloids while *P. murex* has Sitosterol, Ursolic acid, Vanillin, Flavonoids and alkaloids.

Both species are Nephroprotective, Lithotriptic, Diuretic and Hepatoprotective activities and

used in mutkrichha, mutratal ghata, ashmari, prameha.

### 3. Substitution of the SPECIES Belonging to Same Family -

The Datura metal and Datura stramonium both has same chemical constituents are Alkoloids, Scopalamine, Atropine, Hyocyanin, Lyoscine. Both acts as Bronchodilator and inhibitory action of mucous from Respiratory system.

### 4. Substitution of Different parts of the plants -

The root of Sida cordifolia contains Sitenoside, Acylsterglycoside while the whole plant has Alkaloid, Hydrocarbons, Fatty acids, Ephedrine. Extracts of whole plant showed Anti-bacterial, Anti-oxidant, Hypoglycemic, Hepatoprotective and Cardio tonic activities. Modern researchers proved that Aerial parts have same property.(8)

### LIST OF ADULTERATED DRUGS - ( 10).

Main Drugs	Substitute Drugs.
1. Chitrak	Danti
2. Murva	Jinghini
3. Bakula	Kamala
4. Tagar	Kushtha
5. Pushakar mool	Kushtha /Arand mool
6. Chaya	Pipli mool
7. Draksha	Kashmari
8. Bharangi	Kantakari
9. Bakula bark	Babul bark
10. Tulasi	Nirgudi
11. Riddhi and Vrriddhi	Varahi kanda
12. Ikshu	Nala
13. Kakoli	Ashawagandha
14. Kshrkakoli	Ashawagandha
15. Ativisha	Mustak
16. Kusha	Kash
17. Amlavetas	Chukra

**DISCUSSION -**

The most essential criteria for substitution is the Pharmacological action instead of Phytoconstituents and Morphology. As number of plants becoming red listed, it provides greater scope for the physician to utilize herbs that are easily available, cost effective and appropriate for the clinical condition. Adulteration every time doesn't happen intentionally. Most of the time suppliers are illiterate and not aware about their spurious supply.

Major reasons are the confusion in name, non availability and lack of knowledge about authentic plant. Now a days, Ayurvedic drug industries follow High Quality Standards using modern techniques and instruments to maintain their quality. World Health Organization(WHO) recommends rejecting any batch of raw material which has more than 5% of any other plant part of same plant. Based on these standards, adulteration either intentional or unintentional must be rejected. So the Substitution and Adulteration both are different entity. Substitution are used for pharmacotherapeutic value but Adulteration has been done for profit making, malpractices. There are lots of scope and need to study and work out on substitution of herbal drugs to provide Healthy life and for Good clinical practices.

**REFERENCES -**

1. Kokate CK , Purohit AP, Gokhale SB., Pharmacognosy ,39 th ed., Nirali Prakashan,Pune,2007;97-98.
2. Mukharjee PK, Quality Control of Herbal drugs.1 st ed.,Business Horizons.New Delhi,2002;113-117.
3. Tewari NN.Some crude drugs; source, substitute and adulterant with special reference to market,Sachitra Ayurveda,1991;44(4) :284-290.
4. Shastri GM., Bhavprakash Samhita Purvakhanda, Sastu sahhitya vardhaka karyalaya Prakashana,Ahemdabad.Revised 3 rd edi.1955;165-169.
5. Sastri HS., Ashatangahradaya sustrasthan adhyaya 15/46 ,Chokhamba surbharti prakashana,Varanasi,2007;240.
6. Shasri Laxmipati, Yogaratnakara with vidhotini Commentary in Hindi,Chapter-1,Abhavarga,Chokhambha Sanskrit Sansthan Prakashana,Varanasi,2005;171.
7. Kokate CK ,Purohit Ap ,Gokhele SB. Pharmacognosy, Adulteration, Drug Evaluation and Significance of Pharmacopoeial Standards,18 th edi.,Nirali Prakashan,Pune,2003;7.1-7.13
8. Poornima B., Adulteration and substitution in herbal drugs a critical analysis,IJRAP,2010;1 (1):8-12.
9. Journal of Medicinal Plants Studies,Adulteration and Substitution in Indian Medicinal Plants; An Overview, OM Prakash et al, yr-2013,Volume;1,Issue;4,First page(127) Laste page (132),ISSN:2320-3862.
10. Sagar Pawan KUMAR, Adulteration and Substitution in endangered ASU medicinal plants of India:A Review Int.J.Med.Arom.Plants,ISSN 2249-4340,Vol.4,No.1,pp.56-73,March 2014.

General :



## Greenhouse effect and Global warming

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### Abstract

The increase in earth's temperature due to the presence of increasing greenhouse gases in the atmosphere leading to the enhanced greenhouse effect also called as global warming. Human activities are enhancing this overall warming trend. The effects of global warming permeates almost every aspect of human life and that of the environment. Global warming is the greatest challenge facing our planet. So it is necessary to reduce it.

**Key words-** Greenhouse effect , global warming

### Introduction

The gaseous mantle around the globe allows a considerable portion of solar radiations to enter right up to the surface of earth which absorbs it and radiates back infra-red and heat waves. This heat is transferred to layers above as warm layer rises and in turn passes onto higher and higher layers. The outgoing longwave infrared radiation is absorbed by the CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O and CFCs gases also called as greenhouse gases normally present in the atmosphere. The atmosphere radiates part of this energy back to the earth. This downward flux of radiation known as greenhouse flux keeps the earth warm. Thus the greenhouse gases of the atmosphere form a blanket over the earth that controls the escape of heat from the surface of earth to outer space so as to keep it warm . This phenomenon is called greenhouse effect. The name greenhouse effect is derived from the fact that inside a glass enclosed greenhouse the temperature is warmer than outside. The mean annual temperature of the earth is about 15°C. If there would have no greenhouse gases in the atmosphere the earth's mean temperature would go sharply down to about -20 °C. This capacity of the atmosphere to keep the earth warm depends upon the concentration of greenhouse gases. The excessive increase in concentrations of greenhouse gases in the atmosphere would retain more and more of the infrared radiation resulting in enhanced greenhouse effect which is also called as global warming. Thus the consequent increase in the global mean temperature is referred to as global warming.

The global warming is the greatest challenge facing our planet. It is the term used to describe a gradual increase in the average temperature of the earth's atmosphere and its oceans. This is a change that is believed to be permanently changing the earth's climate. Global

warming is an increase in the earth's temperature due to the use of fossil fuels and other industrial processes leading to a build-up of greenhouse gases in the atmosphere. Global temperature have been rising and are expected to continue at least in to the near future. The rise in temperature of earth's atmosphere caused due to greenhouse effect depends on the amount of  $\text{CO}_2$  present in the atmosphere. When there is increase in  $\text{CO}_2$  concentration in the atmosphere the thick layer of  $\text{CO}_2$  prevents the heat from being radiated out into space. So the temperature of earth increases. This layer of  $\text{CO}_2$  thus functions as a glass pane of greenhouse which allows the sunlight to filter through it but prevents heat from being radiated back into the outer space which leads to global warming. The greenhouse effect of increasing level of greenhouse gases in the atmosphere is popularly known as global warming.

### **Contribution of greenhouse gases to global warming -**

1. Carbondioxide-  $\text{CO}_2$  is the most abundant greenhouse gas in the atmosphere. It is about 60% of the greenhouse gases. It has increased from the preindustrial level ( 1750 AD) of 280 ppm to about 368 ppm in 2000 AD. This increase in concentration is mainly due to fossil fuel burning , deforestation and change in land use.
2. Methane— $\text{CH}_4$  is another greenhouse gas in the atmosphere. It is about 20% of the greenhouse gases. It has increased from 750 ppb in 1750 AD to about 1750ppb in 2000AD. It is produced as a result of incomplete decomposition by a group of bacteria called methanogens under anaerobic conditions. The major sources of  $\text{CH}_4$  are freshwater wetlands , enteric fermentation in cattle , flooded rice fields and biomass burning. In the atmosphere methane undergoes oxidation to  $\text{CO}_2$  and  $\text{H}_2\text{O}$  both of which tend to emphasize the greenhouse effect.
3. Nitrous oxide-  $\text{N}_2\text{O}$  is another troublesome greenhouse gas. It is about 6% of the greenhouse gases. Other oxides of nitrogen are cleared rapidly while nitrous oxide undergoes decomposition very slowly and therefore it tends to accumulate in the atmosphere. It has increased from 270ppb in 1750 AD to about 316ppb in 2000 AD. The main sources of nitrous oxide are agriculture , biomass burning and other industrial processes.  $\text{N}_2\text{O}$  is produced during Nylon production , burning of nitrogen rich fuels , livestock waste, breakdown of nitrogen rich fertilizers in soil and nitrate contaminated ground water.
4. Chlorofluorocarbons ( CFCs )- They represent a group of manmade colourless , odourless, easily liquefiable chemicals which have more potential for global warming than any other greenhouse molecules. They are about 14% of the greenhouse gases. They are very stable compounds which may persists in the atmosphere as long as 80 to 260 years. They are about 282ppt in 2000 AD. CFCs are still rising at a rate of 5% per year. Major sources of CFCs are leaking air conditioners , refrigeration units and evaporation of industrial solvents and production of plastic foams and propellants in aerosol spray cans.

The human activities are mainly responsible for the accumulation of greenhouse gases in the atmosphere. Energy of huge livestock population , use of CFCs , land use modification and industrial production are some of the aspects of human activity which are responsible for accumulation of greenhouse gases which further leads to global warming. Most scientists agree that the earth is in fact experiencing increasing temperatures and many believe that humans are enhancing this overall warming trend. The likely effects of global warming will not be limited to one country or even one continent and it will continue to be a highly charged issue that permeates almost every aspect of human life and that of the environment.

### **Effects of global warming -**

The mean global temperature would rise by 2° to 6° C during the 21<sup>st</sup> century as the CO<sub>2</sub> concentration increases to 600 ppm. The predicted global warming in near future has the potential to affect the (i) weather and climate (ii) sea level change (iii) distribution and phenology of species (iv) food production and the fishery resources in the oceans (v) human health concerns (vi) other species health concerns etc.

(i) Effects on weather and climate- The global mean temperature has increased about 0.6° C in the 20<sup>th</sup> century and it may increase by 1.4° to 5.8° C by the end of 21<sup>st</sup> century. The world climate was very much different from what it is today. The transition from the great ice age to present day climate during which average surface temperature rose by 5° C took about 12 thousand years. But if greenhouse gases continue to rise at the present rate , in single century the rise in temperature of 5° C shall be experienced. The rise in global temperatures would not be uniform all over the surface area of the earth. Temperature changes are expected to be most marked in regions of middle and higher altitudes. It is thought that polar regions of the world would undergo larger increase in temperature , about ten to twelve times as much as the tropics. This shall bring unprecedented changes in wind and precipitation patterns within a span of a single century. Warming of atmosphere will considerably increase its moisture carrying capacity. While the troposphere warms up the stratosphere will cool down .The effect of global warming on agriculture will be of varied type in different parts of the world. Wheat and maize crops may suffer from moisture stress. More fertilizers shall have to be used to sustain productivity. The climate change will increase threats to human health , particularly in tropical and subtropical regions of the world due to change in ranges of disease vectors , water born pathogens etc. Global warming shall bring with it an entirely new environment in which life though not impossible yet its existence shall be tougher to maintain.

(ii) Sea level change-One of the obvious results of the general heating up of earth's surface shall be a rather rapid rise in mean sea level. Evidences suggest that in Ice age , about 12000 years back it was nearly 100m lower than the present day level. It is expected that global rise in temperature shall further enhance the rate of already rising sea level in two ways 1) Large deposits of ice present on earth's surface shall melt , which will add more water to the oceans. 2) Rise in temperature shall also cause thermal expansion of the



upper layers of the water. Sea level has been raised by 1 to 2 mm per year during the 20<sup>th</sup> century. It is expected that by the end of 21<sup>st</sup> century the global mean sea level can increase upto 0.88m over the 1990 level. A rise of even half a meter in sea level would largely effect human population one-third of which lives within 60km of a coastline. Thus many of the world's important cities and coastal areas will come under the threat of flood, and several low lying islands will be submerged. The flooding of coastal salt marshes and estuaries will deprive many important birds and fish, their breeding grounds and their extinction will be imminent. Thus sea level rise is predicted to have negative impacts on human settlements such as tourism , fresh water supplies , fisheries , wetlands etc.

(iii) Effects on distribution and phenology of species- As the climatic belt away from equator towards poles , vegetation will also shift in the same direction to stay in favourable climatic conditions. Those species which will not do so shall die. There will be losses of genetic resources on large scale. Only hardy and resistant forms shall come up and survive. For example with a global temperature rise by 2° to 5° C during the 21<sup>st</sup> century , the temperate region vegetation may shift 250-600 km poleward. As trees are more sensitive to temperature stress a rapid rise in temperature may cause large scale death of trees and there replacement by scrub vegetation. The water also play an important role in altering the biotic communities. It has been suggested and this could lead to water deficit and moisture stress in many regions of the world . Insects and pests may increase as warmer conditions could be more favourable to their growth and coupled with higher humidity pathogens shall multiply.

(iv) Food production- With draught affecting some regions and heat intensifying in the tropics many areas are becoming unsuitable for agriculture. In tropical areas that are already dry and hot the ability to harvest food will likely decrease even with small increase in warming. However warmer temperatures and increased precipitation can also make previously marginal land more suitable for farming. Therefore it is likely that with a changing climate a global change in the agricultural pattern will occur. Increased temperature will cause eruption of plant diseases and pests. Besides there will be explosive growth of weeds and increased basal rate of respiration in plants. Thus all these factors will be responsible for decrease in crop production. However small temperature increase may slightly enhance crop productivity in temperate regions, but larger temperature changes will reduce crop productivity there also. Even a small rise in temperature will have detrimental effect on crop productivity both in tropical and subtropical regions. It is expected that rice yield alone in southeast Asia will go down by 5% for each 1° C rise in temperature. However in spite of beneficial carbon dioxide fertilization effect , the overall world crop productivity will decline considerably due to projected global warming and the food supply of the whole world shall be affected. Alterations in cropping pattern shall occur and pest resistant varieties more suitably to warmer conditions shall have to be developed .

(v) Human health concerns-In addition to potential environmental changes the human health implications of increased global warming are also very concerning. Extreme heat waves during the summer of 2003 and 2006 led to thousands of deaths in Europe , North America and India . Unless steps are taken to avoid this heat waves are likely to increase as will their

intensity leading to an even greater number of heat related deaths. We are also witnessing the spread of various diseases and this is likely to increase if temperatures continue to rise. Illness that which can be an irritant to respiratory systems as well as to eyes. Temperature change may have an impact on several major categories of disease , including cardiovascular , cerebrovascular and respiratory diseases. The other diseases in tropics are malaria, trypanosomiasis, leishmaniasis , amoebiasis, and various worm infections. Ultraviolet radiation is known to have effects on the immune system. The potential impact of climatic change on communicable disease is also observed all over the world.

(vi) Other species health concerns-Animals and insects are affected by global warming , most often related to changes in migration patterns , shorter hibernation time , relocation to new areas and extinction due to lack of adaptation . Many animals accustomed to living in the arctic regions , such as polar bears and penguins have begun to be forced further out of their native habitat in search of more accommodating habitat closer to the poles. Animals that migrate such as birds and butterflies have begun arriving sooner and departing later from their normal patterns and extending their migratory range closer to the poles.

### **Approaches to deal with global warming**

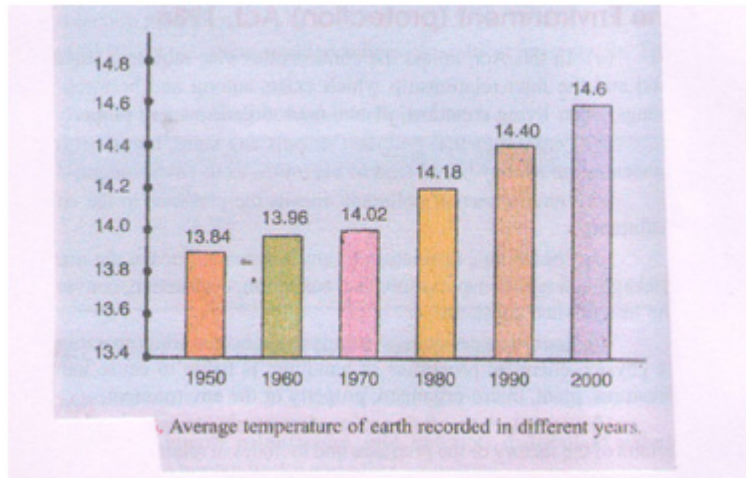
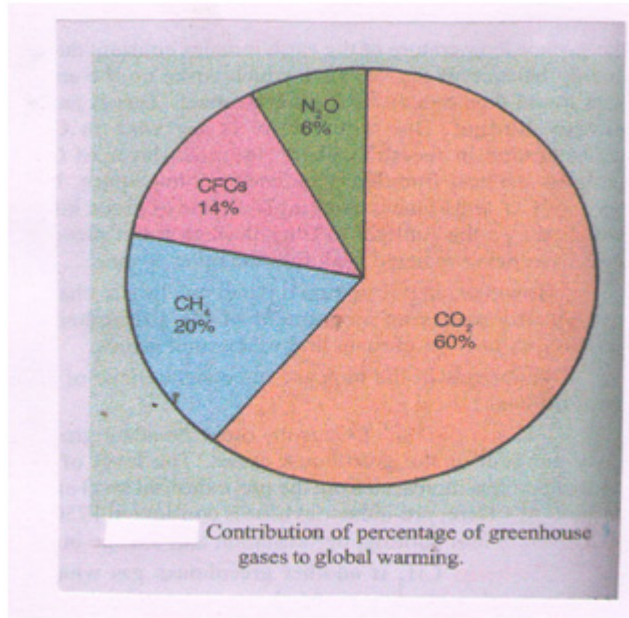
Some strategies which could reduce the global warming are as follows-

- (i) Reduction of the greenhouse gas emission by the use of limited fossil fuels , by developing alternative renewable sources of energy , such as solar energy , wind energy etc.
- (ii) By increasing the vegetation cover , particularly the forests , for photosynthetic utilization of carbon dioxide.
- (iii) By using minimum nitrogen fertilisers in agriculture , so that the  $N_2O$  emission may be reduced.
- (iv) By developing substitutes for chlorofluorocarbons.

Besides above mentioned strategies, adaptations to particular habitat due to climatic change shall be important.

### **References**

- 1) A Textbook of environmental sciences(2006)-By S.S.Purohit , Q.J.Shammi and A.K. Agrawal .Published by Mrs Sarswati Purohit for Student Edition, India.
- 2) S.Chands Biology for Class XII (2008)-By Dr.P.S.Verma and Dr. B.P.Pandey. Published by S.Chand and company Ltd. Ramnagar , New Delhi.
- 3) A Textbook of environmental studies (2010)—By Vijaykumar Tiwari . Published by Himalaya Publishing house , Mumbai.



**Philosophy :****A Review of Indian philosophies**

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**Introduction :** It is generally said that Indian Philosophy is the best critic of its own. We comprehend this remark to be true in the scholarly and unique philosophical work. Sarvadarshana Samgraha of Maadhavaachaarya. This Sarvadarshana Samgraha by the great Maadhavaachaarya is a marathon and unique composition of Indian Philosophical thought and progress. The author has brought into prominence the salient features of as many as sixteen mainstreams of philosophical thought. In a precise and forceful language he has reorganised the materials and marshalled them ultimately to absolute monism. This unique work received attention by the pioneering attempt of Mm. Vaasude Shaastrri Abhyankar. Shaastrriji has remarkably commented with useful introduction and appendices. However Sanskrit being almost unknown and very little known to the average educated and highly educated respectively. Shaastrriji's valuable work had remained so far a closed book. During 1960's Dr. Umaashankar Sharma of Patna University has translated Sanskrit commentary of Shaastrriji in Hindi and added five useful appendices. Dr. Sharma has also added his own lucid notes at many places. Now this feast of philosophical thought can be enjoyed by a large number of Hindi knowing scholars. If some body now renders this Hindi translation in English, it will be of great use for English knowing and Western Scholars.

**About Maadhavaachaarya** - There was a famous empire in Vijaynagar, near the lake Pampaa, on the bank of the river Tungabhadra, in South India. Approximately during the year 1355 emperor king Bokka rules there. This empire was established who honoured the post of Chief-Minister during reign of both the kings. Maadhavaachaarya hailed from a famous family, which was quite advanced in culture and occupied high position in the field of knowledge. Famous Commentator of Vedas Saayanaachaarya also hailed from the same family. He was young brother of Maadhavaachaarya. Name of their father was Maayana and that of the mother was Shrimati. They were Yajurvedi Braahmins. This is indicated by Maadhavaachaarya in his commentary on the Paaraasharasmruti.

It is an accepted fact by all that, Maadhavaachaarya was a supporter and upholder of the doctrine of Absolutemonism (Advaita-Vedaanta). In view of this fact alone for establishing the doctrine upheld by him, he arranged and presented even other doctrines in their true spirit. As one goes through his commentary one comes to know his unique and unparalleled method of presenting and treating each doctrine. While sincerely advocating principles of each doctrine, whether vaidic or non-vaidic the commentator has strongly defended their

respective main fortresses. At The same time it is observed at the opening of a new/doctrine its preceding one is refuted and foundation stone of the succeeding one under-review is laid down. Thus he canvasses acceptability of the doctrines in order of comentary. Other books on Indian philosopies have failed to keep up this successive high order. Probably they had a bias for one or the other doctrine. But Maadhavaachaarya maintains a particular order with an aim to accomplish his goal. Advaita-Vedaanta being the most popular Indian philosophy, Maadhavaachaarya has regarded it as the crest-jewel of Indian doctrines. He has eruditely satisfied all objections raised against Advaita-Vedaanta. During this, he has dispensed with scholistic details on the fundamental categories and yet established their theorises. Thus he accomplished two aims by his thesis(i) while arranging in order all Indian doctrines, which was the need of his time, ii) He has wisely attemped and also succeeded in establishing his objective.

Appendix III of the Hindi Sarvadarshana-Samgraha reveals erudism of Maadhavaacharya. It is recorded that he has consulted 235 philosophical works and scriptures for bringing out his monumental and masterly piece of scholarly work, which even as on today occupies the topmost position among similar works. In his work, Maadhavaachaarya has sincerely tried his vest to do justice to all the doctrines and at the same time has, with an utmost balanced mind refrained himself from doing injustice to any doctrine and thus has brought out and established proprieties of each doctrine.

**What is a Darashaa/Doctrine?** Darshana is defined as a Science that becomes an instrument for understanding ture nature of anything (Tattvadnaana Saadhanam Shastra-Darshanam). In general any Darshana is supposed to throw light on i) Ishwara, ii) Jiva, iii) Samsaara, and iv) Tattva-Vichaara. Thus each school of philosophy has its own views and theories in respect of the above main points. It is observed that there is at time unity and at times diversity in opinions among two or many Darshans on one, two, three or all the above points.

The Sarvadarshana Samgraha contains all that a man is required to know as to the fundamental principles of different systmes along with a short glimpse of traditional discussion making use of all the logical intruments each as inrferential argument, fallacies, tarka, Vaada etc.

By some, the six schools of Indian philosophy are known as the six upaangas of the Vedas. They have profound respect for the four Vedas. These philosophical systmes show that human mind soared to highest peak of the imagination. Had there been absence of science and philosophy in the Vedas such systems of philosophy which have also the science in them, would not have originated and developed. What sort of intellectual consciousness may be capable of grasping such esoteric ideas encllothed in the thoghts of Indian philosophies? General forms of knowledge are between two - the experience and intutuion. To a great extent the experience is based on the empirical knowledge. Intuition is natural and free from emprirical observations. The field of empirical knowledge is limited in the Indian philosophies cannot be completely grasped through mere impericism. Maharsi

Patanjali was the first to analysis the various stated of highly attained intellectual consciusness of man. Apart from the empirical knowledge he described (1) Rutambharaa Pradnyaa - the truth bearing intellect, (2) Pratibhaa - the intuitive knowledge, (3) Vivekajajnaana - intuitional discrimination and also (4) Taaraka Vivekaja Dnyaanam. Our ancestors attained the highest empirical knowledge as well as the intuitional knowledge of the categories in the Universe and behind it. This is why they were capable of penetrating the mystery of the cosmos. The Indian philosophies and especially the Vedic philosophies contain all the true sciences. They are the repository of all true knowledge and therefore Shaastras in true sense.

Philosophical thought and various schools have been and are in vogue in the wolrd outside India. These are called as Western-philosophies. One striking difference between the Western and Indian philosophies is that the former keep mum on many vital points such as Soul/Atman, Moksha/emancipation etc. The main reason for this seems to be that the Western Philosophers have not as yet accepted the most important category viz. Jiva/Life-force which is beyond the ken of empirical sciences. Some Western philosophers believe in occult science. Though a high level discussion occurs in the Western Philosophy as regards raising very high from the meagre materalistic life and to enter in total realisation of Hegel. But there is even no trace of profoundness and comparative view found in the Indian philosophies. Western philosophies discuss only on matter/element or principles, whereas the Indian philosophies establish themselves in this world alone and discuss science of Achaara, Pramaana, Kriya, Moksha etc. Thus Indian philosophies have much more to give to their Western-counterparts.

**Brief Review** - Now it is intended to briefly examine the contents of each of the systems discussed in the sarvadarshana Sangraha. Now all the philosophies do not equally possess the three wellknown philosophical aspects namely - 1) epistemology, 2) ontology and 3) ethics. Much emphasis is given on the epistemological aspect by the later Naiyaayikas, while its parallel system vaisheshika devotes a major share on ontology i.e. the science of existence. Practical and psychological sides are a major concern to the yoga philosophy while its partner/Saamkhya school is through and through theoretical. Keeping this is mind let us now actually exmine the systems one by one.

**1) The Charvaaka System** - Twentyfive pages are devoted for discussion on this Aavidic system. This discussion on this Aavidic system. This discussion is divided in thirteen points. Discussing etymological derivation of the word Charvaakas (Charu - pleasant, Vaak - Speech) and Lokaayatika/Universal acceptances, metaphysics of the charvakas. that Earth, Water, Fire and Air are the only four elements, follows. Consciouness is not a separate element but it is an outcome of the above four elements, coming together. The highest good is pleasure alone though replete with misery. The Vedas, sacrifice and other scriptures are deceptive and fabricated by the frauds for their livelihood. Objects of this very life are God, Liberation and Soul. But concepts of these say that king is the God, death means liberation and the body is the soul. The most important discussion probably speculation of Maadhava

is regarding question of inference/anumaana to be refuted as a source of valid knowledge/pramaana. In the scholarly discussion probably speculation of Maadhava is regarding question of inference/anumaana to be refuted as a source of valid knowledge/pramaana. In the scholarly discussion the basis of inference, the major premise/vyaapti cannot be established by any known source of valid knowledge. The outcome is direct perception alone must be accepted. Maadhava has so staunchly defended & clearly upheld the materialist's theory that, Sarvadarshan Samgraha alone is the place in the history of Sanskrit literature on this point. The Chaarvaakas are very bold and shrewed in putting forth their system which is very practical and in consonance with the philosophy of a common man. There are no long drawn arguments and discussions and the Vaidic darshanas are directly and vehemently attacked for their "fraudulent revelations" in this precise system running into hardly twentytwo verses.

**2) The Buddhist System :** This second Avidic-system occupies approximately seventyeight pages in Sarvadarshana Samgraha. As per Maadhava's peculiar style, the main theory founded in Chaarvaakas that, perception alone must be accepted as the only source of valid knowledge is severely criticised at the outset. For establishing Vyaapti/Universal proposition, the law of identity alone with the law of causation are offered as the means. The causal relation is established by the Buddhist in their own way called Panchakaarani and the logician's method of Anvaya and Vyatireka i.e. agreement and difference is refuted. Momentariness/Kshanikattva is upheld and the opposite one viz. non-momentary existence is attacked and refuted properly. A brief description of the four schools of Buddhist philosophy follows the refutation of generality/Saamaanya. Nihilism/Shunyavaada terms all existence both internal and external, to be above expression. Pain/dukkha of the beings in the world is said to be of five kinds. The steady desire that all the Samskaaras are momentary is said to be the path/maarga and the same is moksha also. Direct perception along with inference are said to be the two sources of valid knowledge/Pramaanas. Out of the four sects of this school of philosophy 1) the Vaibhaasikas hold that the Artha is directly perceptible, 2) the Saautraantikas hold that the Baahya Artha is inferential, 3) the Yogaacharas hold that the Budhi itself takes shape of Artha, and 4) The Maadhyamikas hold that the Kevaldnyaana is established in one's own self. This Buddhist philosophy accepts four golden-truths/Aarya-Satyas viz. suffering, its cause, its cessation. Thus the chapter on this philosophy closes here.

**3) The Arhata System -** This system of philosophy also known as Jaina - darsana is third Avidic darshana and runs into approximately 77 pages of Sarvadarshana Samgraha. Exposition of this system is done under twenty six points by Maadhava. The Jainas criticise in multiple ways the doctrine of momentarism upheld by the Buddhists. The Arhat literally meaning adorable i.e. omniscient is established through a long debate with the mimamsakas and the logicians. Logicians' concept of the God as the creator of the Universe is criticised and the nature of Jaina's Arhat is described in the verse No. 5 of their texts. Jaina metaphysics has put forth Tri-ratnas or three jewel like paths for attaining liberation. They are (1) Proper belief 2) proper knowledge and 3) proper conduct. This last one also known as Right conduct

incorporates the same five vows of the Yoga-system these described as the Yamas, they are Ahimsaa, Satya, Asteya, Brahmacharya and Aparigraha. Again five Bharanas of each of these are described. The number of ultimate Reality according to the Jaina-meta-physics is two, five and seven from various points of view. Bondage and liberation are discussed as per usual routine. Expressing anything as conditional existence is the Jaina logic. Jainas also hold that one can know a thing only in part and not as a whole. They insist on tolerance and preach to respect the opinions of others as well, the reason is that Jainas are syaadvaadi i.e. followers of the theory of probably existence. Lastly their highest Guru Jina Deva is described as bereft of eighteen malices/Doshas. Aasrava is the open door of demerits, which ought to be closed by technique of Samvara. Lastly two sects of this school are 1) Shvetaambara and 2) Digambara.

**4) The Raamaanuja System** - Discussed under twenty four points, and spreading over by pages of Sarvadarshana Samgraha. This system is also known as qualified monism (Visishtadvaita). Raamaanuja is known as one of the pioneers of Devotion-cult/Bhakti-Pantha, which was founded in the South and spread in the Northern India as well. In the first three points Maadhava refutes the main assertion of the Jainas viz. probable existence and particular magnitude of the soul. Thus defeating the champion of the team of wrestlers the other members of the team too are won over. This follows exposition of the three fundamental principles of Raamaanuja-system viz. Categories are three, they are i) chit/soul/enjoyer, ii) Achit/Universe/Object, & iii) Ishwarah/God/Controller. Harih/Vishnu is the Ishwara. Chit is individual soul and Achit is the appearance/world. Chit and Achit are the inseparable attributes of Ishwara. From point No. 5 to 15 Shamkara's theory is disputed and Raamaanuja has found fault with the unqualified Brahman as well. Points Nos. 16 & 17 elaborate on the aforesaid three categories. Under point No. 18 describes five kinds of Upaasanaa such as 1) Abhigamana/Access, 2) Upaasanaa/Preparation, 3) Ijaa/oblation, 4) Swaadhyaya-Recitation and 5) Yoga/Devotion. These are described in the book Shripancharaatra. Thus by proper practice of these five, Chit attains liberation. After this Raamanuja has commented and explained the most famous first four sutras of the Brahma-Sutra and exposition of this system comes to an end.

**5) The Purnapradyna System** - Explained under eighteen points, this system based on dualistic principle Dvaita-tattva, has occupied 52 pages in the Sarvadarshana Samgraha. This system came into existence approximately during C-1150. The pioneer is Aanandatirtha or Madhvaacharya. Considering a large number of its followers in the time of Maadhava, he included it in Sarvadarshana Samgraha. In the first five points Maadhava has treated similarities, then dissimilarities with Advaita-system. Then the important point of difference between Parameshwara and Jiva. The latter is a devotee whereas the former is the object of Devotion. They cannot be one just as servant and the king are not one. For bringing home this point it is argued that the Lord may disfavour one who tried to establish oneness with Him and vice versa. This system is also follower of Bhakti-cult. In view of this three kinds of service/sevaa viz. 1) Ankana, 2) Naamakarana, and 3) Bhajana are set out. After this, usual points such as Moksha, interpretation of the opening Brahmastras occurs. Thus



exposition of this comes to an end with information on its expounder viz. Putna Prajna who describes himself as the third Avataara of Vaayu. These are 1) Hanumaana, 2) Bhima & 3) Purna Pradnya.

**6) The Nakulisha Paashupata-system** - One of Maadhava's outstanding contribution to the Indian philosophies is that, he has systematised schools or rather sects of the Shaiva or Maaheshwara philosophy. They are 1) Nakulisha Paashupata, 2) Shaiva, 3) Pratyabhijnaa, and 4) Raseshwara.

Out of these the first the Nakulisha-Paashupata system now under review is short in all respects viz. limited to ten verses, exposition to 10 points and space required is only twenty three pages. This system professed in the Western part of India, is extent in the Paashupat-Sutras. Overall followers of this system have criticised Vaishnava systems for promoting slavery for attaining emancipation. Guna of Pashupata's is characterised as the knower of nine Gunas. Liberation i.e. Duhkaanta is explained with all varieties. Main portion is the elaboration of Kaarya dependent entity as the world, Kaarana/God, Yoga/Unification of Soul & God and Vidhis/actions leading to liberation are explained. Paashupats have accepted the category Vishesa/particularity. Paashupatas themselves call so because according to them all the beings are ignorant from Maheshwar's point of view. Just as cow, dog etc. are animals/beasts/pashus for us even so all creatures are pashus and their Lord is Pashu-Pati. By knowing that Mahaadeva is the Lord of Devataas pain ends and one attains liberation. Northig else is necessary. And here ends exposition of this system.

**7) The Shaiva System** : Number two out of four Maaheshwara systems, explained under seven points, in the extent of twenty six pages by Maadhava. Summarising, this system is comprised of three realities, viz. Pati/God, Pashu/Soul and Paasha/Bondage. Pati is Lord Maheshwara/Siva endowed with Mantra, Mantreshvara, the liberated soul and shiva. Shiva is omniscient being the creator of all. Pashu is divided in three classes. The Pashas are fourfold namely Mala/impurities, Karma/action, Maayaa/ignorance and Rodhaka-Shakti/the obstructive power. By practising prescribed techniques and following the prescribed path a pashu is capable of overcoming Paashas and thus understanding the truth/reality i.e. Pati means moksha/liberation. This system vogue in the southern India is lucidly treated by Maadhava.

**8) The Pratyabhidnyaa System** - This system third out of the four Maaheshwara sects, having 21 verses, explained under eleven points by Maadhava spreads over twentyeight pages. Also known as Kaashmir Shaivism and Shaivaadvaita, this branch of Maaheshwara system, propogating idealistic Monism is prevalent in Kaashmir. Nature of their philosophical thought is described preceded by exposition of its literature comprising of Sutra, Vrutti and Vivruti. The concluding verse constructed by its pioneer Abhinavagupta (C.950), is a token to understand their thought. Explaining the two powers of cognition and conation/ Dnyaanasshkti and Kriyaashkti respectively, the doctrine of Aabhaasavaada implying realistic Idealism is elucidated. Mere wish of Lord Shiva is the cause of worldly objects. Only Guru can make one realise liberation through his discourses and explanation of the Truth. This is

emancipation and here closes this system.

**9) The Raseshvara System** - Thirtyfour verses, explained under fifteen points, in sixteen pages by Maadhava this System of Philosophy is the fourth and last branch of Maaheshvara school. Raseshvaras have no epistemeology, no ontology and nor ethics with them. It can never be called Aayurvedic or even attributed to Aayurveda which stands far above by its virtue of being a wonderful alloy of most systematic empirical science of life as a whole and also a spiritual philosophy for the highest class of Intelligentia.

Aayurveda is not only a system of medicine but it is at once the the Art, the Science and the philosophy of Life, catering all the needs of the man as a whole viz. the body, mind, intellect & spirit complex. However, it seems that the learned Maadhava might have been constrained to give this system status of a full fledged system of philosophy because of some reason which remains unknown. Probably this Raseshwara was accepted as a means to Taantric-exercise so much prevalent among the shaivas/Shivaits, this system got indirect support and hence it was included in Sarvadarshana Samgraha. Raseshvaras claim that by the use of various preparations of Paarada/mercury, this mortal body, the means of four Purusharths, can be rendered eternal. Thus by the use of mercurial compounds one can realise one's Svarupa and get liberated here now and with this body. The ancient alchemists e.g. Naagaarjuna through some complex processes attained success in Paarada Siddhi, and it was used for cure of diseases and as a Rasaayana, but it's use as the only means for salvation is far from imagination of any crudite scholar.

**10) The Aaulukya System** - Only seven verses, explained lucidly under fourteen points, in fiftyeight pages by Maadhava. This system popularly known as the famous Vaisheshika system is mentioned here as Aulukya system after the name of its proponder Kanaada, who was son of a Rushi by name Uluka. From the outset the contents of Sutra work are given. These texts and those of its counterpart Nyaaya-System go for the most parallel and agree with each other on many points except few. Therefore both these together are mentioned as Nyaaya-Vaisheshika. Famous Tarka Samgraha compiled by Annambhatta is known best for the study of these two systems. Vaidheshikas hold that, by sincerely applying one's intellect in Parameshwara, on the strength of study of scriptures/Aagama, inference/ Anumaana and practice of Dhyaana, a student succeeds. Kanaada has enumerated only six categories/Padaartha in his texts, they are 1) Dravya/substance, 2) Guna/quality, 3) Karma/action, 4) Saamaanya/generalality, 5) Vishesa/particularity and 6) Samavaaya/inherence or co-existence. Abhaava/negation or non-existence has been included as seventh category by Prashastapaada & Annambhatta. The exposition of a number of vaisheshika questions viz. production and destruction of Dvitva (the numeral two), effect or activity of heat on a substance and division arising out of another division are treated lucidly. All these points are very worthy to and from the modern scientific line. Lastly points Nos. 12 & 13 discuss the topic of Andhakaara/darkness. And it is logically brought out that Andhakaara cannot be accepted as a category of any class such as substance etc. It is also brought home that darkness is the counterpart or absence of prakaasha which is inclusive in the category called Teja. Lastly Abhaava/Non-existence is discussed the thoroughly but it is not

accepted as a category. At the end it is brought out that, total destruction of pain is the parama-purushartha/summum bonum, they accomplishing total non-existence of pain is liberation.

**11) The Akashapaada System** - Popularly known as the Nyaaya-system founded and propounded by Gautama, also known as Akshapaada, is treated under fifteen points over sixtyfour pages by Maadhava. As said earlier this system accepts in toto all the six categories of its samaana/parallel system viz. Vaisheshikas is recorded on the point that by understanding true nature of categories, liberation in form of total annihilation of pain. This follows by an account of five chapters of their texts. This system enumerates sixteen categories and they are 1) Pramaana/sources of valid knowledge, 2) Prameya/object of valid knowledge, 3) Saamshaya/doubt, 4) Prayojana/purpose, 5) Drushtanta/familiar instance, 6) Siddhaanta/established tenet, 7) Avayava/members, 8) Tarka/confutation, 9) Nirnaya/assertainment, 10) Vaada/discussion, 11) Jalpa/wrangling, 12) Vitandaa/Cavil, 13) Hetvaabhaasa/fallacy, 14) Chala/quibble, 15) Jati/futility and 16) Nigrahasthaana/occasion for rebuke. In this system there are three steps of discussing a topic, they are 1) Uddesha/enumeration, 2) Lakshana/definition, and 3) Pariksha/examination. This system states four sources of valid knowledge/pramaanas, they are 1) Pratyksha/perception, 2) Anumaana/inference, 3) Shabda/Testimony and 4) Upamaana/comparison. Prameya/knownable are enumerated as twelve, they are 1) Aatman/Soul, 2) Sharira - body, 3) Indriyas/Senses, 4) Artha/objects, 5) Buddhi/Intellect, 6) Manas/mind, 7) Pravrutti/Volition, 8) Dosha/faults, 9) Pretyabhaaca/transmigration, 10) Phala/fruit, 11) Duhkha/pain, and 12) Apavarga/emancipation. Regarding nature of Moksha/emancipation or mukti/liberation the scholars are at daggers drawn. Views of others are vehemently attacked, criticised and logically refuted. At last liberation in form of absolute destruction of pain is established. At the end God is proved as the creator of the Universe.

**12) The Jaimini System** - This Vaidic system popularly known as the Purva Mimaamsaa system a samaantantar of the utara Mimaamsaa or Vedaanta system, is scholarly treated by quotation under fourteen heads and over fifty-nine pages of Sarvadarshana Samgraha. It has been named after its pioneer's name Jaimini, who expounded this system in twelve chapters. At the outset contents of the Sutras are described. The parts of the first Adhikarana/enquiry into Dharma is discussed in the fashion of the Bhatta and Prabhaakara schools separately. Impersonal origin/apaaurusheyatva of the Vedas follows. It is established that the Vedas do not have any personal origin. As a part of the same discussion the very tenet that the words are eternal and therefore the Vedas are authoritative is proved. After a long drawn discussion the epistemological question whether validity of knowledge arises out of itself is tackled and also proved. Description side of the system is hardly touched. The difficult portions such as injunctions, arthavaadas and bhaavanaas have been omitted totally. The real merit of the system is originality in establishment of apaaurusheyatva and praamaanyavaada. This has made this system a standard work.

**13) The Paanini system** - Discussed under thirteen heads with twenty three main referenc

and spread over a portion of fortysix pages. This system originally established by famous grammarian Vyaadi. The original work was lost and Bhartruhari evolved a school of philosophy called verbal Monism/Shabdaadvaita. Surprisingly in the opening texts name of Patanjali, the author of Mahaabhaashya comes. It is said the Vaani/speech was Avyaakrta i.e. a in-articulate in nature. Indra rendered it Vyaakruti-yukta.divided in pieces. Thus the word Vyaakarana/grammer is etymologically derived. Other name for Vyaakarna is Shabdaanushasana. Vyaakarna is one out of the six Vedaangas. Paaninians give utmost importance to purity of words & their proper usage in speech. The theory of sphota literally meaning opening or bursting. the most subtle stage of speech bringing out the meaning of a sentence or a word or even a syllable is elucidated. This followed by establishment that existence is the meaning of a word. This meaing may be Jaati/Universal or Vyakti/individual. Lastly it is proved that, through, proper understanding and thorough knowledge of word which in itself is Brahman one attains liberation. Thus grammer being the first step of the staircase leading to emancipation. Thus system named the scholer grammarian Paanini comes to close.

**14) The Saamkhya System** - This important Vaidic system receives lucid interpretation at the hands of Maadhava who quotes twelve important reference, under the same number of points and only in thrity three pages. The originator of this system is Ishvara-krushna but Kapila is also equally known. The first authentic work is Saamkhyaana/enumeration of the twentyfive elements of this system. They are categorised under four viz. 1) Prakruti/cause, 2) Prakruti-Vikruti/cause and modification, 3) Vikruti/modification, and 4) neither prakruti nor vikruti/i.e. neither causes nor a modification. After exposition of these various theories on relation of the cause and effect, follows. The theory of Satkaaryavaada implying existance of a thing even before its manifestation/parinaama is scholarly proved and Aaranbhavaada, Vivartavaada of Naiyayikas and Vedaantins are criticised. Mutual reallion of Prakruti & Purusha is described after establishing prakruti as a separate element & the independence of Purusha. This system does not accept God which its partner the Yoga-system does. In our opinion the most important contribution of Saamkhya-system to the field of empirical sciences as well as spiritual philosophies is the 1) the gift of the constituent cum qualities of prakruti viz. Sattva, Rajas and Tamas, which are premolecular stage of the matter, and 2) Purusha the efficient cause of Universe.

**15) The Paatanjala System** - This important Vaidic system propounded by the great sage Patanjali and named after him has its texts Paatajala - Yogasutras. It has four sections/ Paadas viz. Samaadhi, Saadhana, Vibhuti and Kaivalya. There are altoghether approximately 195 yogasutras/aphorisms. This is widely treated by Maadhava with sixtyone refereces, under twentyfive points and over nintytwo pages. This system prescribes path of eight steps viz. Yama, Niyama, Aasana, Praanayaama, Pratyahaara, Dhaaranaa, Dhyaana & samaadhi. Maadhava treats all these at lenth. The opening sutra is defination of Yoga meaning cessation of modifications of chitta/mind. Purity of the body, speech & mind is stressed for this Yamas and Niyamas/vows are to be strictly practised in their true sense.

Aasana stabilized the body and hence the mind. Praanaayaama is regulation of breathing. Pratyahaara is controlling and reversing the outward propensity of the mind through senses. They stabilised mind is applied in meditation through gradually higher levels called Dhaaranaa/pinpointing the mind, Dhyaanam/reinforcing Dhaarana and at last Samaadhi a stage wherein the meditator realises himself with the object of meditation i.e. Ishwara, which brings mukti/moksha/liberation or Kaivalya. The Paatanjalas accept all 25 elements of their partner Saankhyas but add one more element over all i.e. Ishwara. Patanjali is probably the first psycho-analysist who has exactly hit the bull's eye. His contribution to the psychological sciences and Spiritual philosophy is the greatest donation to the mankind, Patanjali has deeply studied the mind, its functioning and harnessed it as a means for attaining Kaivalya. In the present and all the future chaotic situation of the mankind no wonder the Yoga is and shall gain footing all over this globe. The mankind ought to be grateful to him.

**16) The Shamkara - system** - This lastly treated system also known as Advaita-Vedaanta is the largest in extent, occupying 153 pages, explained with sixtyone references and under 26 heads is treated by Maadhava as brilliantly as could be possible. All objections raised at all stages are diligently satisfied and refuted. Texts are in four chapters. A quest for the Brahman is expressed in the first adhikarna. Every thing is established on the basis of scripture which has been held as the most convincing source of knowledge. Bringing out similarities and dissimilarities between Prakruti of Saankhyas and Avidyaa of Saankarites, the concept of Prakruti is punctured. Parinaamavaada is deprecated and vivartavaada is upheld and also scholarly established. It is proved that this apparent world is super imposition over the Brahman or absolute reality. The Brahmasutras are eruditely treated here than anywhere else. Illusion/Maayaa has been described responsible for veiling true nature of Reality/Brahman from the view point of a common man. Brahman can be realised only through the knowledge of Vedas. Avidyaa/ignorance and Maayaa/illusion are but the two sides of the one same coin. It is reiterated that the ultimate Reality is the Brahman which has no second. The Soul ought to be identified with the Brahman. At last the first four sutras of the Brahma Sutras are explained in the peculiar type of Shamkarites. This Shamkara system is hailed by experts as the crest-jewel in the crown of the Indian philosophies. Thus the Aadi Shamkaraachaarya has blessed the mankind with this unequivocally outstanding and monumental work.

**A short comparison** - In fact the Indian philosophies cannot be compared in as much each of them is different from the other. It should be understood that each of these philosophies is meant for the particular class of persons having the body mind intellect instrument developed at different levels. Thus charvaaka system caters needs of the man at the lowest stage of spiritual development, while the Shamkara system does the same for the man who is at the top of development. Thus each philosophy is a necessity of the mankind for all the times.

**Conclusions :**

- 1) Whereas food, clothing and shelter are the basic physical necessities of the mankind, even so fulfilment of spiritual quest is a fundamental necessity of man in general and of an intellectual in particular.
- 2) Only a philosophy can cater this necessity of man.
- 3) Indian philosophy in general and its various systems in particular are the essence of intellectual and intuitional development of the Aryas who were the first cultured men on this globe.
- 4) By and large, six Vaidic systems of Indian philosophy are in outstanding piece of the highest soaring Aryan intuition and imagination.
- 5) This treasure and fountainhead of all the empirical sciences and spiritual philosophies ought to be exploited in the best possible manner, for which it is necessary that this spiritual literature be propagated all over this globe by translation and transcription in all the languages and scripts in vogue on this globe.

**Bibliography :**

- 1) Sarvadarshana Samgraha - Maadhavaachaarya
- 2) Sciences in the Vedas - D. M. Shastri
- 3) Bhagavadgita - Maharsi Vyaasa
- 4) Tarkasamgraha - Annam Bhatta
- 5) Saamkhyakaarika - Ishvarkrishna
- 6) Brahmasutras with Commerntary of Aadi Shamkaraachaarya
- 7) Sanskruti into English Dictionary - M. Monia Williams
- 8) Paatanjala Yogasutras with English rendeing by - B. D. Dandavate
- 9) Fellow thesis of Institute of Indian Medicine - B. D. Dandavate (1985)
- 10) Ovearseas leactures by Prof. P. H. Kulkarni on Brahmasutra, Bhagvadgita (1986-2010)
- 11) Geeta Samhavani Marathi book by Prof. P. H. Kulkarni (2015)

**Letter to Editor :**



## **"Cancer is the best way to die"**

- Richard Smith

I am writing this in response to the e-mail sent by Mahavaidya Dr. P. H. Kulkarni.

In my opinion and experience, I feel that the cancer treatment and all the critical illness can be divided in two 1) Before research of the high tech treatments (i. e. modern) and 2) After arrival of high-tech life lines.

Before arrival of all high-tech life lines, the cancer and all critical illness were giving much more horrible death in effort to cure with high costs. I am referring diary of Dr. Dilip Daddi, M. D. His own experience with cancer and the best death he achieved (sallekhana) after stopping all drugs. We lost many learned, brilliant personalities for want of latest high-tech life lines.

My brother only died by cancer after 10 years of vigorous, expensive cancer treatment with strong side effects. Lastly the treating doctor told him - my treatment is over. You be prepared for death. You can take a chance of Bone marrow transplant in America with one crore cost and no complete guarantee. Patient refused and died in few months. Acharya Vinoba Bhave refused all treatments in his last days and achieved best death with sallekhana (Prayopveshan). Late Prime Minister Smt. Indiraji requested him for the treatment, but he refused.

High Tech Life Lines - have definitely raised hopes to overcome the difficulties faced by cancer and critically ill - patients. I have seen a famous senior paediatrician who was declared hardly 4 months life for liver cancer is enjoying normal life after liver transplant, for more than 2 years with medicines.

A Gynaecologist could receive bone marrow transplant for blood cancer and is alive for more than 1½ years with medicines. These high tech treatments are too costly. But are giving positive results. There is also life risk in these treatments. But life gift is after all life extension.

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## Research News

### A) Stress Hormone Enhances Memory Retrieval :

The stress hormone cortisol strengthens memories of scary experience in life, research report.

If a person remembering a terrifying event has a high stress hormone level, the memory of that specific event will be strongly reconsolidated after each retrieval.

The results may explain why certain undesirable memories don't fade, for example in anxiety and PTSD sufferers - said Oliver Wolf from Ruhr University Bochum, Germany.

Studies have shown that the stress hormone cortisol has a strengthening impact on the consolidation of memories.

The researchers from Bochum have demonstrated that cortisol effect memories in humans also during the so-called reconsolidation, that is the consolidation of memories occurring after memory retrieval.

The stress hormone can enhance this process.

They suggest that the results might explain the persistence of strong emotional memories occurring in anxiety and Post Traumatic Stress Disorder (PTSD).

Strong memories of stressful experiences occur frequently, but they usually fade away over time. People suffering from anxiety or Post Traumatic Stress Disorder, however are affected by terrifying memories that haunt them again and again.

In the study, the subjects on the first day learned an association between specific geometric shapes and an unpleasant electric shock.

On the second day, some of the participants were given a cortisol pill, others a placebo.

Subsequently, they were shown one of the geometric shapes associated with the electric shock. On the third day, the memory for the geometric shapes was tested.

Participants who had taken cortisol remembered the fear associated shape particularly well, the study found.

This was evident in a heightened skin conductance, which is an established measure for emotional arousal.

The study appeared in the journal *Neuropsychopharmacology*.

*(Times of India, July 2015)*

### B) Antacid could treat TB :

Testing thousands of approved drugs, scientists have found an unlikely anti-tuberculosis drug in the form of a commonly available over the counter antacid called lasoprazole.



Tuberculosis continues to be a global pandemic, second only to AIDS as the greatest single agent killer in the world. Resistance to TB drugs is widespread, creating an urgent need for new medicines. Ecole Polytechnique Federale de Lausanne scientists have now identified lansoprazole, a common antacid, as a candidate against TB. The study appears in Nature Communications.

It takes well over ten years for a new tuberculosis drug to complete these trials and be approved for human use. Meanwhile, traditional antibiotics have led many strains of tuberculosis bacteria to evolve multi drug resistance. Millions of new chemical compounds have been tested for their ability to disrupt the growth of M tuberculosis in the test tube, but discouragingly few are in clinical trials.

But we can speed this process up. Compounds that have already been approved for use in humans could be repurposed as anti-tuberculosis medications, and cut down both the time and cost of new drug development.

#### **SCREENING AGAINST TB :**

This is the strategy adopted by Stewart Cole's lab at EPFL. The assay uses a robotised system that gives candidate drugs to cultured lung cells that have been infected with M tuberculosis. Robotised "High-throughput screens" like this are a growing trend in drug development as they can work through massive libraries of drugs quickly and accurately in a day. The scientists screened a large panel of approved drugs, and identified the antacid lansoprazole, as a potential anti-tuberculosis medication.

#### **A NEW USE FOR AN OLD DRUG :**

Lansoprazole was found to be effective against M tuberculosis but only then the bacterium grows inside cells. These researchers investigated the underlying biology and found that lansoprazole kills the bacterium after the human cells convert it into sulfur-containing metabolite. This metabolite targets a particular enzyme that is crucial for the bacterium to produce energy, thereby killing it off. In addition, when the scientists tested lansoprazole against a wide range of other bacteria, it proved to be highly selective for M tuberculosis.

Lansoprazole belongs to a class of drugs known as "proton-pump inhibitors" that keep the stomach from pumping too much acid, thus preventing heartburn and ulcers. "Protonpump inhibitors are both safe and widely sold around the world. says Cole. Being highly active against drug-resistant strains of M tuberculosis, this novel class of drugs provides us with an excellent opportunity to treat TB.

*(Times of India, July 2015)*

#### **C) Mini-brain in spinal cord helps body balance :**

A cluster of neurons in our spinal cord function as a 'Mini-brain' to help keep our bodies in balance, scientists say.

A new discovery suggests that much of the balancing act that our bodies perform when faced with certain tasks happens unconsciously, thanks to the cluster of neurons in our spinal cord to integrate sensory information and make the necessary adjustments to

our muscles so that we don't slip and fall.

The study, conducted in the mice, provides the first detailed blueprint for a spinal circuit that serves as control centre for integrating motor commands from the brain with sensory information from the limbs.

A better understanding of these circuits should eventually aid in developing therapies for spinal cord injury and diseases that affect motor skills and balance, as well as the means to prevent falls for the elderly, researchers said.

We think these nerous are responsables for combining all of this information to tell the feet how to move, says Steeve Bourane, first author on the new paper.

If you stand on a slippery surface for a long time, you will notice your calf muscles get stiff, but you may not have noticed you were using them. Your body on autopilot, constantly making subtle corrections while freeing you to (P.T.I.) attend to other higher-level tasks, The research was published in the journal.

#### **D) Curbing dementia :**

Those suffering from dementia can slow the effects of their illness by taking a daily supplement of Vitamin E, a new research has revealed.

Experts found people with Alzheimer's disease who took a dose of Vitamin E every day reduced the difficulties they faced in tasks such as cooking and shopping by 19 percent.

Dementia sufferers can slow the effects of their illness by taking a daily supplement of Vitamin E, scientists have discovered Professor Kenneth Davis, whose team of Mount Sinal Health System in New York ran the study. He said, Now that we have a strong clinical trial showing that vitamin E slows functional decline and reduces the burdens on caregivers, vitamin E should be offered to patients with mild-to-moderate Alzheimer's disease.

Dr. Dong Brown, of the Alzheimer's Society, said, Treatments which can help people with dimentia carry out everyday tasks are key to enabling those with the condition to live well for as long as possible. However, it is vitally important that people always seek advice from their doctor before considering taking supplements.

In this instance the dosage of Vitamin E taken by participants was much higher than the recommended daily allowance and was at a level that could be significantly harmful for some. While this study into the link between Vitamin E intake and reduction in functional decline is of interest, it is by no means conclusive. More research is needed to see if Vitamin E really does have benefits for people with dementia, and whether it would be safe to be taking such a high dose on a daily basis.

#### **E) Listening to music could ease pain after surgery :**

Listening to just 30 minutes of songs - of audio books - can have a significant reduction in pain after major surgery in kids, Indian-origin researchers have found. North Western University researchers asked children to choose from a playlist of music in different

genera. Short audio books were another option in the study.

A strategy to control post surgical pain without medication is important because opioid analgesics - most commonly used to control post surgical pain - can cause breathing problems in children. Thus caregivers usually limit the amount of opioids prescribed and children's pain is not well controlled.

Audio therapy is an exciting opportunity and should be considered by hospitals as an important strategy to minimise pain in children undergoing major surgery, said senior author Santhanam Suresh.

Santhanam believes the audio therapy helped thwart a secondary pathway in the prefrontal cortex involved in the memory of pain. The therapy worked regardless of a patient's initial pain score.

However, the equal effectiveness of the audio books was an unexpected finding in the study, about 60 pediatric patients received pain evaluation prior to and after receiving the audio therapy.

They reported their pain levels. The children were divided into three groups, 30 minutes of music, 30 minutes of stories and 30 minutes of silence via noise-cancelling headphones. The patients in the music and story groups had a significant reduction in pain. The patients who heard silence did not experience a change in pain. The study was published in the journal *Pediatric Surgery*. (P.T.I.)

Times of India, 10th January, 2015

#### **F) Researchers discover a potential new treatment for type 2 diabetes :**

In a significant discovery, a team of researchers has found that a single gene dysfunction in mice results in developing fasting hypoglycemia, one of the major symptoms of Type 2 diabetes.

The discovery by researchers, led by Bellur Prabhakar, focused on a gene MADD for the study and may enable a new potential treatment for diabetes patients.

If MADD is not functioning properly, insulin is not released into the bloodstream to regulate blood sugar levels, said Prabhakar from the University of Illinois at Chicago. In previous work Prabhakar isolated several genes from human beta cells, including MADD, which is also involved in certain cancers. Small genetic variations found among thousands of human subjects revealed that a mutation to MADD was strongly associated with Type 2 diabetes. People with this mutation had high blood glucose and problems of insulin secretion, hallmarks of type 2 diabetes, Prabhakar said.

But it was unclear how the mutation was causing the symptoms, or whether it caused them on its own or in connect with other genes associated with Type 2 diabetes.

To study the role of MADD in diabetes, the team developed a mouse model in which the MADD gene was deleted from the insulin producing beta cells.

All such mice had elevated blood glucose levels, which the researchers found was due

to insufficient release of insulin.

We didn't see any insulin resistance in their cells, but it was clear that the beta cells were not functioning properly, Prabhakar said.

Examination of the beta cells revealed that they were packed with insulin. The cells were producing plenty of insulin, they just weren't secreting it, he said.

Without the gene, insulin can't leave the beta cells, and blood glucose levels are chronically high.

In the future, the researchers plan to look into effects of a drug that allows for the secretion of insulin in MADD deficient beta cells.

If this drug works to reverse the deficits associated with a defective MADD gene in the beta cells of our model mice, it may have potential for treating people with this medicine who have an insulin secreting defects, he said.

### **G) Scientists develop artificial bone marrow**

Berlin Scientists from Karlsruhe Institute of Technology (KIT), Max Plank Institute for Intelligent systems in Stuttgart and the University of Tübingen have artificially recreated basic properties of the natural bone marrow in a laboratory, Xinhua reported.

The Haematopoietic stem cells provide replenishment of red blood cells or immune cells, so they can be used for the treatment of leukemia, in a way that the diseased cells of the patient are replaced with healthy haematopoietic stem cells from a matched donor.

However, at present not every leukemia patient can find a matchable donor, so a simple solution to this problem would be to increase hematopoietic stem cells.

As the hematopoietic stem cells retain their stem cell properties only in their natural environment, the scientists need to create an environment that resembles the stem cell niche in the bone marrow.

To accomplish this goal, the German scientists created with synthetic polymer a porous structure that mimics the structure of the spongy bone in the area of the hematopoietic bone marrow.

In the artificial bone marrow, the researchers directed isolated hematopoietic stem cells freshly from umbilical cord blood and incubated them for several days.

Analysis with different methods showed that the cells actually proliferate in the newly developed artificial bone marrow.

Now the scientists can study the interactions between materials and stem cells in detail in the laboratory to find out how the behaviour of stem cell is influenced and controlled by synthetic materials.

This knowledge could help to realise an artificial stem cell niche for the targeted increase of stem cells to treat leukemia patients 10 to 15 years. (IANS.)

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Ashwagandha Ghruta  
Aahara  
Agni
- B.** Blood Pressure  
Basti  
Bala  
Bruce Trademill Test  
Bhutagni
- C.** Cpongenital Uterus
- D.** Despression  
Dhatwagni  
Dhatuposhan Nyaaya
- G.** Green House Effect  
Global Warming
- J.** Jatharagni
- K.** Kurcha
- L.** Leech Therapy
- M.** Mritashodhana  
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- N.** Nidra
- O.** Oligospermia
- P.** Prakruti  
Panchatmak Vayu  
Prana  
PRTEE Test
- R.** Rakta Dhatu
- S.** Shodhan Karma  
Samsarjana Krama  
Stress  
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Samskar Viruddha
- U.** Urethral stricture  
Utter Basti
- V.** Velocity  
Viscosity  
Vaman Karma  
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- Y.** Yogic asan Kriya relation

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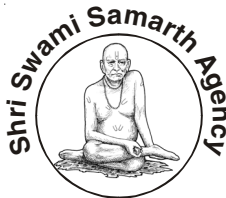
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**Research Place :** Bharati Vidyapeeth University College of Ayurveda, Pune

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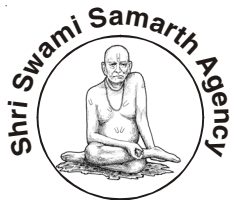


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