

# ॥ आरोग्यचिंतन ॥

पत्रिका

॥ शास्त्रतत्त्वप्रकाशार्थ एषा चिन्तनपत्रिका ॥



April 2020

A R O G Y A C H I N T A N P A T R I K A

## Editor's Desk



### NOBEL PRIZES SHOW THE FUTURE DIRECTION

New year beginning is always the occasion for taking stock of the events happening in our field of expertise and for updating our knowledge. Let's have a quick review about the recent Nobel prizes awarded in the field of medicine and physiology since 2015 and see where the modern medicine is heading towards in this ultramodern age of science.

Noble prizes in the fields of physics, chemistry, physiology or medicine, literature and peace 'For the greatest benefit to humankind' were established in 1895 and are being awarded since 10<sup>th</sup> December 1901, according to the will of Alfred Nobel (1833-1896), a Swedish Chemist, engineer and industrialist.

In 2015, Nobel Prize in Physiology or Medicine was jointly awarded to **William C. Campbell**, **Satoshi Ōmura** (1<sup>st</sup> half) and **Youyou Tu** (2<sup>nd</sup> half) for their novel therapeutic discoveries against infections caused by roundworm parasites and Malaria respectively.

Youyou Tu, Chief Professor at the China Academy of Traditional Chinese Medicine discovered **Artemisinin**, a drug that has significantly reduced the mortality rates of patients suffering from Malaria. She searched ancient literature on herbal medicine in her quest to develop novel anti-malarial therapies. The plant *Artemisia annua*, a known bitter herb in traditional Chinese medicine turned out to be an interesting candidate and she developed a purification procedure, which rendered the active agent, Artemisinin, a drug that is remarkably effective against Malaria.

लङ्घनं स्वेदनं कालो यवाग्वस्तिक्तको रसः॥

पाचनान्यविपक्वानां दोषाणां तरुणे ज्वरे। - चरक संहिता

We are aware that since ages, various Ayurved texts have advised bitters in various types of jwar i.e. fever of various origins.

In 2016, Nobel Prize in Physiology or Medicine was awarded to **Yoshinori Ohsumi** for his discoveries regarding mechanisms for Autophagy. **Autophagy** is an essential catabolic mechanism in our cells.

This research is important because it is quite relevant for understanding the modes of mechanisms of Langhan Chikitsa. Today we know that autophagy controls important physiological functions in body, where cellular components need to be degraded and recycled. Disrupted autophagy has been linked to various lifestyle and metabolic diseases.

लङ्घनैः क्षपिते दोषे दीप्तऽग्नौ लाघवे सति।

स्वास्थ्यं क्षुत्तृड् रुचिः पक्तिर्बलमोजश्च जायते॥ - चरक संहिता

The above shlok explains the benefits of Langhan i.e. we can say of autophagy induction.

In 2017, Nobel Prize in Physiology or Medicine was jointly awarded to **Jeffrey C. Hall**, **Michael Rosbash** and **Michael W. Young**, for their discoveries of **molecular mechanisms controlling the circadian rhythm** (self-regulating clockwork mechanism). Jeffrey C. Hall, Michael Rosbash and Michael W. Young were able to peek inside our biological clock and explain its manner of working.

This research of the **circadian rhythm** is relevant to the first shloka of Dinacharya regimen 'ब्राह्मे मुहूर्ते उत्तिष्ठेत्।' which advises healthy person to wake up early in the morning to maintain positive health.

In 2018, Nobel Prize in Physiology or Medicine was jointly awarded to **James P. Allison** and **Tasuku Honjo** for their discovery of **cancer therapy by inhibition of negative immune regulation** i.e. by strengthening the immune status.

बलाधिष्ठानमारोग्यमारोग्यार्थः क्रियाक्रमः॥ - चरक संहिता

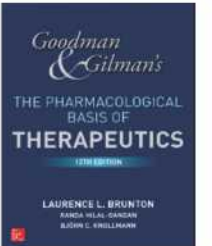
The above shloka explains the importance of bala i.e. immunity in achieving health. In fact, whatever treatment Ayurved offers for achieving health and eradicating disease has the objective of improving bala status.

In 2019, Nobel Prize in Physiology or Medicine was jointly awarded to **William G. Kaelin Jr.**, **Sir Peter J. Ratcliffe** and **Gregg L. Semenza**, for their discoveries of **how cells can sense and adapt to changing oxygen availability**. They established how oxygen levels affect cellular metabolism and physiological function which paved the way for promising new strategies to fight anaemia, cancer and many other diseases. This discovery will probably help us understand the role of Triphala, Trikatu and Trimad in Pandurog Chikitsa.

Let us appreciate that this list of the Nobel prizes, makes us aware about the direction modern medicine is heading towards.

Modern medical textbook, **Goodman and Gillman's** is acknowledging these advances in modern medical sciences. For example, its 3<sup>rd</sup> Chapter in 12<sup>th</sup> edition mentioning the term 'Autophagy' and the 13<sup>th</sup> edition describing it completely with its mode of mechanism.

The near future will have modern explanation for all basic principles of Ayurved. Till then we will keep using the authentic Ayurved in our day-to-day clinical practice.



इदमागमसिद्धत्वात्प्रत्यक्षफलदर्शनात्।

मन्त्रवत्संप्रयोक्तव्यं न मीमांस्यं कथञ्चन॥ - वाग्भट

DR. MILIND PATIL

Advisor- Medical Services,  
Vikram Division, Shree Dhootapapeshwar Ltd.



## Association of Fatigue in Ankylosing Spondylitis

Ankylosing spondylitis (AS) is a rheumatic inflammatory disease primarily affecting the spine, later involving other joints. It causes inflammation of the spinal joints (vertebrae) which leads to severe, chronic pain and discomfort with eventual reducing its flexibility, damaging the posture and posing the risk of severe impairment of spinal mobility due disease-causing changes ultimately leading to spinal fusion.

The number of cases reported in Europe and Asia were 1.30 - 1.56 million and 4.63 - 4.98 million, respectively. There has been an alarming increase in the incidence of AS, amongst young Indian adults in 2<sup>nd</sup> and 3<sup>rd</sup> decade of their life. (Rheumatology, April 2014)

The typical symptoms (extreme pain in the joints between the spine and the pelvic region) of AS spreads up to the joints of the neck. Long-term association of AS increases the risk of spinal fractures and osteoporosis eventually leading to severe nerve damage. This impacts physical and mental efficiency, thereby, leading to psychological changes, further affecting quality of life in AS patients.

According to the study 'Fatigue In Ankylosing Spondylitis Is Associated With Psychological Factors And Brain Gray Matter' published in 'Frontiers in Medicine, November 2019', fatigue is one of the main systemic symptoms of AS, with an incidence of 50-70%. Also, AS features neuropsychological factors involved in pathophysiology of fatigue which makes it an important contributing factor causing unsatisfactory treatment outcome and poor quality of life in patients with AS.

The conventional medicine fails to provide satisfactory treatment for **AS-associated fatigue (ASF)**. Usually, the occurrence of fatigue in AS patients is considered to be associated with pathological factors, including the decreased ability of skeletal muscles due to inflammation, nerve damage and osteoporosis.

The etiology of ASF is complex and remains unknown as several factors, including physiology, psychology and behavior, may contribute to its pathogenesis. A study revealed that anti-depressants could improve symptoms in ASF patients, indicating that psychological factors are associated with ASF.

The study most importantly reported that only 60% of pain and 35% of fatigue was relieved in AS patients who received biological treatment and suggested extra-inflammatory factors contributing to the occurrence of ASF, including psychological, social and demographic factors.

According to another study 'Fatigue, Sleep, and Autoimmune and Related Disorders' published in 'Frontiers in Immunology, August 2019', fatigue experienced in autoimmune diseases including inflammatory-related mechanisms - relationships between peripheral and brain inflammation, particular brain areas and neurotransmitters and cerebral vaso-hemodynamics are likely related to the particular tissues/organs, cell types, brain areas, molecular and physiological mechanisms affected by the condition.

**Clinically, how to improve the symptom of fatigue in AS patients remains a challenge.**

In this context, we can consider Panchamrut Loha Guggul's role in decreasing the severity of Ankylosing Spondylitis as well as reducing fatigue.

**Role of Panchamrut Loha Guggul in Ankylosing Spondylitis Fatigue:**  
Panchamrut Loha Guggul is well known Guggul kalpa containing

Parad-Gandhak-Kajjali, Rajata Bhasma, Abhrak Bhasma, Suvarnamakshik Bhasma and Loha Bhasma.

रस गन्धक ताराभ्र माक्षिकाणां पलं पलम्।

लौहस्य द्विपलञ्चापि गुग्गुलोः पलसप्तकम्॥

मर्दयेदायसे पात्रे दण्डेनाप्यायसेन च।

कटुतैलसमायोगाद यामद्वयमतन्द्रितः॥ - भैषज्य रत्नावली

This is an excellent vatashamak, dhatuposhak especially **majjavaha strotas rasayan** and Vatanadi balya kalpa, useful in Many Kasherukagata Vata (cervical spondylosis), avabahuk, manyastambha, symptoms due to majjakshaya (shiroshoola and anidra), snayudourbalya, mandagni, pandurog and koshtagata Vata, tremors, heaviness and tingling due to Majjakshaya.

...गदा मस्तिष्कसम्भवाः।

स्नायुजा वातजाश्चापि विनश्यन्ति न संशयः॥

यं पञ्जामृतलौहाख्यो गुग्गुलर्न हरेद्दमः।

नासौ सञ्जायते देहे मनुष्याणां कदाचन॥

The ingredients like, Rajata Bhasma, Abhraka Bhasma and Suvarnamakshik Bhasma are excellent majjavaha strotas balya and help improve fatigue like symptoms in AS patients. Whereas ingredients like Guggul (Dashamoola Vishesh Shodhit) and Katu Taila are vatashamak, vednashamak and balya.

It is important to note that the phalshruti of Panchamrut Loha Guggul mentions brain and associated neuro-musculo-skeletal disorders in no uncertain terms. The ingredients like, Rajata Bhasma, Abhraka Bhasma and Suvarnamakshik Bhasma in Panchamrut Loha Guggul being nootropic are useful in ASF.

Aam is known to cause severe fatigue in autoimmune inflammatory disorders.

जनयत्याशु दौर्बल्यं गौरवं हृदयस्य च।

व्याधीनामाश्रयो ह्येष आमसञ्ज्ञोऽतिदारुणः॥ -मा.नि.आमवात

## Panchamrut Loha Guggul

Bhaishajya Ratnavali (Mastishkaroga) 101/14-17

Effective in Manyakasherukagata Vata

### Indications

- ▶ Vativakar
- ▶ Manyakasherukagata Vata (Cervical Spondylosis)
- ▶ Avabahuk
- ▶ Grudhrasi
- ▶ Vatanadi Vikruti
- ▶ Sandhigata Vata
- ▶ Mansashosha
- ▶ Mastishka Dourbalyajanya Shirahshoola
- ▶ Insomnia
- ▶ Tremors
- ▶ Heaviness
- ▶ Tingling due to Majjakshaya

### Dosage & Anupan

2 to 3 Tablets, 2-3 times a day with Dashamoolarishta, Maharasnadi Kwath, milk or lukewarm water or as per the condition of the disease

Availability : 30 Tab.,  
60 Tab., 1000 Tab.



Shree Dhootapapeshwar Standards  
SOS Monograph No. 0400274  
Panchamrut Loha Guggul





## Unfolding Discoveries in Heart Diseases:

हृद्रोग चिन्तामणि रसः अतिहृद्यानाम्!

Heart disease is one of the major causes of mortality worldwide including India. In India, a quarter of all mortality is attributable to Cardiovascular Diseases (CVD). According to the Global Burden of CVD study, the age-standardized CVD death rate in India is 272 per 100 000 population which is higher considered to the global average of 235 per 100 000 population (Circulation. 2016).

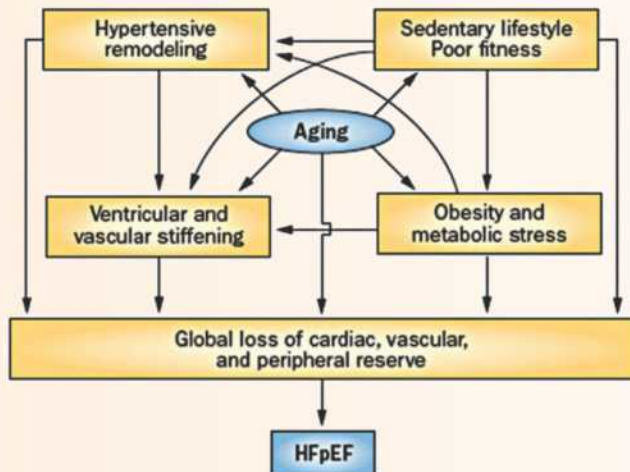
Has this disease always troubled humans or is our modern lifestyle to blame? A look back at the history of heart diseases may surprise you. The history of heart diseases dates to the times of Egyptian mummies and pharaohs 3500 years ago (Science Daily, November 17, 2009). Hardening of the arteries i.e. atherosclerosis has been detected in these ancient Egyptian mummies of high socioeconomic status, suggests that the factors causing heart diseases are not only modern-day-borne, but they affected even ancient people.

Today, we know how to treat heart disease, to lengthen and improve quality of life, reduce risk of heart disease; yet we don't know heart diseases at all, and we are still a long way from completely eradicating heart disease from human history.

Research findings in the last decade, show increasing prevalence (56 %) of **heart failure with preserved ejection fraction, HFpEF** (i.e. ejection fraction > 50%). Its rising prevalence, phenotypic persistence and the absence of effective therapies, categorizes it into unmet need for treatment in modern cardiology.

In India, the prevalence of heart failure (HF) and its subtype, HFpEF, is on the rise due to aging of the population. HFpEF is usually seen in association with systemic diseases, such as diabetes, hypertension, atrial fibrillation, sleep apnea, renal and pulmonary disease.

In such cases, high diastolic left ventricular stiffness is of high importance as it causes a rapid rise in left ventricular filling pressures during exercise, lung congestion and further cause effort intolerance. Also, there is a co-existence of metabolic conditions which induce coronary microvascular inflammation due to systemic inflammatory response. This inflammation is presumed to increase diastolic left ventricular stiffness by increasing the deposition of collagen in the myocardial interstitium and reducing the elasticity of titin (the long, distensible, myofibrillar protein that controls the elasticity of cardiomyocytes) as shown in the figure.



दूषयित्वा रसं दोषा विगुणा हृदयं गताः।  
हृदि बाधां प्रकुर्वन्ति हृद्रोगं तं प्रचक्षते ॥

Whereas Ayurved seers since ages have described Hrudroga not merely a symptomatic but as a metabolic disease caused due to vitiation of rasa dhatu resulting into aam (systemic inflammation). This is proven by the study which appeared in NEJM, Feb 13, 2020.

The hypothesis that heart failure with preserved ejection fraction is driven by systemic inflammation resulting from coexisting metabolic conditions and not by mechanical overload was proven by using two mice models: 1<sup>st</sup> with a high fat diet (leading to metabolic compromise) and 2<sup>nd</sup> with long-term administration of Nw-nitro-L-arginine methyl ester, which through its potent inhibition of endothelial nitric oxide synthase causing arterial hypertension. (NEJM, Feb 13, 2020)

These findings may seem novel to the modern-day scientists but are far from new and corroborate with the causes and etiopathogenesis of CVDs put forward in Madhav Nidan some thousands of years ago.

अत्युष्णगुर्वन्नकषायतिक्तश्रमाभिघाताध्यशनप्रसङ्गैः।

सञ्चिन्तनैर्वेगविधारणश्च हृदामयः पञ्चविधः प्रदिष्टः ॥

These new insights support a stratified approach, with alignment of following therapy:

1. **Anti-fibrotic therapy** in presence of myocardial fibrosis
2. **Anti-inflammatory therapy or inhibition of inducible nitric oxide synthase** in the absence of myocardial fibrosis
3. **Protein stabilization or inhibition of protein synthesis** in interstitial accumulation of destabilized proteins

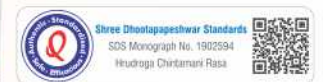
**Hrudroga Chintamani Rasa** ingredients like Arjuna, Jatamansi, Manjishta have abundant phenolic compounds which attenuate cardiac aging by reducing plasma inflammatory, fibrotic markers, ameliorating extracellular modelling and interstitial inflammation. Thus, helping in modulating **inflammageing** and enhancing cardioprotection.

Jatamansi regulates production of nitric oxide effect significantly, downregulates both iNOS and COX-2 pathways; reduces expression of the pro-inflammatory cytokines which are all responsible for inducing inflammation. Manjishta is an anti-thrombotic as well as pro-angiogenic agent and protects endothelium of the coronary arteries.

With these herbs, time-tested mineral formulations such as Bruhat Vata Chintamani Rasa, Poornachandrodaya Rasa, Abhrak Bhasma and Akik Bhasma form the essence of the Hrudroga Chintamani Rasa. They play a significant role in regulating metabolism by virtue of their Rasayan properties, preserving the health of Rasa dhatu, thus, preventing formation of pro-inflammatory markers and in turn reducing risk of CVDs.

Because of these properties, we can say:

हृद्रोग चिन्तामणि रसः अतिहृद्यानाम्!



हृत्शूलश्वासकासघ्नं बल्यं हृद्यं रसायनम्।  
मर्मरक्षां च कृत्वा यत् हृद्रोगान् निखिलाञ्जयेत् ॥



## Rasoushadhi in Clinical Practice: Current Decade Perspective

The objective behind the development of Ayurved by the creators was not only just treatment of diseases but also protection and promotion of positive health in normal individuals.

स्वस्थस्य स्वास्थ्यरक्षणम् आतुरस्य विकारप्रशमनम्।

This positive health is the outcome of homeostasis of basic elements of body viz. dosha-dhatu-mala.

स्वस्मिन् तिष्ठति इति स्वस्थः।

To achieve this homeostasis, Ayurved seers since ages have advised physical exercise and calorie restriction. These both physical exercise and calorie restriction can be compared with Ayurved's twin deity Ashwinikumars.

परिश्रममिताहारौ भुगतावक्षिनीसुतौ।

तावनादृत्य नैवाहं वैद्यमन्यं समाश्रये॥ – हारित संहिता

When the mankind failed to maintain these healthy habits in due course of its life, the human race faced an unending vulnerable threat of various diseases. To counter these diseases, evolved the Panchavidha Kashay Kalpana. Panchavidha Kashay Kalpana is a combination of five different dosage forms with gradually decreasing guru guna for different conditions:

पञ्चविधं कषायकल्पनमिति तद्यथा – स्वरसः

कल्कः शृतः शीतः फाण्टः कषाय इति।

तेषां यथापूर्वं बलाधिक्यम्। – चरक

1. Swaras: Extracted juice
2. Kalka: Paste
3. Kwath: Decoction
4. Hima: Cold infusion
5. Phanta: Hot infusion

When these medicine forms fell short owing to the limitation such as taste, palatability, shelf-life, variability in dosage, etc. further

Upakalpanas were designed by seers to overcome these limitations then which included: vati-guti-modak, avleha, asava-arishta, etc.

With advances in the way of living even these medications failed to overcome then known critical, emergency, lifestyle and chronic diseases. Hence, came the role of Rasoushadhis:

अल्पमात्रोपयोगित्वात् अरुचेरप्रसङ्गतः।

क्षिप्रमारोग्यदायित्वात् ओषधिम्योऽधिको रसः॥

This rasachikitsa is a superior therapy for modern-day refractory diseases such as heart disease, obesity, diabetes, stress, impotence, cancer, aging, etc.

न दोषाणां न रोगाणां न पुंसांश्च परीक्षणम्।

न देशस्य न कालस्य कार्यं रसचिकित्सते॥

असाध्येषु दातव्यो रसोऽतः श्रेष्ठ उच्यते।

Why Rasoushadhis are the most effective?

Living systems have the ability to counteract and adapt in response to any disturbance, challenge and stress.

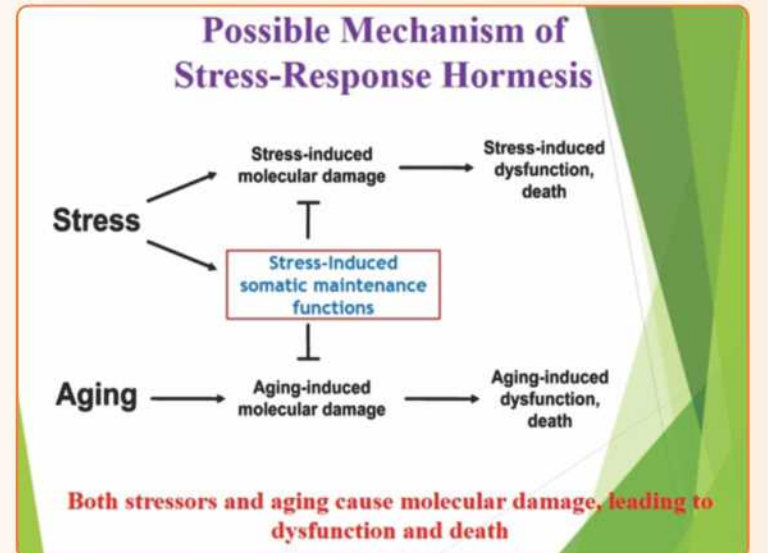
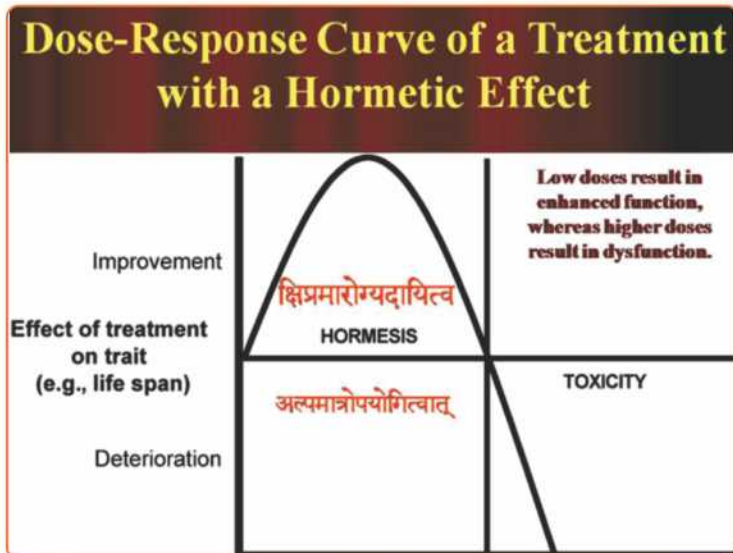
For healthy ageing, classical interventions such as mitahara (dietary restriction), upavasa (fasting), rasayana chikitsa (rejuvenation therapy), mahakashaya (main decoctions), rasaushadhi (metal or mineral formulations), abhyanga (oil massage), parishram (physical exercise), achara rasayana (rejuvenating behavioral therapies), etc. have been described to improve longevity and extend corresponding health span.

Mild stress...Hormesis...

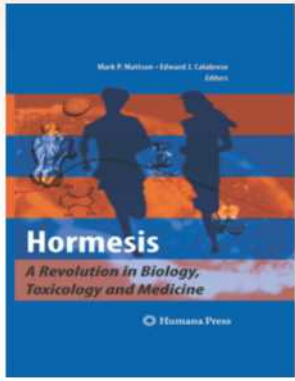
Induction of defence and repair pathways by mild stress has beneficial effects for cells and organisms.

Lifelong and periodic exposure in short doses to various stressors such as metal nanoparticles, physical and mental challenges, etc. may inhibit or retard the ageing process by hormesis. Induction of hormesis may be achieved with the help of hormetins like classical metallic formulations, abhyanga, vyayama and certain rasayanas.

Mercury containing medicines are superior to herbal medicines! Yes, lead containing too!!



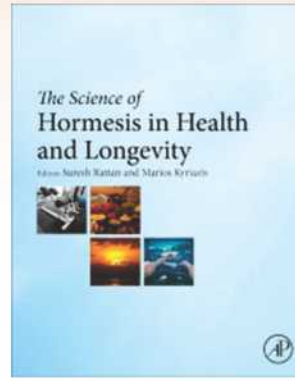




## The Hormetic Pharmacy: The Future of Natural Products and Man-Made Drugs in Disease Prevention and Treatment

Edward J. Calabrese and Mark P. Mattson

The “couch potato” lifestyle that causes obesity and diabetes does so, in part, by suppressing the activation of hormetic response pathways..



## The Science of Hormesis in Health and Longevity

1<sup>st</sup> Edition

Editors: Suresh I. S. Rattan  
Marios Kyriazi

### Shishu Bharan Rasa™

वर्णायुःकान्तिदं श्रेष्ठं पुष्टिकृद्बलवर्धनम् ।  
बालानां वह्निकृच्चैव दन्तोदभेदगदापहम् ॥



Shree Dhootapapeshwar Standards  
SDS Monograph No. 1902834  
Shishu Bharan Rasa



### Rasarajeshwar Rasa®

मन्याशूलं कटिशूलं अन्यान् वातगदान्दहरेत् ।  
पक्षाघातादिरोगेषु बल्यो वृष्यो रसायनः ॥



Shree Dhootapapeshwar Standards  
SDS Monograph No. 1902604  
Rasarajeshwar Rasa



### Hrudroga Chintamani Rasa®

हृत्शूलश्वासकासघ्नं बल्यं हृद्यं रसायनम् ।  
मर्मरक्षां च कृत्वा यत् हृद्रोगान् निखिलाञ्जयेत् ॥



Shree Dhootapapeshwar Standards  
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### Pittashekhar Rasa®

छर्द्यम्लपित्तशूलघ्नो ग्रहण्यामयनाशनः ।  
बहुनात्र किमुक्तेन पित्तरोगेषु शस्यते ॥



Shree Dhootapapeshwar Standards  
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### Madhumeha Kusumakar Rasa™

मेहानामनुषङ्गिषु कान्तिश्रीबलवर्धनम् ।  
मेहहरो रसः श्रेष्ठः प्रमेहिहितकारकः ॥



Shree Dhootapapeshwar Standards  
SDS Monograph No. 1902614  
Madhumeha Kusumakar Rasa



### Kas Shwas Hari Rasa™

कल्पस्य सतताभ्यासः स्रोतोबलप्रदायकः ।  
कासं पञ्चविधं हन्ति सर्वश्वासनिवारणः ॥



Shree Dhootapapeshwar Standards  
SDS Monograph No. 1902644  
Kas Shwas Hari Rasa



### Beejpushti Rasa™

अपत्यसंतानकरः बीजदोषनिवारणः ।  
बीजपुष्ट्यै पुरुषस्य बीजपुष्टिः रसः स्मृतः ॥



Shree Dhootapapeshwar Standards  
SDS Monograph No. 1902854  
Beejpushti Rasa



### Stree Vyadhihari Rasa™

गर्भार्थिनीनां नारीणां रसोऽयं शुभकारकः ।  
सीव्याधिहारीयोगेन स्त्रीष्वपत्यं प्रतिष्ठितम् ॥



Shree Dhootapapeshwar Standards  
SDS Monograph No. 1902644  
Stree Vyadhihari Rasa





## Shilapravang with Mouktik in Decline in Sexual Health

Ayurved texts describe Ayurved as beginningless, endless and eternal science. We vaidyas do know it for sure that Ayurved texts are infallible. And whenever, we come across modern scientific literature which authenticates ancient Ayurved principles, we feel proud.

The results of recently published, "Declines in Sexual Activity and Function Predict Incident Health Problems in Older Adults: Prospective Findings from the English Longitudinal Study of Ageing" (Archives of Sexual Behavior, 2019), article establish the ever-modernness of Ayurved.

A new sexual science study found that, the lack of sexual activity and function among older adults is linked to poorer health outcomes, including cancer, coronary heart disease (CHD) and fair or poor self-rated health.

This is the first study to investigate the cross-sectional and longitudinal associations between a decline in sexuality (sexual desire, frequency of sexual activity and sexual function) and health problems in a large representative sample of older adults," the researchers wrote in the paper.

In the first wave of the study in 2002, the participants were recruited from an annual cross-sectional survey of households. The study wanted to explore and examine the health, lifestyles, and financial situation of people as they grow older. They followed up the participants every two years. The present study, however, used data from Wave 6, between 2012 and 2013, where sexual relationships and activities were assessed.

**Sexual activity linked to health outcomes:** Overall, they acquired information from more than 5,700 individuals and found that men who have less sexual intercourse and activity if they're 50 years old and above may have a two-thirds increased risk of developing serious illness.

Meanwhile, women had a 64 percent higher risk to report having ill health if they have sex less often. However, there is no apparent marked increase in the risk of serious illness. Men who become less interested in sex are 63 percent more likely to be diagnosed with cancer and had a 41 percent increased risk of developing chronic illness.

In terms of coronary heart disease, men who reported a decline in sexual desire had 33 percent higher odds of reporting a diagnosis of CHD at baseline than those who reported stable or increased sexual desire. Plus, those who reported a decrease in sexual desire had a 41 percent increased risk of incident limiting long-standing illness and 63 percent higher odds of incident cancer.

Men who said they had a decline in sexual activity frequency had 47 percent increased risk of self-rated health deterioration, while those who reported a decrease in their ability to have an erection, had 66 percent higher risk of self-rated health deterioration.

**Therefore, a past-year decline in sexuality, including desire, activity and the ability to have an erection in men, was linked to problems in a broad range of health outcomes.** The frequency of sexual intercourse and activities was associated with a decline in self-rated health for both men and women.

There are many mechanisms that can explain the phenomenon. First, during sexual intercourse, the body releases endorphins,

which are opioid peptides that act as neurotransmitters. Endorphins are "happy" hormones because they cause a happy or blissful feeling.

When there are increased endorphin levels in the body, they become natural killers of cancer cells. Circulating endorphin levels may be linked to a lower risk of cancer and even other pathogens, like viruses and bacteria. Second, sex is considered physical activity and a form of exercise.

For healthy person preventive and health promotive dos and don'ts are given in dinacharya and rhatucharya chapters. Besides these, in Rasayan and Vajikaran Chapter, Charak says that स्वस्थस्योर्जस्करं यत्तु तद् वृष्यं तद्रसायनम्, प्रायः.....

Ayurved considers aahar, nidra and brahmacharya as an important tripod of life. The results of the above study clearly establish the rationale of aahar, nidra and brahmacharya as three pillars of health. Here we consider brahmacharya to be maithuna as described in Ayurved literature.

त्रय उपस्तम्भा इति-आहारः, स्वप्नो, ब्रह्मचर्यमिति;  
एभिस्त्रिभिर्व्यक्तियुक्तैरुपस्तम्भमुपस्तम्भैः शरीरं बलवर्णोपचयोपचितमनुवर्तते

यावदायुःसंस्कारात् संस्कारमहितमनुपसेवमानस्य, य इहैवोपदेक्ष्यते - चरक

The various benefits of vajikaran medicines are described in following lines:

१. बृंहणो बलवर्धनः।
२. बलवर्णस्वरकरः पुमांस्तेन वृषायते॥
३. एष वृष्यश्च बल्यश्च बृंहणश्च रसोत्तमः।
४. बृंहणं चैव बलप्रदं च॥
५. वृष्यं बल्यं च वर्ण्यं च कण्ठ्यं बृंहणमुत्तमम्।
६. वर्णस्वरबलोपेतः पुमांस्तेन वृषायते॥
७. वीर्योपपन्नो बलवर्णयुक्तः।

All above benefits of vajikaran medicines relate to quality of Aahar and Nidra upastambha, too. So the relevance of vajikaran medicine in improving general health quality is clear.

## Shilapravang® (With Mouktik)

### Effective in

- Prameha
- Mootradaha
- Mootrakruchchhra
- Premature ejaculation
- Ashthila
- Klaibya
- Dourbalya
- Ojakshaya
- Complications of Prameha:**
- Burning sensation of Hands and Feet
- Debility

### Dosage

1 to 2 Tablets twice a day with milk or as directed by physician

Availability : 40 Tab., 100 Tab.



Shree Dhootapapeshwar Standards  
SDS Monograph No. 0700084  
Shilapravang (with Mouktik)





## Vyadhisankar (Comorbidity) of Type 2 Diabetes Mellitus

People often live with many health conditions. This coexistence of two or more chronic medical conditions in a same individual is termed as 'Multimorbidity or Vyadhisankar'. Increasing aging populations and increase in long-term medical conditions mean that prevalence of multimorbidity is set to rise.

The prevalence of multimorbidity increases with age. However, the prevalence of multimorbidity has been found to be higher in those younger than 65 years. Also, more than one-third of the patients with chronic health problems visiting primary care physicians have four or more chronic health problems and a small proportion has more than ten chronic health problems in their life.

Unless a whole systems approach is used to deal with the interactions within multimorbidity the therapeutic interventions will fail to address the problem at multiple levels. (Multimorbidity: Technical Series on Safer Primary Care, WHO, 2016)

The number of people with diabetes has risen from 108 million (4.7 %) in 1980 to 422 million (8.5 %) in 2014 worldwide. Comorbidities are common in patients with T2DM and the proportion of diabetic patients with multimorbidity increases after diagnosis. Multimorbidity in diabetics is associated with a reduced quality of life, increased cost and mortality.

It is found that, T2DM to be associated with liver diseases, which includes non-alcoholic fatty liver disease. Non-alcoholic fatty liver disease is linked with insulin resistance which affects glucose and lipid metabolism, increasing lipogenesis and gluconeogenesis.

According to an article 'Liver and diabetes. A vicious circle' published in 'Hepatol Res. 2013' there exists a complex and bi-directional relationship linking the liver and diabetes. Also, fatty liver and diabetes share insulin resistance as their chief pathogenic determinant. Non-alcoholic fatty liver disease is a risk factor for the development of T2DM which is, in turn, a major contributor to progressive liver disease with other factors such as hypothalamus, the intestinal microbiome, white adipose tissue and inflammation.

Liver is the largest organ in the body and has a critical role to play in metabolism of carbohydrate, protein, fat, minerals and vitamins. Diabetes is considered as metabolic disorder and therefore involvement of liver in diabetes is very much expected.

In fact, an article 'MorbiNet: multimorbidity networks in adult general population. Analysis of type 2 diabetes mellitus Comorbidity' published in 'Scientific reports, 2020' states that when they both coexist, the risk of complications of diabetes and more severe liver disease increases.

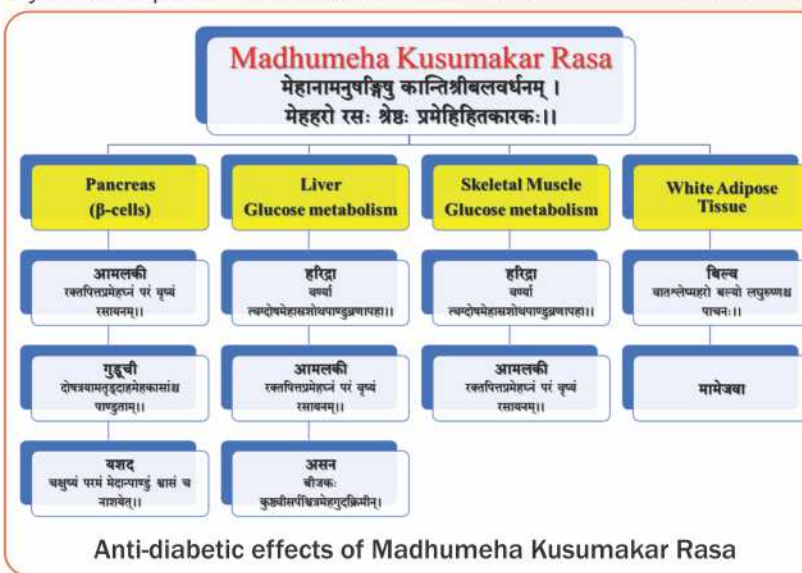
बहुद्वयः श्लेष्मा दोषविशेषः॥

बह्वद्वयं मेदो मांसं शरीरजक्लेदः शुक्रं शोणितं वसा मज्जा लसीका रसश्चैजःसंख्यात इति दूष्यविशेषः॥ – चरक संहिता

Dosha-dushya sangraha in diabetes covers all body tissues because diabetes mellitus is a metabolic disorder, liver being the major gland for metabolism, liver's involvement in diabetes pathophysiology is apparent. Therefore, in treatment of diabetes hepatoprotective medicines do have important role to play.

### Role of Madhumeha Kusumakar Rasa:

Madhumeha Kusumakar Rasa is the combination of various anti-diabetic herbs and Suvarneyukta Vasant Kusumakar Rasa.



The ingredients like, Mamejak, Haridra, Amalaki, Guduchi, Asan in Madhumeha Kusumakar Rasa show excellent hepatoprotective action, thus, reduce severity of various comorbidities in patients with T2DM.

The rasayan medicines do have major role to play to promote longevity and reduce fat storage. These herbs can be the ideal adjuvants to lifestyle modifications like diet control and physical exercise.

## Madhumeha Kusumakar Rasa®

Comprehensive Anti-Diabetic Reverses, Treats Diabetes and Prevents Diabetic Complications through Rejuvenation

### Effective in

#### Madhumeha and related Upadrava

- Madhumehajanya Netravikar
- Non- Healing wounds
- Dourbalya
- Indriya Shaithilya

### Dosage & Anupan

1 to 2 Tablets once or twice a day with cow's ghee, lukewarm water or as per condition of the disease



Shree Chaitanyapageshwar Standards  
SOS Monograph No. 1902914  
Madhumeha Kusumakar Rasa

Availability : 30 Tab. (Blister pack)



## Vatakalakaliya Decoded by New Neuroscience

In Charak Samhita, Vatakalakaliya chapter, Acharya Charak has explained the properties of normal and vitiated Vata dosha.

Ayurved describes the nature of Vata dosha as **achintya** but recent advances in modern sciences are revealing the mechanisms of Vata dosha. The Vata dosha as a ringleader, orchestrates the functions of other doshas (pitta and kapha), mala and dhatus.

पित्तं पङ्गुः कफः पङ्गुः पङ्गवो मलधातवः।

वायुना यत्र नीयन्ते तत्र गच्छन्ति मेघवत्।

The vital functions of Vata dosha in human body are given in following table:

वायुस्तन्त्रयन्त्रधरः	Maintains the whole body and its systems
प्राणोदानसमानव्यानापानात्मा	Working as prana, udana, samana, vyan and apana.
प्रवर्तकश्चेष्टानामुच्चावचानाम्	The initiator of all kinds of activities within the body
नियन्ता प्रणेता च मनसः	The controller and impeller of all mental functions
सर्वेन्द्रियाणामुद्योजकः	The employer of all sensory faculties
सर्वेन्द्रियार्थानामभिवोढा	Carries all sensations to the sensory organs.
सर्वशरीरधातुव्यूहकरः	Brings compactness to the body
सन्धानकरः शरीरस्य	Maintains structural integrity of the body
प्रवर्तको वाचः	Initiates speech
प्रकृतिः स्पर्शशब्दयोः	The origin of touch and sound
श्रोत्रस्पर्शनयोर्मूलम्	The root cause of auditory and tactile sense faculties
हर्षोत्साहयोर्योनिः	The causative factor of joy and enthusiasm
समीरणोऽग्नेः	Stimulates the digestive fire
दोषसंशोषणः	Helps in the absorption of the doshas
क्षेप्ता बहिर्मलानां	Expels the waste material
स्थूलाणुस्रोतसां भेत्ता	Vata traverses all gross and subtle channels
कर्ता गर्भाकृतीनाम्	Moulds the embryo shape
आयुषोऽनुवृत्तिप्रत्ययभूतः।	The indicator of continuity of life

Now we understand how Vata dosha is responsible for all these multifaceted vital functions of the body. According to the article published in 'The New England Journal of Medicine 2019', well-being requires the maintenance of energy stores, water and sodium within permissive zones. The brain, as a chief executive officer, orchestrates their homeostatic control. It senses disturbances, decides what needs to be done next and then

restores balance by altering physiological processes and ingestive drives (i.e., hunger, thirst and salt appetite). But how the brain orchestrates this control has been **achintya** until recently, now transformative neuroscientific tools have made us understand the minute functioning of Vata dosha.

### Maintenance of Drive: Specificity in Higher Circuits

Energy is so critical for survival that the body maintains backup fat stores if food becomes unavailable. These stores are very stable over time, increasing, averagely by 9 kcal per day. The stability of fat stores is a result of intense negative feedback. The brain senses when stores are low and then promotes repletion by simultaneously decreasing expenditure and stimulating hunger. The best-understood feedback signal is leptin. It is secreted by adipocytes in proportion to fat stores and is sensed by the brain through receptors on neurons. When leptin levels are low, expenditure is reduced and hunger is increased.

This can be correlated with Langan and Brunhan concept mentioned in Ayurved.

The new neuroscientific tools are also advancing our understanding of another critical need i.e. water homeostasis. Studies have shown that activation of excitatory, thirst-promoting neurons produces an aversive state and terminating this 'bad feeling' is the major motivation underlying thirst.

According to this article, we know in Ayurved parlance, Vegas deficiencies of food, water or salt lead to motivated behaviours. **We have learned that each of these specific deficiencies activate selective and dedicated homeostatic neurons.** When these dedicated neurons are artificially activated, motivated behaviour is generated, which is completely specific to the one goal.

For centuries, we know that deficiencies of food, water or salt lead to motivated behaviours that are specific to just the one relevant goal. However, to achieve these specific, goal-directed behaviours, the homeostatic neurons must use common psychological processes and common higher systems. Given that common processes and systems are involved, how is specificity for the goal maintained? If we knew the answer, we would have a deeper understanding of how these important higher processes and systems work. By using these dedicated homeostatic neurons as entry points, by following the labelled lines of information flow as the neurons engage these higher systems and by comparing how the neurons achieve motivated behaviour for the one goal, we can realize this important objective. Work of this type is just beginning.

This article elucidates the modern mechanisms of Vata dosha's variety of karmas like Vegodiran (वेगोदीरण). May be in future we will understand the rationale of various Ayurvedic remedies which work in Vata disorders. The identification of specific seat of homeostatic neurons is a giant step forward for understanding (chintya) the role of Vata dosha in health and diseases.



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