

INTRODUCTION

Ayurveda is the divine science of life being practiced since time immemorial

The definition of Ayurveda:

आयुस्मीन विद्यतेऽनेनवाआयुर्विन्दतीत्यायुर्वेदः । सु.सू. १/२३

Ayurveda is that which deals with Ayu (life).

Therefore every research done in the field of Ayurveda also gives- emphasis to health prophylaxis along with treatment.

The aim of Ayurveda:

प्रयोजनं चास्य स्वस्थस्य स्वास्थ्य रक्षणम् ।
आतुरस्य विकारप्रशमनं च । च. सू. ३०/२६

I.e. Ayurveda emphasizes on treating a diseased person and also maintaining the health of normal individuals.

तदद्दुःखसंयोगान्वाधय उच्यते ।
ते एते मनः शरीराधीष्ठानाः ॥ सु. सू. १/३१,३४

Diseases are defined as there which on conjunction cause pain. They are located in mind and body.

Ayurveda divides persons according to prakruti. They are of two types:

- Sharir Prakruti
- Manas Prakruti.

Sharirprakruti belongs to vatta, pitta,kapha and manasprakruti belongs to Sattva, Rajas and Tamas.

नृपोपसेवीनृपचितरक्षणात् ।
परानुरोधात् बहुर्चितनात् भयात् ।
भवन्ति योन्येपि सदातुराश्च ते । च. सि. १२/२०

Worries have always been a constant companion of human life. Charak while explaining about sadatura(constantly ill person)says that worries are the main reason of a constantly ill person.

एतानेव विधाश्चान्यात् योतिमात्रं निषेवते ।
गजं सिंहान् इवाकर्षान् सहसां च विमश्यति ॥ च. सू. ७/२९

In the above shloka the Acharaya Charak says that one who indulges in activities which are above ones performing capacity, puts over and excessive strain on oneself , he perishes like a lion trying to move an elephant. i.e., putting too much of stress on a system leads to disastrous effects on the body.

According to Wikipedia, Stress may also be defined as the sum of physical and mental responses to an unacceptable disparity between real or imagined personal experience and personal expectations. Thus in short any stimulus that causes any imbalance in the internal environment of an organism is called stress.

Stress itself might be a risk factor, or it could be that high levels of stress make other risk factors (such as high cholesterol or high blood pressure) worse. For example, if we are under stress, our blood pressure may go up, we may overeat, we may exercise less, and may be more likely to smoke. People respond in different ways to events and situations according to their Manasgunas. One person may find an event joyful and gratifying, but another person may find the same event miserable and frustrating. Sometimes, Tama& Raja dominant people may handle stress in ways that make bad situations worse by reacting with feelings of anger, guilt, fear, hostility, anxiety, and moodiness. Others may face life's challenges with ease.

It is impossible to change sharir prakruti but a person can definitely change the percentage of satva, rajas and tamas in his manas prakruti .He can achieve more powerful and superior quality of mind with the help of self-psycho analysis and by evolving oneself with philosophic thoughts by nurturing self mind with positive emotions.

Mantra chanting is a scientific process of inward orientation of mind. The vibrations induced by the repeated meditation of mantra generate specific pulsation of prana .Principles of psychology and spirituality work towards success of mantra meditation.

Various means to overcome rajas and tamas are described in Upanishads, allied literature and even in charak samhita. One of such effective mean is to chant the Gayatri mantra. The Gayatri mantra chanting is a form of meditation. The performance of Gayatri mantra chanting serves as a primary route for self purification (increasing satva guna and decreasing rajas and tamas.

Gayatri Mantra

The Gayatri Mantra was first written in Sanskrit in the Rig Veda, 8000 B.C. The ancient scriptures suggest that this Gayatri mantra was gifted by god to the Sage vishwamitra for his eons of deep meditation and penance. This was a gifted as humanity for all.

The Gayatri Mantra

ॐ भूर्भुवः स्वः तत्सवितुर्वरेण्यं भर्गो देवस्यः धीमहि धियो यो नः प्रचोदयात्

Aum : The divine sound of Aum teaches us that our individual consciousness is a subset of the Universal Consciousness, that pervades this Universe. Therefore we should live life in a manner that upholds the flag of Universal Consciousness.

“Bhoor”: teaches us to identify and modify those traits which deteriorate us and modify them with those that upbring us in an all round manner.

“Bhuvaha”: tells us that we should engage in actions and Karma that uphold the welfare of all.

“Svaha”: emphasizes the importance of developing a balanced thought process where we can face both joy and sorrow, pain and pleasure, profit and loss, good and bad with equanimity of character.

“Tat”: signifies that we should not stand upon the pleasures attained by the body. Their benefits are transient in nature and spiritual pleasures in contrast are lifelong and eternal.

“Savitur”: emphasizes that we gain wisdom, righteous intellect, good health, righteously gained wealth, righteously gained name and fame .

“Vareniyam”: inspires us to achieve only those traits which are truly exalted.

“Bhargo” : suggests us to imbibe purity in our body, brain, wealth, health, house, dress and behaviour .

“Devasya”: signifies developing a generous, divine and farsighted thought process.

“Dhimahi” : signifies developing the ability to imbibe good characteristics, divine glories and wise thinking.

“Dhiyo” : refers to development of our intellect . It signifies to us that we should not blindly follow an individual, ritual, literature or sect just because a crowd of people is doing so. Instead we should apply discriminating intellect to understand what is just and right and follow the same.

“Yonaha” : signifies to us that we should imbibe all good qualities for not just our well being but also for the benefit of those around us.

“Prachodayaat” : signifies the quality of Inspiration. It signifies to us that we live our life in such

a way that we are a source of inspiration to others, so that they too may live life in the same righteous, wise way.

Selection of topic

In today's fast running life stress and strain are increasingly becoming contributory factors for health hazards. According to Ayurveda body is combination of Manas, Atma, Indriya and Panchbhutas.

समदोषसमाञ्जश्च समधातु मलक्रियाः ।

प्रसन्नआत्मेन्द्रिय मनः स्वस्थः इति अमिधीयते ॥ सु. सू १५/४५

A person is termed as healthy only when his Doshas, Dhatu, Mala and Agni are in a balanced state and his indriyas are in a relaxed condition.

State of mana is related to stress. For years it has been "common knowledge" that people who are under a lot of stress have an increased risk of various disorders. How people respond to stress may be more important than the stress itself. People respond according to their Manas gunas.

Ayurveda is the science of life which contains all the references pertaining to life and meditation is a scientific process of inward orientation of mind. The vibrations induced by the repeated meditation of mantra generate specific pulsation of prana. The Gayatri mantra chanting is a form of meditation to protect us from the devastating effects of stress (Reference Gayatri srotra4, Gayatri samhita sh41) .

The factor 'Manas' is as important as the factor of Sharir. But lot of work has been done on Sharir prakruti and very little work has been done on Manas prakruti. Also, in these modern times quantitative analysis is becoming increasingly essential in order to present ourselves in the contemporary scientific community. So galvanic skin resistance was taken as a measure of stress and psychogalvanometer was chosen as an instrument to gauge the quantitative variance of stress. The above topic is selected keeping in mind the lack of such type of study i.e., Effect of Gayatri mantra on Manas prakruti with special reference to stress.

This will definitely be an effective tool in teaching and research in the field of Ayurveda.

Review of previous work

1. Study of manas w.s.r. to physiological parameter- By Goswami (Karka,2004)
2. Study of Manas prakruti- By Dr Kavita indapurkar,2002,Pune
3. Study of Manas Prakruti with special reference to their Vulnerability to Stress –By Dr Rashi Sharma,2013,B.V.D.U.C.O.A.,Pune
4. Manas Karma Adhyana (Smiriti – Medha – BuddhiVivechna) – agarwal PS 1963
5. Anxiety, stress , incidence in psychosomatic disorders- Manjula 1993(Jamnagar)
6. Clinical chittodvega – a- vis anxiety neurosis and treatment with asvagandha - J.P. Malaviya, 1997 Jamnagar
7. Study of mind body relationship with special reference to charaksamhita – ChaubeDeobrat , 1979 BHU.
8. Neurophysiological changes and its significance in management of psychosomatic disorders - S.P. Dixit,1992 BHU
9. A study of anxiety and galvanic skin resistance in healthy individuals -Dr.Mrs. Pansare and Dr.Mrs.Iyer 2003
10. A study of Svava and volar G.S.R- Dr.S.M.Mohan Institute of Yoga consciousness Vishakhapattanam
11. Mantra yog ki papripekhyā me gayatri mantra ka vivechanatmak adhyān-Rakesh Kumar,School of Yoga and Health,DSV,Haridwar,2005
12. Gayatri mantra lekhan ka atmavishvas avam saishnik dushchinta par padne wale prabhav ka adhyān-Leela vaishnav,2007
13. Gayatri mantra lekhan ka mansik swasthya par padne wale prabhav ka prayogik adhyān-Seema patel,2007
14. Gayatri mantra japa ka samayojan manstapita ayam avam tanav star par padne wale prabhav ka adhyān-Deepa singh,2008
15. Om uccharan pranakarshana pranayam tatha saraswati Gayatri mantra japa ka smriti avam mansik swasthw par prabhav-Hemant kumar Joshi,2008
16. Gayatri mantra lekhan ka tanav par padnewale prabhav ka adhyān-Narendra Nethani,2011
17. Gayatri mantra lekhan ka aatmvishvas par padne wale prabhav ka prayogik adhyān-Pratiksha saxena,2011
18. Effect of Gayatri mantra and Om chanting on stress level among college students-Swati chaudhary,2011
19. Efficacy of Gayatri mantra and Bhramari pranayam on stress among female students- Avadhesh kumar Tripathi,2012
20. Gayatri mantra japa ka tanav par padne wale prabhav ka adhyān –Indrawasini kumar,2012

21. Gayatri mantra jap avam savita dhyan ka mansik swasthya par padne wale prabhav ka adhyan,2013

HYPOTHESIS

Chanting of Gayatri mantra may increase the percentage of satva guna. The percentage of rajas and tamas may decrease in the same individuals. Hence, they will be least effected by ill effects of stress and other disorders.

AIM &OBJECTIVES

This study is conducted with the following aim and objectives:

AIM

- 1. To study the effect of Gayatri mantra on Manas prakruti with special reference to Stress.**

OBJECTIVES

- 1. To collect all references in Ayurveda classics about the concept of manas and manas prakruti.**
- 2. To compile all references in ancient literature and texts about the Gayatri mantra.**
- 3. To study Stress according to both Ayurveda and Modern science.**
- 4. To study Manas prakruti and its relation with Stress.**
- 5. To study Manas prakruti and its relation with Gayatri mantra chanting.**
- 6. To study galvanic skin resistance and psycho galvanometer.**
- 7. To compare G.S.R with Manas prakruti of a person.**
- 8. To study EEG and its analysis.**

MATERIALS AND METHODOLOGY

MATERIALS

- i) Manas prakruti Questionnaire with the help of “Ayu Soft” which is standard, reliable, authentic and approved by C-DAC.**
- ii) Standard, Reliable, Authentic Stress scale from Agra Psychological Research Cell for the assessment of stress.**
- iii) Psychogalvanometer for assessment of stress.**
- v) Analysis of Alpha-EEG (Electro-encephalogram) .**
- vi) Statistical Tests**
- vii) Method of data processing and analysis: software techniques, etc.**

METHODS

LITERARY RESEARCH

For the purpose of literary research all the ancient Ayurvedic as well as Modern literature were referred.. Literary research was completed with the help of all the ancient Ayurvedic as well as modern and Gayatri material available at Bharati Vidyapeeth College Of Ayurved, Brahm Varchas Research Centre, Gayatri Teerth Shanti-Kunj,Uttaranchal Ayurvedic College & Hospital,Yug-Nirman Yojna Trust, Mana-Shrama Shakti Kendra for Manas. Contemporary journals and publications were also referred in the literary work.

PRACTICAL RESEARCH

- 1. Gayatri mantra chanting 108 times in 15 minutes for 30 days daily,(Ref.Gayatri samhita sh39)**
- 2. Standard manas prakruti questionnaire- for assessment of Manas prakruti of the subjects**
- 3. Authentic and Reliable Stress scale for assessment of Stress of the subjects.**
- 4. A psycho galvanometer – for measurement of the galvanic skin resistance**
- 5. Analysis of EEG before and after the complete duration of chanting of Gayatri mantra (in group IIonly)**
- 6. Statistical tests and formulas- to verify and assess the observations.**

INCLUSION CRITERIA

- 1) The students included for the study were healthy individuals of age group 18-25 years and free from any major and mental illness.
- 2) Both male and female students were taken.
- 3) All were knowing English

EXCLUSION CRITERIA

1. Any student suffering from any major ailment was excluded from the project.
2. Any student less than 18 and more than 25 years were excluded.
3. Students of B.A.M.S., M.D.(Ayurved),Ph.D.(Ayurved)were not taken.

PLAN OF WORK

The work to be done in this topic was divided into three phases

***1. Literary**

***2. Practical**

***3. Integration of the above said clinical and practical work to draw the conclusion**

Literary

- All the information about Gayatri mantra and its effect on Manas prakruti and stress was compiled in detail.
- All information in Ayurvedic literature regarding Manas prakruti was compiled.
- Modern information about stress, strain and its effect on health will be studied and Co-relation with Ayurvedic literature was done.
- All the literature regarding galvanic skin resistance was studied and compiled.
- All the relevant information regarding the instrument Psychogalvnometer was added.
- A study on inter-relation of body and mind according to Ayurveda as well as modern science was done with quoting of necessary classical quotations.

Practical

- 1) Study was done in two separate groups of 125 subjects each.

- 2) **Manas Prakruti of 250 subjects was taken by direct interview method using Standard Manas Prakruti questionnaire with the help of “Ayu Soft” which is standard, reliable, authentic and approved by C-DAC.**
- 3) **Galvanic skin resistance readings (G.S.R) of the subjects (group I) were taken with the help of a psychogalvanometer under standard test conditions.**
- 4) **Quantitative measurement of stress of the people (group II) was done by using Standard, Reliable, Authentic Stress scale of Agra Psychological Research Cell.**
- 5) **The readings were taken before oral examinations of the subjects in order to avoid bias in the levels of stress.**
- 6) **Gayatri mantra chanting was performed by all subjects 108 times in 15 minutes for 30 days daily using Gayatri mantra audio-CD for standard time and specific rhythm.**
- 7) **After the complete duration of chanting (30days), Manas prakruti using the Standard Manas Prakruti Questionnaire, Stress from GSR (group I) and Authentic Stress Scale(group II) under similar test conditions of same individuals was assessed again.**
- 8) **In addition to the above parameters, In groupII analysis of EEG was done before and after the complete duration of Gayatri mantra chanting.**
- 9) **All the measurements and readings both before and after the Gayatri mantra chanting were subjected to statistical analysis**
- 10) **Statistical analysis was done with the help of Statistician.**
- 11) **After discussion result and conclusion were drawn.**

PARAMETERS OF ASSESSMENT

- **Manas Prakruti questionnaire**

The Centre for Development of Advanced Computing (CDAC) in Pune (India) has developed the software AyuSoft, a decision support system which facilitates ayurvedic research, diagnosis and treatment for practitioners, hospitals, researchers and academia alike. The software consists of a one-gigabyte repository of ayurvedic data, including applications for physiological and psychological constitution assessment, disease diagnostics and treatment based on symptoms and causative factors. It also consists of personal information management, wherein records can be maintained of each patient's case details. Apart from automatic generation of certificates and prescriptions, this software is able to transfer a patient's case to a panel of doctors for collaborative consultation. Manas Prakruti was taken by direct interview method using Standard Manas Prakruti questionnaire with the help of "Ayu Soft" which is Standard, Reliable, Authentic and Approved by C-DAC.(GROUP I& II)

- **Psychogalvanometer**

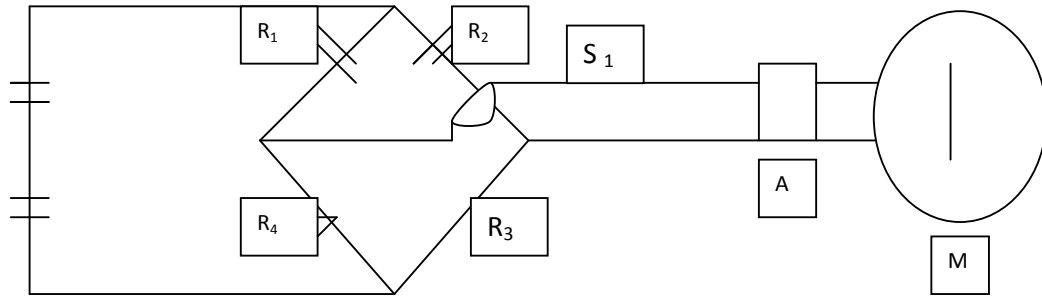
A Psychogalvanometer conventionally consists of a resistance network called as Wheatstones Bridge of four ends of which two are connected to a Mirror-galvanometer and other two to a low volt battery. The readings from the galvanometer are magnified by a 'Lamp and scale' arrangement.

In short the four primary things required in a psychogalvanoscope are

1. Wheatstones bridge
2. Low volts battery
3. Galvanometer
4. Optical amplifier for recording minute electrical changes

In modern day psychogalvanometers the low volts battery is replaced by a electronic valves, Galvanometer by a sensitive meter and lamp and scale arrangement by an 'vacuum' tube amplifier

Following is the simplified diagram of a psychogalvanometer used in this particular instrument



V = Constant voltage supplied by voltage regulating valves

R₁ R₂ R₃= Fixed resistance of wheatstones bridge

S = Subjects resistance

C =Coarse balancing variable resistance

F =Fine balancing resistance variable

R₃ =Subjects resistance + coarse and fine resistance

S₁ = A variable resistance controlling sensitivity

A = Amplifier

M = Meter

A wheatstone resistance consists of four resistance's occupying arms of series parallel arrangement with a current source spanning two of the arms and a galvanometer spanning other two arms in such a way that no current flows through the galvanometer when the arms bear correct ratio to each other ($R_1 * R_3 = R_2 * R_4$). In this condition the bridge is said to be balanced. When however there is alteration in one of the arms current flows through the galvanometer and the bridge is said to be imbalanced

For measurement of the G.S.R resistances in four arms of the bridge are kept constant and in the fourth arm the subject along with two variable resistances are inserted. By manipulating the variable resistance's namely coarse and fine resistance of this arm can be brought to the correct

value $R_2 \cdot R_4 / R_{1/2}$ so that no current flows through the galvanometer or in other words the subject is balanced in the bridge.

Now if a subject is balanced in Wheatstones Bridge having a constant voltage across its ends and then stimulated in any way (Pin prick) the bridge will be imbalanced i.e. a current will flow through the meter and its pointer will deflect away from zero. The extent of the deflection will be proportional to the magnitude of the G.S.R

Now let us imagine a subject who is at first balanced in the bridge and then given effective stimulus .His G.S.R will throw the meter pointer off the zero mark showing that there is a decrease in the resistance of the body. The pointer will come back to zero only when the subject has regained the original levels of resistance. Therefore in order to save time he will have to be balanced again by manipulating the variable resistance's manually. This is necessitated by the fact that we have to always take our readings from the zero position.

In order to avoid the trouble of bringing the deflected pointer back to the zero by manually adjusting the variable resistors, an electronic arrangement is made so that deflected pointer comes back to zero automatically. This is called automatic zero adjustment.

ACCESSORIES OF A PSYCHOGALVANOMETER

1. Jack and pair of the electrodes
2. Electrocardiographic jelly
3. Sticking plaster

CONTROLS OF THE INSTRUMENT

1. ON/OFF SWITCH : This is a sliding switch on and off positions are marked on the panel

2. **AUTOMATIC AND MANUAL ZERO SWITCH:** This is a similar switch with automatic and manual positions being marked on the panel
3. **SENSITIVITY COARSE :** This is a similar switch with high and low positions being marked on the panel
4. **COARSE AND FINE KNOBS:** These are turned clockwise or counter clockwise to balance the subject on the internal bridge. The coarse knob is used to locate the pointer somewhat near to the zero mark The fine knob is used later for exact positioning of the pointer.
5. **SENSITIVITY FINE:** This is a second sensitivity control sensitivity is low when it is in extreme counter clockwise position and is High when it is in extreme clockwise position. This is denoted by number 1, 2, 3 on the panel.
6. **OPENING FOR THE ELECTRODES :** Two stainless steel electrodes are attached by wire to the jack The jack is to be inserted here

OPERATION OF THE INSTRUMENT

An integrated circuit is used in the instrument here and it works on 8, 1.5-volt batteries housed inside the instrument. It can there fore be used anywhere.

1. The first thing that needs attention is sitting arrangement for the subject. The subject should be isolated from the ground. The easiest way to do this is use a wooden chair for seating.
2. Having done this, insert the jack into the opening marked 'ELECTRODES' and attach the electrodes to the subject's fingers on the volar surface
3. Now turn to the instrument and see that all three switches are in proper position. The coarse balancing knob in extreme counter clockwise position, the fine balancing knob midway between the two extreme positions and sensitivity fine knob in extreme counter-clockwise position.
4. Having made sure that all the controls are in these positions operate the ON/OFF switch. As soon as this is done the instrument is on and pointer will move in extreme-counterclockwise position
5. Having made sure that all the controls are in their respective positions the psychogalvanometer is ready for use
6. Using the coarse and fine balance the pointer is brought to the zero position
7. The instrument is turned on. The deflection in the galvanometer scale is seen. Based on this the readings are taken and tabulated

ELECTRODES

The subject is asked to wash his hands. Then a little bit of electrocardiographic jelly is applied on dorsal and volar surfaces of last two phalanges of middle and index fingers

Fix the electrodes in their position by wrapping round the finger a piece of adhesive tape. Care should be taken that the electrodes do not touch each other

USES OF PSYCHOGALVANOMETER

This instrument is used in many fields

In medical field it is used to measure stress and anxiety in a person

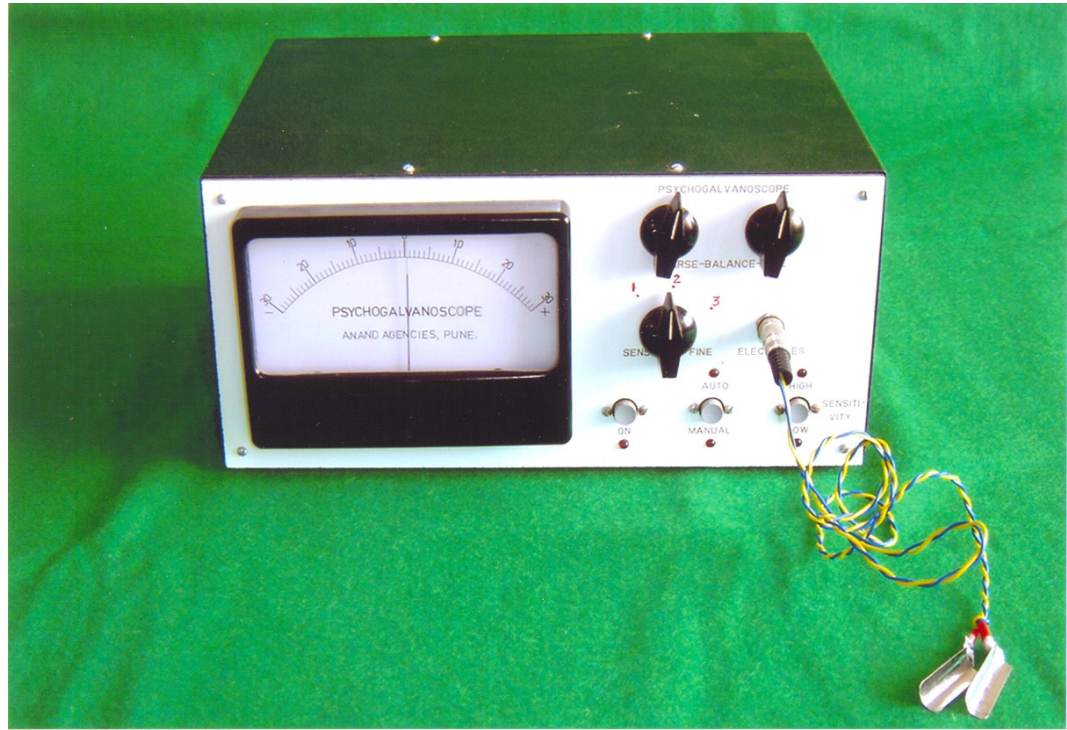
In psychology it is used to assess the emotional state of a person

In criminology it is used in lie-detector test in criminals

In industries it is used in pre-employment tests

In practical laboratories it is used to practically demonstrate the G.S.R

It is used in word association tests in western countries



- **STRESS SCALE**

Quantitative measurement was done by using Standard, Reliable, Authentic Stress scale of Agra Psychological Research Cell (in group I)

- **ALPHA-EEG (ELECTRO-ENCEPHALOGRAM)**

EXPECTED OUTCOME

Gayatri mantra chanting induces the spiritual illumination and hence enhances the satva guna. It excels the force of Rajo guna which provokes the hidden potentials and progress of life. It refines the tamo guna which creates fearlessness, chastity, endurance, provides courage to fight against injustice. Thus, it enables the individual to follow the path of satva guna and hence least affected by ill-effects of stress.

CONCEPT OF MANAS ACCORDING TO AYURVED

Mana is the controller of all our activities and thoughts. It is situated in hrudaya. We gain knowledge of our surroundings due to the conglomeration of mana with atma indriya and indriyārtha.

Any trouble in this pathway can cause improper grahana (perception) of knowledge

FUNCTIONS OF MANA

इन्द्रियाभिग्रह कर्म मनसः स्वस्य निग्रहः ।

ऊह्यो विचारश्च ततः परं बुद्धिं प्रवर्तते ॥

(च.शा १/२४)

Indriyabhigraha- grasping the knowledge from all the indriyas

Svasya nigraha- control of senses

Ooha – power of thinking

Vicara – power of thought and discrimination

Buddhi pravartana- power of wisdom

These are the functions of mana.

VISHAYA OF MANA

चिन्त्यं विचारमूह्यं च ध्येयं संकल्पमेव च ।

यत् किञ्चित् मनसो ज्ञेयम् तत् सर्वं ह्यर्थं संज्ञकम् ॥ (च.शा १/२०)

Thought, power of choice and discrimination, forethought, will, determination are the viśayas (areas of activity) of mana.

Relation ship between mana and vayu

दुग्धांबुवत् सम्मिलितावुभौ तौ ।

तुल्यक्रयौ मानस मारुतौ हि ॥

यतो मरुत् तत्र मनप्रवृत्ति ।

यतो मनः तत्र मनप्रवृत्ति ॥

तत्रैकनाशाःदपरस्य नाशा ।

एकप्रवृत्तेरपरप्रवृत्तिः ।

अध्वस्तयोचेन्द्रीय वर्ग वृत्ति ॥

प्रद्धस्तयोर्माक्षपदस्य सिद्धि । (हठयोगप्रदीपिका)

In hatha yoga pradeepika we can find a referance that mana and vayu are like milk and water i.e inseperable.It says that mana cannot exist with out vayu and viceversa. From this we can infer that any imbalance in mind can have its repercussions all over the body.

VITIATION OF DOSHAS AND ITS IMPACT ON MANA

Whenever there is vitiation of doshas or manovaha srotas as happens in case of stress. Mana won't be able to perform at its optimum capacity.

Functions of mana will not be carried forward properly and there will be improper conglomeration of atma mana indriya artha sannikarsha

This leads to diseased thought process and can cause astmendriyārtha samyoga pradnyaparadha. These as we know are the main hetus of diseases.

सोभिशंगज्वरज्ञेयो यश्चभूताभिशंगजः ।

कामक्रोधभयात् वायु क्रोधात् पित्त प्रकोपजाः ॥

भूताभिशंगात् कुप्यन्ति भूतसामान्यलक्षणाः ।

विषवृक्षानिलस्पर्शास्तथान्ये विषसंभवे ॥

(च.चि ३/१९५)

Charak opines that whenever a person indulges in kama, Shoka, bhaya (lust, grief, fear) there will be vitiation of vayu, there will be vitiation of pitta when one indulges in krodha (anger). When one indulges in morbid activities (bhootabhishanga) there will be vitiation of tridoshas.

CONCEPT OF MIND ACCORDING TO BHAGAVAD GITA

Indriyas, Gunas, Manas, Buddhi, Senses, Modes of Nature, Desiring Faculty of the Mind, Discriminating Intellect.

आत्मानंरथिनांविद्धि शरीरंरथमेव च । बुद्धिंतुसारथिंविद्धि मनंप्रग्रहमेव च ॥

इन्द्रियाणि हयान्याहु विष यास्तेषुगोचरान् । आत्मेन्द्रिय मनोयुक्तो भोक्तेत्याहुर्मनीषिणः ॥ -उपनिषद्

In the above shloka the simile is given as follows

Chariot rider: Atma

Chariot wheel: Deha (Body)

Whip: Buddhi

Horses: Karmendriyas and the jnānendriyas

Here the acharya wants to convey the message that life is like a chariot and all the above factors are equally responsible in this journey of the chariot called as life.

If the buddhi is utilized properly to control the indriyas the chariot will move in the right way otherwise the horses (Indriyas) will carry the chariot in wrong directions.

In ayurveda our actions are said to be controlled by the conglomeration of atmaindriyamanas and artha.

When this conglomeration is disturbed due any sort of asātmendriyasamyoga, or pradnyāparadha or parināma the horses of the chariot will run in wayward directions in other words this leads to stress.

Here the stressors can be correlated to these factors which corrupt the

Manas – indriya sync. The stress is what carries the chariot directionless.

This simile from Upaniṣads gives a clear cut picturistic view about effect of stress over the mind and body.

CONCEPT OF PRAKRUTI

Prakruti is one among the most important and most basic principles of ayurveda.

Prakruti forms the basis in the study of wide range of aspects ranging from SHAREER, NIDANA till CHIKITSA.

Knowledge of prakruti is therefore considered crucial in the field of ayurveda.

Prakruti in simple words is the “Structural and functional make” of a person on which his anatomy, physiology, thoughts, actions are dependent on. It forms the core on which all-physical mental and spiritual tendencies of a man rest. The likes, dislikes allergies interests susceptibility to a particular disease, seasonal variations in health all these are due to prakruti itself.

Therefore prakruti is given a prime role by acharyas in all ayurvedic studies.

ORIGIN OF PRAKRUTI

शुक्रशोणित संयोगे यो भवेत्दोष उत्कटः ।

प्रकृतिर्जायते तेन तस्य मेलक्षणंश्रुणु ॥(सु.शा४/६३)

उत्कट- Exceeding usual measure.

From the classical references available we can term that prakruti is formed right at the time of conception itself. It is formed by the union of shukra and shonita depending on the dominance of the Doshas at the time of conception

i.e. once a life form comes into existence he will have his own individual prakruti which will determine all his physical and mental tendencies .

PRAKRUTI IS ETERNAL AND UNCHANGEABLE

प्रकोपो वान्यथा भावाक्षयो वा नोपजायते ।

प्रकृतीनामस्वभावेण जायते तु गतायुषः ॥(सु. शा -४)

Prakruti once formed is unchangeable. It will be present with the human right from birth to death and will form the basis of all his body activities.

TYPES

Classification is always based on the criteria of segregation.

Depending on the criteria different classifications of prakruti can be done.

- 1) Daihik prakruti
- 2) Manasik prakruti

Manasik prakruti includes

- a) Satwika prakruti
- b) Rajasika prakruti
- c) Tamasika prakruti

Mainly 7 types of Daihik prakruti are outlined in samhitas

1. Vata prakruti
2. Pitta prakruti
3. Kapha prakruti
4. Vata-pitta prakruti
5. Vata-kapha prakruti
6. Pitta-kapha prakruti
7. Sannipataja prakruti

Among these first three are formed due to individual doshas, next three are formed due to dwandwaja or dual doshas and last three are formed due to all three or Sannipataja doshas in day to day life we see that most of the people having dual prakruti and very few people having a prakruti due to independent dosha.

But as main classification in a brief manner only three prakruti are taken into account in most of the instances

- 1) Vata pradhan prakruti
- 2) Pitta pradhan prakruti
- 3) Kapha pradhan prakruti

Panchabhoutik prakruti

Based on the dominance of panchamahabhutasprakruti is further divided into five types:

प्रकृतिमिह नराणां भौतिकिकेचिदाहुः

पवनदहनतोयैः कीर्तितास्तुतिः ।

स्थिरविपुलशरीरः पार्थिवश्च क्षमावान्

शुचिरथचिरजीविनाभसः रवेर्महम्भिः ॥ (सु.शा४/८०)

Parthiva

Apya

Agneya

Vayuvya

Nabhasa

Here depending on characteristics of the person division is done i.e. a well-built stable person would fall under parthivaprakruti. A volatile person would fall under vayuvyaprakruti and so on.

COMPARISON OF PRAKRUTIS ACCORDING TO VAGBHATA

Vagbhata has given a comparative quote on prakruti. According to him dual prakruti are the best followed by kapha prakruti, Pitta prakruti and vata prakruti at last. This is due to the fact that a person with the influence of all the three doshas will be able to cope up with the vagaries of life in a better way than a person with the influence of a single dosha.

FACTORS RESPONSIBLE FOR PRAKRUTI OF A PERSON

तथापुनःसप्तप्रकृतयौ जातिकुलदेशकालवयबलप्रत्यात्मा संश्रयाः दृश्यंते हिपुरुषाणं जात्यादि नियतास्ते
भावविशेषाः । (अ.स.शा-८/१०)

Vagbhata has given a quote mentioning the factors responsible for formation of prakruti in a person. According to this 7 factors have been outlined by vagbhata namely

1. Jati
2. Kula
3. Desha
4. Kala
5. Vaya
6. Bala

7. Atma

These factors are called prakṛuti utpadak bhavas.

In vimana sthana charak has explained 5 different types of prakṛuti these can also be taken as factors responsible for ones prakṛuti in this context.

तत्रअमिप्रकृत्यादयो भावातद्यताशुक्रशोणितप्रकृति कालगर्भाशय
प्रकृतिमातुराहारविहारप्रकृतिमहाभूतविकारप्रकृतिगर्भशरीरमपेक्षते ॥ (च.वि-८)

1. Shukrashonitasamyogaprakṛuti
2. Maturahara vihara prakṛuti
3. Mahabhutavihara prakṛuti
4. Garbha Sharir prakṛuti
5. Kala garbhashayaprakṛuti

i.e. prakṛuti is also dependant on

1. Conception, i.e. condition of sperm and ovum
2. Food and life style of the pregnant lady
3. Constitution of mahabhutas
4. The structure of fetus
5. Nature of season and condition prevailing inside the uterus.

RELATION BETWEEN PRAKRUTI AND STRESS

VATA PRAKRUTI

While explaining about prakṛuti acaryas have explained all the points related to life from birth to death on attitudes, physique and mentality. Anukatva and enough examples have been also given by acaryas in this context. So even though we do not have a bold reference that “such and such prakṛuti people will be under stress”. We still can infer a lot about a humans stress tendencies from the references on stress.

As chakradatta himself has quoted “prakrutitusvabhava” which confirms the above explanations.

Here acaryas have used some key words like

- Jagarooka: Alert
- Seeghrasamarambhakṣobhavikara : Gets disturbed and pleased easily
- Alpabala – Less physical and mental strength.
- Stena- (thief or robber meaning not abiding to law)
- Matsarya- Jealous
- Anarya- Not honourable or respectable.
- Krodhi – angry.
- Adhritivan : Not firm in his thoughts and actions
- Adhruda : Not firm in thought and actions
- Krutaghna : Gratitude less
- Pralapi : Irrelevant speaker
- avyavasthitagati : Improper gait
- caladruṣṭi : Unsteady gaze
- Kalipriya : relishes violence
- Atanasheelata: Wandering aimlessly
- Krathi: angry.
- SupteSailadrumamstegamana : Dreams of lofty heights and flights

The anukatva of the animals given below gives a good idea based on their salient features and characteristics

- Ajaanukatva : Aja is known for its slight built, timid ness and voracious appetite
- Shashaanukatva : for its alertness and quickness
- Ghridraanukatva : Known for its greed and quick flight
- Kaka anukatva : considered an lowly animal with hoarse voice
- Gomayu : Known for its unsteadyness and unsteady gaze
- Ushtra : lean built and hoarse voice.
- Khara : Hoarse voice, less wisdom, not pleasant looks

From the above key words we can infer that vata prakruti person is an alert unsteady individual, who is easily prone to jealousy, desires and anger. But as is the character of vata he returns back to normalcy easily. He reacts to stress in a reclusive manner. i.e. he has a tendency of reclining away from the stressor.

One common feature of the animals in the anukatva is that they are shy, timid alert animals that are not ferocious in nature and tend to runaway on any external threat.

PITTA PRAKRUTI

While explaining the qualities of Pitta prakṛti acaryas have used terminologies like the following

*Kleṣaasahsinuta- Intolerance to distressing conditions

*sukumarata - Delicate

*tikshnaparakrama- Adventurous

*kṣiprakopa- Gets angry easily

*usnatikṣnaganavan – Hot and sharp temperament

*Kṣipravalipalitakhalityadoṣa: Falls prey to baldness and falling of hair easily. (Researches have shown hair fall is a primary symptom of chronic stress)

*swapne kanaka palaśakarnikaravidyudarsi- Dreams of red flashy flowers fire and thunders

*Bhujangaanukatva- Known for its ferocity

*nakulaanukatva – Known for its fighting spirit

* Vyaghraanukatva – Considered for its adventure and ferocious fighting spirit.

* Ullookaanukatva- Heat intolerant

*Vanaraanukatva : considered to be sharp and intelligent among animals

In the above points there is a clear mention of kleshaasahishnuta, which almost all comes across as susceptibility to stress. Sukumarata also confirms this point. By having a look at the gunas and anukatva we can state that pitta prakṛti person will be a person who gets angry and emotional easily. But he reacts to stress in a different manner compared to Vata prakṛti.

Unlike Vata prakṛiti individual, Pitta types react with kopa, dwesha (Anger, hatred). These reactions are more harmful in nature to man and lead to pradnyaparadha and so on. Even his dreams are more flashy and fiery as compared to other prakṛti. The pancamahabhoutika constitution of pitta mahabhuta is of Agni mahabhoota. Agni is tikshna in nature and when flared up it combines with vata and can cause havoc in the person

The anukatva of serpents, tiger also gives a hint that pitta prakṛiti person is an aggressive person who has a commanding nature and tends to get disturbed easily when things go wrong. He reacts to any stress strongly and for a prolonged time.

KAPHA PRAKRUTI

Of all the three prakruti this is one prakṛuti, which looks least susceptible to stress theoretically.

A person belonging to kapha prakruti is a stable person possessing qualities like

***Mandacesta : Slow activities**

***Sthirasarir : Stable**

***Asighraarambhatva : Slow to initiate functions**

***Asighrakshobha : does not get agitated easily**

***Asighravikar : Not easily prone to disease**

***Alpasantapa : (santapa- heat, distress, fatigue) Not easily prone to distress**

or fatigue

***Kleṣākṣama : Tolerant to distressing situations**

***Sahishnu : Tolerant**

***Santa : Sober**

***Swapne kamala hamsacakravakjalashayadarshi : Dreams of pleasant flowers lakes birds and other pleasant sights**

***Satvagunotpanna : Dominance of satvaguna**

***Hamsaanukatva : It is known for its docile nature and pleasantness**

***Gajaanukatva : It is hugely built firm and stable**

***Simhaanukatva : Considered as king of all animals and powerful.**

***Indra, bramha, and rudravarunaanukatva: sushrut has explained these under bramhakaya and varunakaya of satvikakaya.**

Kaphaprakṛti person comes across as a sober individual, who shows slow reflexes and stable activities. Even his anukatva is of duck, elephant, horses, which are quite laid back in nature. Even in his dreams he has pleasant thoughts of lakes birds etc. He is satvagunotpanna according to sushruta. The mention of Mandaceshta, Sthirasharir, Asighravikar, kshobhaarambhatva, satvagunotpanna also states that kaphaprakṛti person does not get perturbed easily and does not react to stress in a strong and immediate manner as in vātaprakṛti and pitta prakṛti individuals.

The panchamahabhoutika constitution of kapha is of prithvi and jala this too gives added emphasis to the above point as prithvi gives solidity and resistance against minute volatile

changes occurring in the body. From these points it is quite evident that kapha prakruti person is less likely to be prone to acute stress.

RESPONSE OF STRESS IN DIFFERENT PRAKRUTIS

All the responses of a person are dependent on his or her prakruti. Stress response too varies in different prakruti. In the explanations regarding different prakruti acaryas have given enough indications on this. Some of the explanations are given below:

Vataprakruti

The response of vata prakruti people to stress will generally be with

Adhridacitta – unsteady mind

Atanashseelata - wandering aimlessly

Krodha – Anger

Jagarookata- alertness

Pralapa- irrelevant speech

Seegrasamarambhavikaraprashama –get distressed easily and come back to normal easily too

Matsara- jealousy

Here the reaction is more of a “flight reaction”. The body tries to de-stress itself with more of vata actions (movements) like Pralapa, atanaseelata, ahridacittaetc the point to note here is that all these actions are typically vataja in nature and the person also gets distressed easily because of Sheeghrasamarambhavikaraprashama

Pitta prakruti

Pitta prakruti people will respond to stress in a slightly different way .The response will be having either:

Klesaasahatva – intolerance to any distressing situation

Kṣiprakopa – gets angry very quickly

Teekṣnaparākrama – courageous

Na BhayatPranamet – does not get perturbed by fear

Here unlike vataprakṛti people pitta persons will respond with quick anger, courage and easy intolerance to stress

Kaphaprakṛuti

Kaphaprakṛti people will not easily respond to stress due to their characters like

AshighraKshobha – does not get diseased easily

Aseghrarambha – slow in initiating things

Klesakshama - tolerance to stress

Even under extreme stress their response will be with

Santa- Soberness

Sthiratva - stability

Mandatva- slowness

Aseghravikar- Not prone to disease very easily.

MANAS PRAKRUTI

त्रिविधं खलु सत्त्वं—शुद्धं , राजसं, तामसमिति । तत्र शुद्धमदोषमाख्यातं

कल्याणांशत्वात् , राजसंसदोषमाख्यातं रोषांशत्वात् , तामसमपि

सदोषमास्यातं मोहांशत्वात् । तेषां तु त्रयाणामपि सत्वानामेकैकस्य

भेदाग्रमपरिसंख्येयं तरतमयोगाच्छरीरयोनिविशेषेभ्यश्चान्योनेयानुविधानत्वाच्च ।

शरीरं ह्यपि सत्त्वमनुविधीयते, सत्त्वं च शरीरम् । तस्मात्

कतिचित्वाक्सत्त्वभेदानानूकाभिनिर्देशेन निर्दर्शनार्थमनुव्याख्यास्यामः । ।

च.शा.4.31—57

The term ,”Manas prakṛuti” defines the mental constitution and is described in terms of the three gunas (sattva, rajas and tamas).

- “Sattva attributes of the mind are clarity, alertness, attentiveness, understanding, purity, compassion and co-operation.

- Rajas attributes are suggestive of ambition, self-centeredness, selfishness and restlessness.
- Tamas attributes expression of the mind are dullness, gloominess, sadness, depression and laziness.

Satwika Subtype Qualities	
Brahhma	शुचिसत्याभिसन्धजितात्मानंसविभागिन् कामकोधलोभमानमोहेर्ष्याहर्षापेतं समं सर्वभूतेषुब्राह्मंविद्वात् ।।
Aarsha	इज्याध्ययनव्रतहोमब्रह्मचर्यपरमतिथिव्रतमुपशान्तमदमानरागद्वेषमोहलोभरोषंप्रतिभवचनविज्ञानोपधारणशक्तिसंपन्नमाषविद्वात् ।।
Aindra	ऐश्वर्यवन्तमादेयवाक्य यज्वानं शूरमोजस्विनंतेजोपेतमक्लिष्टकर्मारंगदीर्घदर्शिनंधर्मार्थकामाभिरतमैन्द्रविद्वात् ।।
Yaamy	लेखास्थवृतंप्राप्तकारिणमसप्रहार्यमुत्थानवन्तस्मृतिमन्तमैश्वर्यलम्बिनंव्यापागतरागेर्ष्याद्वेषमोहं याम्यंविद्वात् ।।
Vaaruna	शूरं धीरं शुचिमशुचिद्वेषिणं यज्वानम्भोविहाररतिमक्लिष्टकर्माणंस्थानकोपप्रसादं वारुणंविद्वात् ।।
Koubera	स्थानमानोपभोगपरिवारसंपन्नं धर्मार्थकामनित्यं शुचिसुखविहारंव्यक्तकोपप्रसादंकौबेरविद्वात् ।।

Gaandharva	प्रियनृत्यगीतवादित्रोल्लापकश्लोकाख्यायिकेतिहासपुराणषुकुशलंगन्धमालयानुलेपवसनस्त्रीवहारकामनित्यमनसूयकगान्धर्वविद्वात् ।।
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Predominant by pitta dosha, Rajasic people are intellectually oriented but vulnerable to temptations, are very generous in their character and vision for life.

Rajasika Subtype Qualities	
Aasura	शूरंचण्डसूयकभैश्वर्यवन्तमौपधिकरौरौद्रमननुकोशमात्मपूजकमासुरंविद्वात् ।।
Rakshasa	अमर्षिणमनुबन्धकोपच्छिद्रप्रहारिणंकूरमाहारातिमात्ररुचिमाभिषप्रियतमंस्वप्रायासबहुलमीर्ष्यराक्षसंविद्वात् ।।
Paishacha	महाशानं स्त्रेण स्त्रीरहस्काममशुचिशुचिद्वेषिणभीरुभीषयितारविकृतविहाराहारशीलंपैशाचंविद्वात् ।।

Sarpa	कुद्धशूरकुद्धभीरुंतीक्ष्णमायासबहुलंसंत्रस्तगोचरममाहारविहारपंरसार्पेविद्वात् ।।
Praita	आहारकाममतिदुःखशीलाचारोपचारसूयकमसंविभागिनमतिलोलुपमकर्मशीलंप्रैतंविद्वात् ।।
Shakuna	अनुक्तकाममजस्त्रमाहारविहारपरिमनवस्थितममर्षममसंचयं शाकुनंविद्वात् ।।

A dominant Vata ensures that Tamasic individuals are the most down to earth, concerned about fundamental questions of practical existence, especially when confronted by more spiritual and less physical issues.

Tamasic Subtype Qualities	
Pasava	निराकरिष्णुममेधसंजुगुपिसताचाराहारंमैथुनपरंस्वप्नशीलंपाशवंविद्वात् ।।
Matsya	भीरुबुधमाहारलुब्धमनवस्थितमनुषक्तकामक्रोधंसरणशीलंतोयकामंमात्स्यंविद्वात् ।।

Banaspatya	अलसंकेवलमभिनविष्टमाहारेसर्वबुध्दयङ्गहीनवानस्पत्यंविद्वात् । ।
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Satwika Traits	Charak	Kashyapa	Sushrut
Brahma	✓	✓	✓
Arsha	✓	✓	▪
Aindra	✓	✓	✓
Yamya	✓	✓	✓
Varuna	✓	✓	✓
Kubera	✓	✓	✓
Gandharva	✓	✓	✓
Rsi	▪	▪	✓
Prajapatya	▪	✓	▪

Rajas Traits	Charak	Kashyapa	Sushrut
Asura	✓	✓	✓
Paishacha	✓	✓	✓
Sarpa	✓	✓	✓
Shakuna	✓	✓	✓
Rakshas	✓	✓	✓
Praita	✓	▪	✓
Bhuta	▪	✓	▪
Yaksha	▪	✓	▪
Tamas Traits	Charak	Kashyapa	Sushrut
Pasava	✓	✓	✓
Matsya	✓	✓	✓
Banaspatya	✓	✓	✓

STRESS ACCORDING TO AYURVEDA

The ancient ayurvedic language (Sanskrit) and the modern medical language being two different dialects it is always difficult to interpret the concepts of one science into another. The basic principles of the two sciences are also very different from one another so this poses one more problem in interpretation of ayurvedic facts in modern language and vice versa. The present topic stress has come into limelight in recent times.

In Ayurveda even though we do not get straightforward indicators on stress, we can still come across a lot of classical literature to assume that the Acaryas had enough knowledge about stress and related topics

Due to different social circumstances the type of stress in ancient times too must have been pretty different from today. It was almost a different world alien to present day. The occupations, lifestyle, stressors were of entirely different nature.

In charak samhita acarya says that

विकारो नामो कुशलो न जिह्नियात् कदाचन ।

न हि सर्वविकाराणाम् नामस्तोस्ति ध्रुवास्तितिः ॥ (च.सू.८/४४)

It is impossible to name all the diseases independently, so acharya advises us to understand a disease based on its lakshanas and characters and treat it likewise.

नास्ति रोगो विनादोषर्यस्मात्विचक्षणः ।

अनुक्तमपि दोषाणाम् लिंगैर्व्याधिपाचरेत् ॥ (सु.सू.३५/१९)

Reiterating this fact sushrutha too says that one should not bother about the naming of a disease as new diseases keep on originating with changing times and changing circumstances. One should look at the signs and symptoms and treat a disease.

From the references given below an effort will be made to study stress in a ayurvedic way and interpret classical views through ayurvedic incorporation.

According to the modern explanations “Any stimulus that causes an imbalance in the internal environment of an organism is called stress”. Here this particular definition is compared with the ayurvedic explanations and a comparative study is done.

After a careful study of texts the ayurvedic references inferring stress can be put in to five main headings.

NIDANA

*** 1) Trividha hetus**

- Asatmendriyarthā samyoga
- Pradnyaparadha
- Parinama

Along with ati, heena, mithya yoga of all three

***2) Srotodushti hetus**

***3) Dharaneeya Vegas**

***4) The physiological variations in the explanations regarding features of the individual Prakṛtis.**

***5) Hetus of various individual diseases coming under the “Nidana” of a disease**

SAMPRAPTI

-1) the samprapti of stress can be tracked down mainly to the vitiation of vatadi tridoshas

-2) Vitiation of manasika doṣas because of this hetu.

-3) manovaha srotoduṣṭi in stress

-4) Improper atma- mana-indriya- indriyarthā sannikarsa

-5) Srotodushtis mainly starting from rasavaha srotodushti and vitiation of subsequent srotasas

-6) vitiation of ojus in longterm stressfull conditions

Firstly an effort is made to track down the causes or etiology of stress as explained in ayurveda

TRIVIDHA HETUS

इति असात्मेन्द्रीय संयोगः प्रज्ञापराध परिणाम चेति त्रय त्रिविध विकल्प हेतवो विकाराणां, समयोगयुक्तास्तु प्रकृति हेतवो भवन्ति । (च.सू. ११/४३)

त्रिविधो वा असात्मेन्द्रीय संयोग प्रज्ञापराध परिणाम भेदात् (मधुकोष निदान -५)

In sutra sthana of charak samhita while explaining different hetus of diseases carak explains three disease causing factors

1. Asatmendriya samyoga
2. Pradnyaparadha
3. Parinama

Each of these is of three subtypes i.e. atiyoga, heena yoga and mithya yoga.

These three factors are the factors, which cause disease due to exposure to hyperactivity, hypoactivity or improper activity of sense organs, body mind and the effect of changing seasons over the body.

Now this closely relates with the definition of stress.

i.e. “the sum of biological reactions to any adverse stimuli physical, mental or emotional, internal or external that tends to disturb the organs homeostasis.”

Following is the further explanations on the topic, which will throw further light on these factors

In ayurveda for the interpretation of knowledge proper coordination of indriya indriyarthas atma and manas is essential. Due to any kind of improper samyoga between indriya and its arthas the further buddhi grahana too gets impaired.

असात्मेन्द्रियार्थ संयोग योगातियोगमिथ्यायोगयुक्ता रूपरसादयः । (मधुकोष निदान -५)

This is of three types

1. atiyoga
2. heena yoga
3. mithya yoga

Ati means excess, heena means less and mithya means faulty or false.

ASATMENDRIYA SAMYOGA

सर्वेन्द्रियाणां व्यापक स्पर्श कृतो यो भावविशेषः; सोयमनुपशयात् पंचविधस्त्रिविध विकल्पो भवत्यसात्मेन्द्रियार्थ संयोग सात्न्याथौ उपशयार्थः । (च.सू. ११/४८)

तत्रातिप्रभवतां दृश्यनामतिमात्रं दर्शनमतियोगः; सर्वशो अदर्शनमयोग अतिसूक्ष्मातिविप्रकृष्ट रौद्र

भैरवाद्भुतद्विष्टवीभत्सविकृतादि रूपदर्शनं मिथ्यायोगः (च.सू ११/३७)

तथातिमात्र स्थनितपटहोत्कृष्टादीनां शब्दानां अतिमात्रं श्रवणमतियोग; सर्वशोऽश्रवणमयोग

परुषेश्ट विनाषोपघातप्रघर्षण भीषणादि शब्द श्रवणं मिथ्यायोग । (च.सू. ११/३७)

तथातितीक्ष्णोभिष्यन्दानां गंधानामतिमात्रं घ्राणमतियोग; सर्वशो अघ्राणमयोग ।

पूतिदुष्टमेध्यक्लिन्न विषपवनकुणपगन्धादिघ्राणं मिथ्यायोग : । (च.सू. ११/३७)

रसानां अत्यदशनमतियोग सर्वशोऽनादानमयोग ; मिथ्यायोगो राशीवर्ज्यस्वाहारविधिविशेषायतनेषूपदेक्ष्यते ।
(च.सू. ११/३७)

तत्राति शीतोष्णां स्पृष्ट्यानां स्नानाभ्यंगोत्सादनादीनामत्युपसेवनमतियोग ; सर्वशोनूपसेवनमयोग ;

स्नानादीनां शीतोष्णादीं च स्पृश्यानामनानुपूर्वयोपसेवनविषमस्थानाभिघाताशुचि भूतसंस्पर्शनादयश्चेति मिथ्यायोगः
। (च.सू. ११/३७)

तत्रैकं स्पर्शनमिन्द्रोयां व्यापकं, चेतःसमवायि स्पर्शनव्याप्ते व्यापकमपि च चेतः

तस्मात् सर्वेन्द्रियाणां व्यापकस्पर्शकृतो यो भावविशेषः सोऽयमनुपशयात् पंचविधस्त्रिविध

विकल्पो भवत्यसात्मेन्द्रीयार्थ संयोगः सात्म्याथी अनुपशयार्थः ॥

Excessive usage, less usage or absolutely no usage and faulty usage of the five indriyas constitutes the fifteen asatmendriya samyogas

For example excessive gazing at highly illuminous objects would constitute excessive utilization of visual objects. Not looking at anything at all would amount to its nonutilisation. Similarly its wrong utilization would be to see things too close or too far away or things that are awful or terrifying or surprising contemptuous frightful deformed and alarming.

Excessive utilization of auditory objects would be to hear uproarious noise coming out of thunder and kettle drum, loud cries etc; its non utilization will be not to hear anything at all; hearing of harsh words, news about death of friends assauling insulting and terrifying sounds constitute wrong utilization

Smell of exceedingly sharp, acute and intoxicating odors constitute an excessive utilization of olfactory sense faculties; its wrong utilization is the smell of exceedingly putrid, unpleasant, dirty, putrefied and cadaverous odor and poisonous gases

Similarly excessive intake of various substances having various tastes would amount to overutilisation of gustatory sense faculty; not to use it all amounts to its nonutilisation; factors such as tasting of viruddha ahara, putrid substances constitutes wrong utilization of rasanendriya.

Excessive use of exceedingly cold and hot bath, massage amounts to over utilization of tactile sensory faculty; not to use it at all constitutes its non utilization; improper and unruly usage of bath massage etc, touch of uneven place dirty objects constitute its wrong utilization.

In the case of asatmendriyārtha samyoga it is not that the effect will be seen in that particular indriya only the effect might exhibit itself in some other indriya

Eg: Sharp odor can cause lacrimation in eyes

Odor of krisna jiraka can cause lacrimation of eyes

Taste of some substances can cause nauseating sensation

This is a indicator towards the fact this asatmendriyārtha samyoga can have effects all over the body

PRADNYAPARADHA

Pradnya= Correct Knowledge

Aparadha = Offense or transgression

Dhi = Capacity to analyse good and bad to decide what to do and what not to do

Dhruthi= Capacity to adhere to right things

तत्र त्रिविध विकल्पं त्रिविधमेव कर्म प्रज्ञापराधं इति व्यवस्येत् । च.सू.(११/४१)

धी धृति स्मृति विभृष्ट कर्म यत् कुरुते अशुभं

प्रज्ञापराध तं विद्यात् सर्व दोष प्रकोपणम् । (च.शा १/१०२)

उदीरणं गतिमतामुदीर्णानाम् च निग्रहः । सेवनं साहसानां च नारीणां चाति सेवनं ॥

कर्म कालातिपातश्च मिथ्यारम्भश्च कर्मणाम् । विनयाचार लोपश्च पूज्यानाम् चातिघर्षणं ॥

ज्ञातानां स्वयमर्थानां अहितानां निषेवणं । परमौन्मादिकानां च प्रत्ययाणां निषेवणं ॥

अकाल देश संचारौ मैत्रि संक्लिष्ट कर्मभिः । इन्दीयोपक्रमोक्तस्य सद्वृत्तस्य च वर्जनम् ॥

ईर्ष्या मान भय क्रोध लोभ मोह मद भ्रमाः । तज्जं वा कर्म यत् क्लिष्टं क्लिष्टं यदेह कर्म च ॥

यच्चान्यदीदृ कर्म रजोमोह समुत्थितम् । प्रज्ञापराधं तं शिष्टा ब्रुवते व्याधिकारणं ॥

बुध्या विषम विज्ञानं विषमं च प्रवर्तनं । प्रज्ञापराधं जानीयान्मनसो गोचरं हि तत् ॥

(च.शा १/१०३-१०९)

कर्म वाक् मन शरीर प्रवृत्ति । तत्र वाक् मन शरिराति प्रवृत्तिरतियोगः ।

सर्वशो अप्रवृत्ति अयोगः । वेगधारणोदीरणविषमस्खलनगमनपतनांगप्रणीधानांग प्रदूषणप्रहार मर्दन प्राणोषरोध संक्लेशनादिः ।

शारीरो मिथ्यायोगः । सूचकानृता काल कलहप्रिया बध्दानुपचारपरुषवचनादि वाक् मिथ्यायोगः । भयशोक क्रोधलोभमोहमानईर्ष्यामिथ्यादर्शनादिमानसो मिथ्या योगः ॥ (च.सू ११/४०)

Improper usage of deha vani and mana i.e body speech and mind constitutes pradnyaparadha. This is also of further three types that is ati, heena, mithya yoga.

According to one more definition pradnyaparadha is the improper actions of the body due to improper convictions of mind

Here the actions mean vocal, physical and mental action.

The over and non-utilization constitutes the first two types

Whereas some of the wrong utilization of body are suppression of natural urges, their artificial manifestation etc; example of wrong utilization of speech are back biting, lying, quarrels, harsh expressions etc

Those relating to mind are fear, anxiety, anger, greed, confusion, vanity envy and misconceptions.

PARINAMA

शीतोष्ण ग्रीष्म लक्षणा पुनर्हेमन्त ग्रीष्मा संवत्सरः , सकालः । तत्रातिमात्र स्वलक्षणः कालः कालातियोगः हीन स्वलक्षणः

कालकालाःयोगः, यथास्वलक्षण विपरीत लक्षणस्तु काल कालः मिथ्या योगः । कालःपुनः परिणाम उच्यते ।
(च.सू. ११/४१)

Parinama means kala or season or environmental changes

These factors also become etiological factors of disease when they exhibit atiyoga heena yoga and mithya yoga

A year is the unit of time, which is characterized by winter summer and rains.

When these seasons manifest themselves in order they constitute samyak yoga of kala

If a particular season manifests itself excessively it constitutes atiyoga of kala; if the season manifests itself in lesser measure it will be nonutilisation. If on the other hand characteristics of a season are contrary to normal ones, this would be non utilization or mithya yoga of that particular kala. These are the conditions where the body is exposed to such circumstances where the body finds it difficult to cope with. Prolonged exposure to these conditions may lead to pathological implications of various sorts.

While we compare this with the definition of stress i.e “Any stimulus that causes a change in the internal environment of the body is called as stress” we can find a close proximity between modern view of stress and ayurvedic concept of stress.

Before going into the topic regarding how stress effects sensory perception lets firstly deal with the physiology of sensory perception.

SENSE PERCEPTION ACCORDING TO AYURVEDA

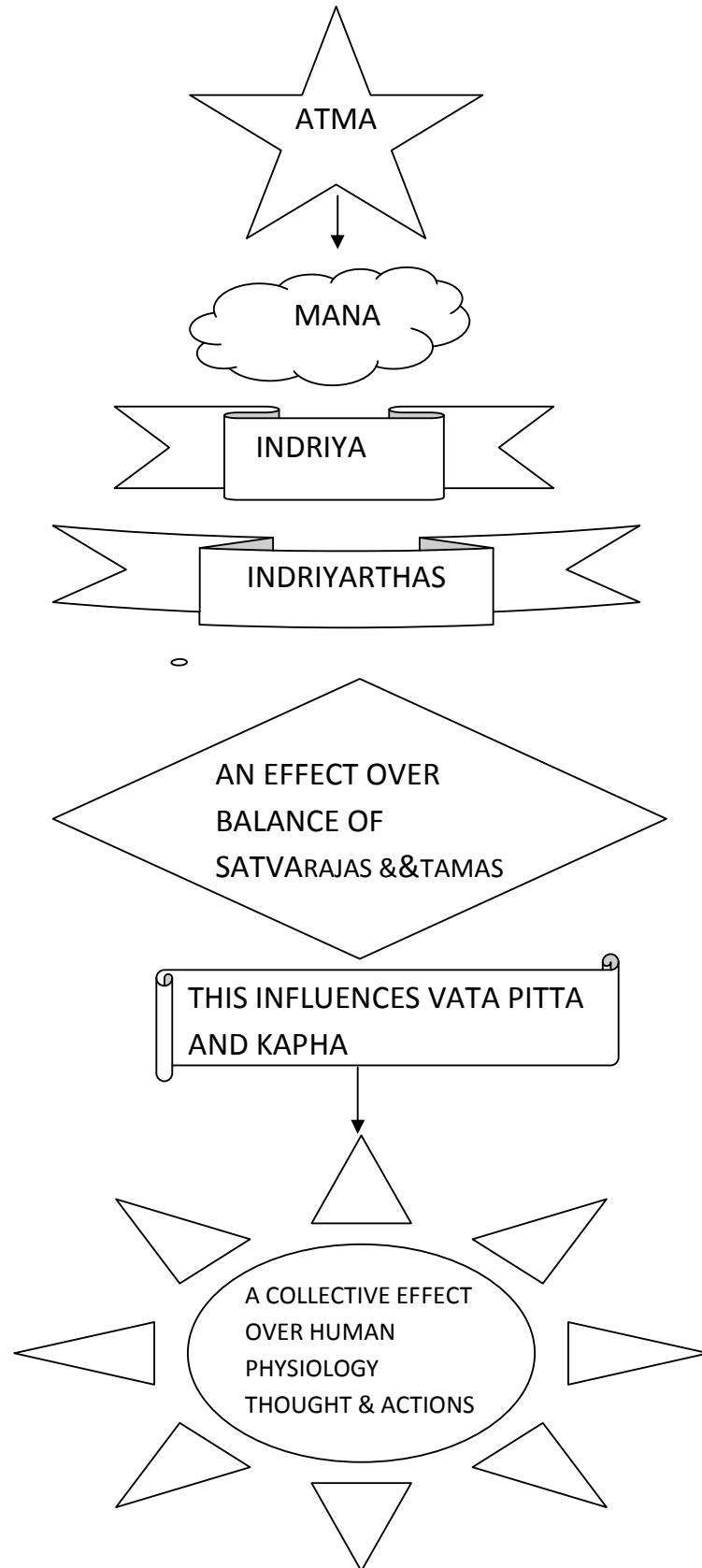
मनःपुरःसराणि इन्द्रियाण्यर्थग्रहणसमर्थानि भवन्ति ॥ (च.सू. ८/७)

आत्मेन्द्रियमनोऽर्थानि सन्निकर्षात् प्रवर्तते ।

सुखदुःखम्.....॥ (च.शा. १/१३८)

Atma mana, indriya and indriyarth are the basic factors required for perception of knowledge in ayurveda. Proper conglomeration of all these four factors is necessary for dnyana grahana (sensory perception); any gap in this conglomeration causes improper dnyana grahana.

Therefore proper healthy condition of all these four is essential for perception If we look into the mechanism of this we get to know following facts about mind- sense organs – external environment.



This above flow chart gives a fair idea about the importance of sensory perceptions over physiology.

RASAVAHASROTODUSTI AND STRESS INDUCED DISORDERS

One more aspect of stress being widely described in ayurveda comes under rasapradoṣaja vyadhis.

Cinta is been described as one of the main hetus for these vyadhis. This cinta can be taken as mental stress.

Etiological factors

गुरुशीतमतिस्निग्ध अतिमात्रं समश्नताम् ।

रसवाहिनि दूष्यन्ति चिन्त्यानां च अतिचिंतनं ।।

The etiological factors that might cause rasavahasrotoduṣṭi are exposure to excess quantity of heavy, cold, and unctuous foodstuffs.

Along with this excess worries are also a main cause of this.

Here cinta or worries or mental stress is clearly indicated as a factor of causing rasadusti.

Rasavahasrotoduṣṭi lakṣana

अश्रद्धा अरुचिश्चास्य वैरस्यम् अरसज्ञता ।

हृल्लासो गौरवं तंद्रा सांगमदी ज्वरस्तमः ।।

पांडुत्वं स्रोतसांरोध क्लैब्य साद क्रशांगता ।

नाशोग्नेरयथाकालं बलयः पलितानि च ।।

(च.सू-२८/९)

तत्रात्राश्रद्धा अरोचक अंगमर्द ज्वर हृल्लास अत्रप्ति गौरव हृत् पांडुरोग मागीपरोध ।

आस्यवैरस्य अंगसाद अकालवलीपलित दर्शन प्रभृतयो रसदोषजा विकार ।।

(सु.सू २४/९)

अश्रद्धा - Disinterest

अरुचि - Anorexia

वैरस्य - Aversion to food

अरसज्ञता- Tastelessness

ह्रल्लास -Nausea

गौरव -Heavyness

तंद्रा - Stupor

अंगमर्द - Malaise

ज्वर - Feverish sensation

पांडु - Pallor

स्रोतोरोध - obstruction to the srotasas

क्लैब्य - Sterility

साद-Ache

कृशांगला- Weakness

अग्निमांद्य- Reduced power of agni

वलि-Wrinkles

पलित- Graying of hair

A look at the above rasavikaras gives an interesting point.

Anorexia, Disinterest, Feverishness, Pallor, Sterility, Wrinkles, Graying of hair are the clear indicators of a stress related person. Even in the modern explanation regarding stress these are the main signs of stress. This is the way body basically responds to any change in homeostasis.

Rasa dhatu being the first among the dhatus is the first to get affected by any change in homeostasis. That is why any kind of stress first acts on rasa dhatu and later shows its peril on forthcoming dhatus.

Sroto dushti hetus

Acaryas have compiled a collection of various hetus or causes for the different srotodustis leading to diseases. A look at these hetus also reveals that “over usage” or “under usage” comprises a majority of these hetus.

Given below is a list of various hetus, which can be termed as any kind of stress over the body. From the references given below an effort will be made to study the key words in the quotes of sroto- dusti, which might indicate stress.

क्षयात् संधारणात् रौक्ष्यात् व्यायामात् क्षुधितस्य च ।

प्राणवाहिनि दूष्यन्ति स्रोतांस्यन्येश्च दारुणैः ।।

औष्यात् आमात् भयात् पानात् अतिशुष्कांबु सेवनात् ।

अंबुवाहिनि दूष्यन्ति तृष्णायाश्चाति पीडनात् ।।

अतिमात्र्य अकाले अहितस्य च भोजनात् ।

अन्नवाहिनि दूष्यन्ति वैगुण्यात् पावकस्य च ।

गुरुशीतमतिस्निग्ध अतिमात्रं समश्नताम् ।

रसवाहिनि दूष्यन्ति चिन्त्यानां च अतिचिंतनं ।।

विदाहि अन्नपानानि स्निग्धोष्णानि द्रवाणि च ।

रक्तवाहिनि दूष्यन्ति भजतां च आतपानलौ ।।

अभिष्यन्दीनि भोज्यानि स्थूलाणि च गुरुणि च ।

मांसवाहिनि दूष्यन्ति भुक्त्वां च स्वपतां दिवा ।।

अव्यायामात् दिवास्वप्नात् मेद्यानाम् च अति भक्षणम् ।

मेदोवाहिनि दूष्यन्ति वारुण्यश्चाति सेवनम् ।।

व्यायामादतिसंक्षोभात् अस्थानामति विघट्टनात् ।

अस्थिवाहिनि दूष्यन्ति वातलानां च सेवनं ।।

उत्पेषात् अत्यभिघातात् प्रपीडनात् ।
मज्जावाहिनि दूष्यन्ति विरुद्धानां च सेवनं ॥
अकालयोनिगमनात् निग्रहात् अतिमैथुनात् ।
शुक्रवाहिनि दूष्यन्ति शस्त्रक्षाराग्निभिस्तथा ॥
मूत्रितोदक भक्ष्य स्त्रीसेवनात् मूत्र निग्रहात् ।
मूत्रवाहिनि दूष्यन्ति क्षीणस्याभिक्षतस्य च ॥
संधारणात् अत्यशनात् अजीर्णाध्याशनस्तथा ।
वर्चवाहिनि दूष्यन्ति दुर्बलाग्ने क्षतस्य च ॥
व्यायामात् अतिसंतापात् शीतोष्णक्रमसेवनात् ।
स्वेदवाहिनि दूष्यन्ति क्रोधशोक भयैस्तथा ॥

(च.वि. - ५/१० - २२)

संधारण :Control of urges

व्यायाम : Exersion

भय :Fear

औष्ण्य :Excessive heat

अतिमात्र्य अकाले अहितस्य भोजन : Taking too much or too less food

चिन्त्यानां च अतिचिंतनं : Worries

आतपानल :Exposure to too much of sun and wind

दिवास्वाप: Day sleeping

अव्यायाम :Sedentary life

अतिमैथुन :indulgence in too much of sex

मूत्र निग्रह : Control of the urge of urination

व्यायामात् अतिसंतापात् :Exposure too much heat and exertion

क्रोधशोक भय :Mental worries and tensions

Among the above hetus only the hetus which clearly imply stress are taken into consideration.
(Because a vague interpretation of stress will lead to inclusion of all the hetus)

Ati vyayama or avyayama – over exertion or under exertion is a hetu in

Pranavaha, mamsavaha, medovaha and sveda vaha srotodustis

Bhaya cinta soka krodha – fear, anger, grief and anxiety are etiological factors for rasavaha, udakavaha and svedavaha srotodusti.

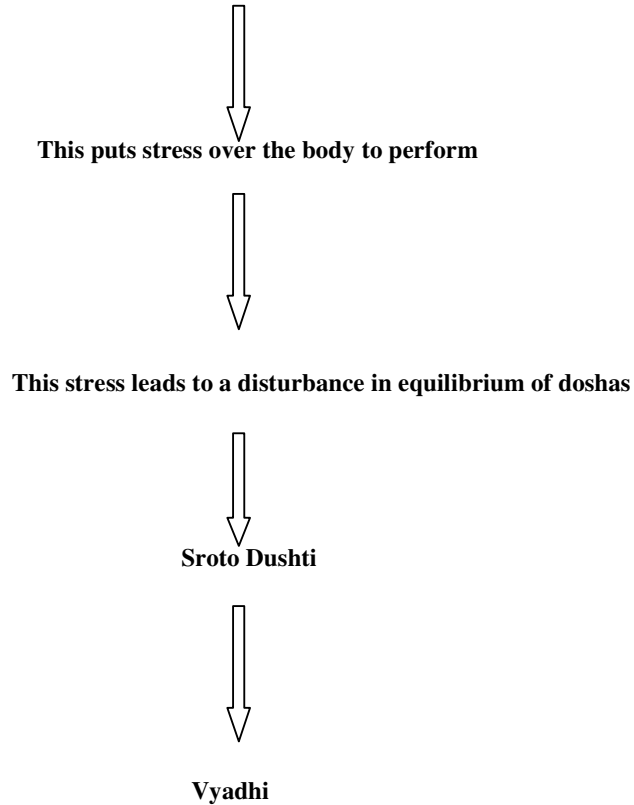
Atimatra bhojana, viruddha bhojana, akalabhjana – intake of more food of a particular type, or intake of less food of a particular type, eating at improper times are hetus in almost all srotodustis like udaka, anna, rasa rakta, māmsa, meda majja purisa vaha srotasas.

Santapa, atapa, Shaitya- exposure to excess heat or cold are hetus in raktavaha and sveda vaha srotodustis

Apart from these the notable point is that almost all the srotasas contain atleast one “Ati” or “A” (अति or अ). Ultimately “Ati” or “A” (अति or अ).

of anything puts too much stress over body to perform. This causes an imbalance in the equilibrium of dosas. These vitiated doshas obstruct the srotasa causing vyadhi.

Over exertion or under exertion fear, anger, grief and anxiety “Ati” or “A” (अति or अ) of anything



Dharaneeya and adharaneeya Vegas leading to stress

लोभशोकभयक्रोधमानवेगान् विधारयेत् ।

नैर्लज्जं ईर्ष्यां अतिरागाणां अभिघ्नां च बुद्धिमान् ॥ च.सू७/२७

धारयेत्तुसदावेगान् हितैषी प्रेत्य चेह च ।

लोभईर्ष्याद्वेषमात्सर्यं रागादीनां जितेन्द्रिय ॥ अ.ह्र ४/२५

न वेगान् न धारयेद्विमांजनम् मूत्र पुरीषयो रेतसां न वातस्य छर्दिः क्षवथोर्न च ।

न उद्गारस्य न जृम्भायां न वेगान् क्षुत् पिपासयोः न भाषस्य न निद्रायां निःश्वासस्य श्रमेण च ॥ च.सू७/२०

वेगान्नधारयेत् वातविष्णुत्रक्षवतृदक्षुधाम् ।

निद्राकासभ्रमश्वासजृम्भाश्चछर्दिरेतसान् ॥ अ ह्र ४/१

In sutra sthana of carak samhita carak has explained about the urges that should be controlled and the urges that should not be controlled.

As mentioned in the above quotation there are thirteen natural urges which should not be controlled. These urges are the means of expulsion of unwanted matter from the body. Due to social etiquettes or lack of wisdom we control most of these urges. We evacuate them not at the bodys convinience but at our social convenience. Over a period of time this puts extra pressure over the body leading to diseases

At the same time there are certain urges gaining control over whom is very essential.

चिन्त्यं विचारं ऊह्यं..... lbeing the fuction of mana it is natural for mana to wander into negative thoughts like jealousy,anger, fear etc.

Acaryas have therefore advised us to have a control over these. Otherwise they are certain to become disease-causing hetus.

लोभ= Greed

शोक = Grief

भय =Fear

क्रोध = Anger

मानवेग= Vanity

नैर्लज्जं = Shamelessness

ईर्ष्या = Jealousy

अतिराग = Too much of attachment

अभिघां = Malice

These mental urges are in direct correlation with satva raja and tama i.e. the manasika doshas. When a person indulges in them there is bound to be a change in the equilibrium of these doshas. And as we all know these physical mental doṣhas , srotasas are all related in a cyclical manner. So an imbalance in one of the constituent is bound to cause an imbalance in whole of the system. A fail in controlling of these urges leads to a variety of manovahasrotodusti rogas. These urges are also found to be a hetu in rasavahasrotodusti and svedavahasrotodusti.

In charak samhita vimana sthana we get a clear reference where these manasik Vegas are clearly indicated as cause of diseases

रजस्तमश्चमनसौ दोषौ तमोविकाराः ।

कामक्रोधलोभमोहेर्शमानमदशोकचिन्ता उद्वेग भयहर्षादयः ॥

वातपित्तश्लेष्मणस्तु खलु शारीर दोषाः ।

तेशामपि च विकाराः ज्ञातिसारशोकशोषाः श्वासमेहकुष्ठादयः ॥ (च.वि ६/५)

In vimana sthana of carak samhitha we get a referance that indulgence in kama, krodha, mada, lobha, irshya, māna, mada, shoka, cinta, udvega, harṣa causes the vitiation of manasik doshas (satva, rajas, tamas) these in turn vitiates Shareerik doṣas and cause diseases like jvara, atisara, Shosha , meha and kushtha etc.

Probably this is the reason why pranayama helps to control stress by a great deal because, through pranayama one can easily control these dharaneeya vegas.

सोभिर्शङ्खज्वरज्ञेयो यश्चभूताभिर्शङ्खजः ।

कामक्रोधभयात् वायु क्रोधात् पित्त प्रकोपजाः ॥

भूताभिशंगात् कुप्यन्ति भूतसामान्यलक्षणाः ।

विषवृक्षानिलस्पशीस्तथान्यै विषसंभवे ॥ (च.चि ३/१९५)

Carak opines that whenever a person indulges in Kama, Shoka, Bhaya (lust, grief, fear) there will be vitiation of vayu, there will be vitiation of pitta when one indulges in krodha (anger). When one indulges in morbid activities (bhootabhisanga) there will be vitiation of tridoshas.

Adharaneeya vegas

मूत्र = Urine

पुरीष = Faeces

रेतस = Semen

अधोवात = Flatus

उर्दि:= Vomit

क्षवथु = Sneezing

उद्गार= Eructation

जृम्भा = Yawning

क्षुत् = Hunger

पिपासः = Thirst

भाष्प = Tears

निद्रा= Sleep

श्रमश्वास= Breathing caused by exertion

रोगाः सर्वपि जायन्ते वेगोदीरणधारणै ।

निर्दिष्ट साधनं तत्र भूयिष्ठ येतु तान् प्रति ॥ अ.ह्र ४

The Vegas mentioned above are those Vegas that should not be controlled. These are the urges that are the evacuatory reflexes of the body. Control of these urges will mean going against

body's homeostasis. This in turn will lead to disturbance in equilibrium of doshas, leading to diseases.

A variety of diseases have been explained in sutra sthana of carak samhita, which are caused due to vegadharana.

These diseases are summarized below

Adharaneeyavegas too can be considered as a stress-contributing factor.

Infact in the present social circumstances many times vegadharana is inevitable.

Therefore in the present perspective of stress vegadharana and vega adharana comes right at the top of the table.

STRESS AS A NIDANA

In the Nidana sthana of various classical texts we come across various diseases where physical or mental stress (Those factors that can be grouped under asatmendriya samyoga, pradnyaparadha, parinama) are found to be the causative factors of diseases. A close look at these nidanas reveals that stress is responsible for a major chunk of disorders.

Here the factors like Shoka (grief), Bhaya (fear), Krodha (anger), Moha (infatuation), Kama (lust), lobha (greed), Matsara (jealousy) too are considered along with the three hetus of pradnyaparadha, parinama and asatmendriya samyoga.

Those disorders where stress is found to be either causative or contributory factors of a disease are listed below.

The causative factors mentioned below do not give rise to any disease when they occur in a normal or an average range. But when these factors occur in ati, heena or mithya yoga they give rise to an imbalance in the tridoshas. This imbalance of tridoshas will give rise to a wide range of diseases.

In some of the diseases even the sub classifications of an independent disease have been done based on some factors that indicate stress.

Eg- Shokaja atisara, bhayaja unmada etc

Some of the diseases where stress is found to be a nidana are enlisted below.

Apasmara: cinta shoka (ca/ci-9)

Unmada: bhaya (ca/ci-8)

Vātaja prameha : Soka udvega (ca/ni 4/36)
Pittaja prameha : Krodha, udvega (ca/ni 4/24)
Medo roga : Avyayama Diva svapa (ma/ni-3)
Kushtha :Ati vyayama, ati santāpa,ati bhojana śrama bhaya krodha Bhaya ,
sahasa (ca/ci-7)
Asrgdara : Ati śrama Śoka ati maithuna (ma/ni-60)
Unmada : Bhaya, (ca/ci-9/7)
Atisara : Bhaya shoka, atimadyapana (Ca/ci 19)
Vatarakta: Krodha, Divasvāpa, Jāgarana (Ca/ci 29)
Urustambha: Kshobha (Ca/ci 27)
Vata vyadhi : Cinta, krodha (ca/ci-28/26)
Arocaka :shoka, lobha, krodha. (Ca/ci-26/124)
Pratiśyaya : Krodha (ca/ci 26/104)
Hṛdroga : Cinta , bhaya (ca/ci-26/77)
Vrana : Soka, krodha (ca/ci-25/23)
Tṛṣṇa : Soka, krodha (ca/ci 22/61)
Vataja chardi :shoka, Bhaya (ca/ci 20/7)
Agantuka atisara : Bhaya, Soka (ca/ci 19/8)
Sannipataja atisara : Bhaya, Śoka, Cinta. (Ca/ci 19/7)
Pittatisara : Krodha (ca/ci 19/6)
Pāndu : kama cinta bhaya krodha soka (ca/ci 16/9)
Chardi : Bhaya (ca/ci 8/63)
Pitta gulma : Krodha (ca/ci 5/13)
Vāta gulma : Soka (ca/ci 5/59)
Raja yakṣma : (Shoka , cinta, bhaya , krodha ca/ci 6/8)
Kṣaya : (Bhaya ca/ci 8/66)
Vātaja jvara- (Shoka, Udvega ca/ni 1/19)
Pittaja jvara : (Krodha , udvega ca/ni-1/22)
Kaphaja jvara : (Harṣadhikya ca/ni 1/25)
Hrdroga – (vegavidharana, Śrama (Ma.ni 29/2)

Stanya Dosa – (Mana Shareera santapa (Ca. ci 30)

Kṣaya – (Vyayama, Aticintana, ca.su 17/74)

Klaibya – (Cinta Ca.ci 3/189)

Netra roga – (Shoka A.Sa 16/90)

In the above diseases only those diseases where stress is due to any mental or social factor are taken into account.

Apart from this cinta is predominantly been described as an etiological factor for rasapradosaja rogas. Rasa being a fluid which circulates all over the body and is responsible for a generation of a lot of diseases.

Further on stanya, which is an upadhatu of rasa, also gets diseased by cinta and gives rise to stanya pradoṣaja vyadhis

Few of the diseases are named and subdivided based on their nidanas. Here too we can see some emphasis laid on factors which might imply stress.

Like shokaja atisara ,Kama jvara etc.

These subdivisions of these diseases are nothing but the usual disease of atisara or jvara itself just the difference being the causative factor.

I.e. along with the etiology of that particular disease stress too plays a significant part in formation of the disease.

नृपोपसेवी नृपचित्तरक्षणात् ।

परानुरोधत् बहुचिंतनात् भयात् ।

भवंति योन्येपि सदातुराश्च ते । च.सि १२/२०

In siddhi sthana of carak samhita while describing Sadātura (Frequently ill person) he has also included बहुचिंतन भय as causative factors of illness.

The below said shloka from carak sutra sthāna gives a good finishing point on the topic of stress.

एतानेव विधांश्चान्यान् योतिमात्रं निषेवते ।

गजं सिंहान् इवाकर्षान् सहसां च विमश्यति ॥ च.सू ७/२९

In the above sloka the acarya says that one who indulges in activities, which put over and excessive strain on oneself ,he perishes like a lion trying to drag an elephant.

DEFINITIONS OF STRESS

Any stimulus that causes an imbalance in the internal environment of an organism is called stress

- Hans Seyle.

“A non-specific response of body to any demand made upon it. The demand can be a threat, challenge or any kind of change which requires the body to adapt”

- Hans Seyle

“A result produced when a structure system or organism is acted upon by forces that disrupt equilibrium or produce strain.”

- (French- Estresse meaning narrowness)

- Tabers medical dictionary.

Stress is the wear and tear our body experiences as we adjust to our continually changing environment it has physical and emotional effects on us and creates positive and negative feelings.

- Medline online medical dictionary

The changes in the body during “F and F response” occur as the need of the hour. But if this continues then body tries to return back to homeostasis through the stage of resistance. If this resistance continues for too long then the body gets exhausted and falls sick.

Survival of fittest has been the baseline of an organism’s journey through life. So it is inevitable that an organism has to pass through stressful circumstances at one or other point in life. The homeostatic mechanisms in the organisms work in order to adapt to any change in the internal environment of the organism. This homeostasis gives rise to a series of events, which cope up with the changing circumstances.

Ever since evolution man has continuously been under one or other sort of challenge. Man will always be under constant pressure to perform at his physical and mental best in order to meet the rigorous demands of life. So stress is not new to man.

Even the Stone Age man was under stress to hunt for food and protect him from the predators.

But stressors have certainly changed. New age stressors have arrived to challenge the man along with changed lifestyle and changed circumstances.

STRESSORS

Mainly there are two types of stressors:

External and Internal Stressors

People can experience either external or internal stressors.

- **External stressors include adverse physical conditions (such as pain or hot or cold temperatures) or stressful psychological environments (such as poor working conditions or abusive relationships).**
- **Internal stressors can also be physical (infections, inflammation) or psychological. An example of an internal psychological stressor is intense worry about a harmful event that may or may not occur. Generally internal psychological stressors are rare or absent in most animals except humans.**

ESSENTIAL STRESS

It is not as if stress is always pathogenic and is not essential to man.

Optimal levels of stress responses are required in a man under exceptional circumstances.

- a) What is the factor that makes us run in incessant speeds when we have a wild dog chasing us?**
- b) What is the factor that makes us study all through the night during exams which otherwise seems impossible?**
- c) What are the factors that enable us to hike with great strength even at reduced oxygen supply during high altitude trekking or mountaineering.**

These are not routine circumstances here the body has to perform under exceptional circumstances.

The series of events that help up to cope up with these exceptional situations with extra energy and extra alertness are nothing but stress.

With out some amount of stress we could never have performed anything out of routine and any thing extra ordinary

So stress is essential to man for a limited period of time in conditions of threat or danger.

Stress is what makes us take immediate decisions and sudden actions on perception of threat.

But it becomes pathological only when this “threat perception” or stress response stays on for longer duration of time.

FIGHT AND FLIGHT RESPONSE

This was a word coined by Harvard physiologist Walter Cannon.

It is the basic nature of a human body to panic on any perception of danger.

What does an organism do when it panics?

It either takes steps to destroy the threat (Fight)

Or it simply flees away from the threat (Flight)

This reaction is not limited to just any animal but to even a human organ or structure or system also.

This response is also termed as “Alarm” response or “Stress” response This “F&F response” takes place in the body in order to meet with the sudden demands of the body for immediate action in stressful circumstances. After the stressful situation has passed away parasympathetic system starts the calming down mechanism and the organism gets back to normal

This is characterized by

- a) More central nervous system activity
- b) Enhanced mental activity
- c) Over secretion of adrenaline, noradrenaline and cortisol into blood stream and every cell of the body.
- d) Enhanced rate of cellular metabolism through out the body
- e) Increased blood glucose concentration
- f) Increased glycolysis in liver and in muscles
- g) Increased muscle strength
- h) Increased blood flow to active muscles concurrent with decreased blood flow to organs like GIT and kidneys
- i) Increased rate of blood coagulation.
- j) Increased heart rate
- k) Increased cardiac output
- l) Increased blood pressure

- m) Increased breathing rate
- n) Dilatation of breathing airways
- o) Increased metabolism
- p) Increased oxygen consumption
- q) Increased oxygen to brain
- r) Increased muscle contraction
- s) Increased circulation of free fatty acids
- t) Increased output of blood cholesterol
- u) Release of endorphins from pituitary gland
- v) Dilatation of pupils
- w) Increased secretion of sweat glands
- x) Capillary constriction
- y) Saliva dries up
- z) Suppression of immune system

IMPLICATIONS OF “F&F RESPONSE” IN MAN

This “F& F Response” is a very vital event in lower animals and primitive man. This is because animals have to take immediate action in times of distress by either fighting the enemy physically or fleeing away. This instinct forms an important part in the survival of an animal. This response gives emphasis on providing immediate reflexes to muscular system, increasing respiratory output, providing energy etc.

But due to man being a social animal he cannot express his F&F response like lower animals by fighting or fleeing away. So these muscle actions, respiratory actions are not used completely in man as in animals.

But still the “F and F response” is same in social man as was in primitive man.

This causes an imbalance in the body system. This imbalance later on causes various ill effects in man.

STRESS RESPONSE OR STRESS PHYSIOLOGY

The homeostatic changes taking place in the body in case of stress can be grouped under three systems

- 1) Limbic system**
- 2) Autonomic nervous system**

3) Endocrine system

LIMBIC SYSTEM

That part of brain dealing with emotional responses of the body is called limbic system.

Perception of anything or any feeling occurs here in limbic system from where signals are passed to other parts

Hypothalamus forms the central part of this system surrounded by other sub cortical structures of limbic system like septum, the Para-olfactory area the epithalamus, the anterior nucleus of thalamus, portions of basal ganglia, the hippocampus and the amygdala.

The emotions generated in man due to sight, touch grief etc are processed in limbic system and impulses passed into the

- 1) Brain stem
- 2) Upwards towards the higher areas of diencephalons and cerebrum
- 3) To the infundibulum which control most of the secretory functions of the body

These constitute the behavioral and motivational mechanisms of man.

Hypothalamus is the main commander who analyses the perception and sends message to the rest of the body to respond.

AUTONOMIC NERVOUS SYSTEM

Autonomic nervous system that is responsible for to and fro motion of nerve impulses throughout the body can be generally grouped under

1. Sympathetic nervous system
2. Parasympathetic nervous system

Sympathetic nervous system: This is responsible for most of the changes occurring in the fight and flight response. Sympathetic nervous system stimulates the organ of action through neurotransmitters. The neurotransmitters used in sympathetic nervous system are mainly epinephrine and nor epinephrine (Adrenaline and nor- adrenaline). These neurotransmitters stimulate the alpha and beta-receptors in the end organs there by regulating the function of the end organ. Sympathetic nervous system gets stimulated when an organism is exposed to stress. This activates the fight and flight response; i.e. the organism will be in a state of alarm or confusion when under stress this leads to a mass response from the S.N.S. The features of fight

and flight response are explained above. All the immediate responses of the body to stress are brought about by sympathetic nervous system.

Parasympathetic nervous system: This is mainly responsible for the inhibitory effects in the body. Acetylcholine transmitters and muscarinic and nicotinic receptors do it. After the threat perception has eased out the remaining homeostatic changes are managed by the parasympathetic nervous system.

ENDOCRINE SYSTEM

The main endocrine systems related to stress response are

1. Pituitary gland
2. Thyroid gland
3. Adrenal gland

The neuro cortical system stimulates the endocrine glands leading to a sequence of events as follows

Pituitary response: After the secretion of Corticotropin releasing hormone (C.R.H), Growth hormone releasing hormone (G.H.R.H), Thyrotropin releasing hormone (T.R.H) from the hypothalamus, Pituitary stimulates the secretion of

- a. Vasopressin
- b. Thyroid stimulating hormone
- c. Adrenocorticotrophic hormone
- d. Growth hormone

Vasopressin (Anti diuretic hormone): On secretion this hormone depletes the excretion of urine. They're by preventing excess loss of water and salts. It also brings about certain level of vascular constriction. But in the context of stress it is the vasoconstrictor effect of ADH hormone that comes into play.

TSH: This influences thyroid gland, which is the primary gland in increasing body metabolic rate, and catabolism of carbohydrates to counter the excessive demands of stress.

Adenocorticotrophic hormone: this activates the adrenal glands to secrete their hormones in response to stress

Growth hormone: G.R.H stimulates the liver to undertake increased gluconeogenesis, and increased catabolism of fats, for the production of more energy. But it also causes decreased utilization of glucose and as a result increased glycogen deposition.

THYROID RESPONSE

Thyroid gland secretes thyroxin hormones and Tri iodo thyroxine. Thyroxine increases the BMR , glycolysis they're by helping in the mechanism of countering the stress. This provides the body with instant energy and alertness according to the situation.

ADRENAL GLAND RESPONSE

Adrenal medulla secretes epinephrine and nor epinephrine on stimulation leading to a sequence of events of stress response. These actions are main undertakers of sympathetic stimulation. These hormones directly act on hormone sensitive triglyceride lipase that is present in abundance in fat cells and causes rapid breakdown of fats.

Adrenal cortex secretes mineralocorticoids and glucocorticoids.

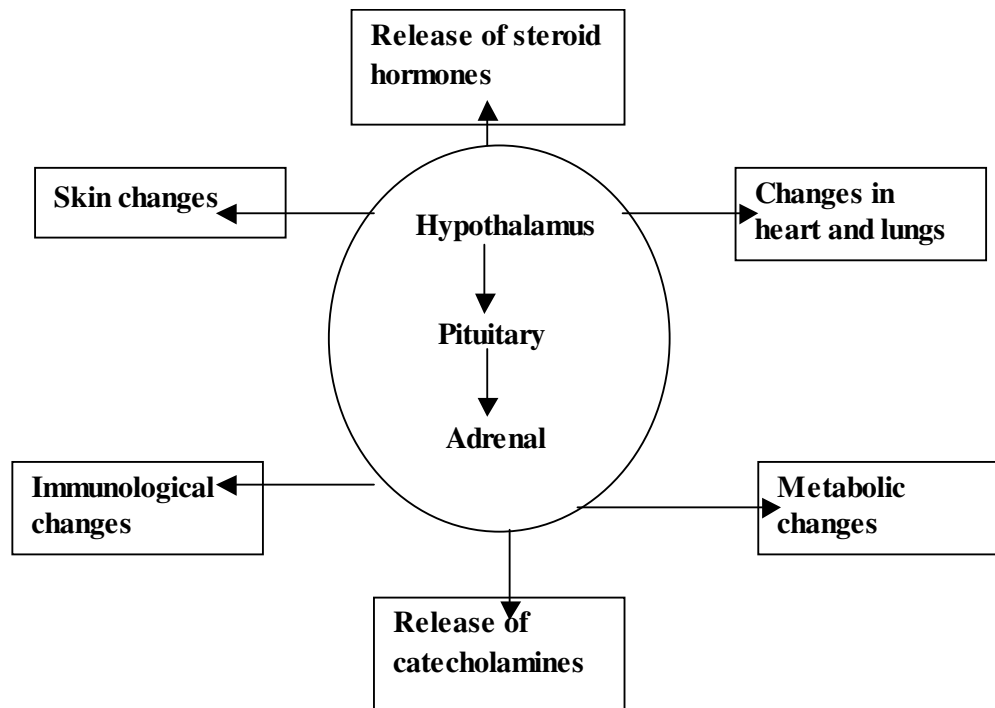
Glucocorticoids mainly cortisol monitors all the bodily activities in response to stress

Mineralocorticoids mainly aldosterone undertakes excretion of potassium ions and conservation of sodium ions and water.

This will initiate a series of anti stress activities like:

1. Gluconeogenesis: formation of carbohydrates from proteins
2. Protein mobilization
3. Fat mobilization
4. Stabilization of lysosomes

The sequence of events happening in response to stress can be summarized as follows



The Brain's Response to Acute Stress

In response stress, a part of the brain called the hypothalamic-pituitary-adrenal (HPA) system is activated.

Release of Steroid Hormones- the HPA systems trigger the production and release of steroid hormones (glucocorticoids), including the primary stress hormone cortisol. Cortisol is very important in marshaling systems throughout the body (including the heart, lungs, circulation, metabolism, immune systems, and skin) to deal quickly with the danger.

Release of Catecholamines- The HPA system also releases certain neurotransmitters (chemical messengers) called catecholamines, particularly those known as dopamine, norepinephrine, and epinephrine (also called adrenaline).

- Catecholamines activate an area inside the brain called the amygdala, which apparently triggers an emotional response to a stressful event.
- Neurotransmitters then signal the hippocampus (a nearby area in the brain) to store the emotionally loaded experience in long-term memory. In primitive times, this combination of responses would have been essential for survival, when long-lasting memories of dangerous stimuli would be critical for avoiding such threats in the future.
- During a stressful event, catecholamines also suppress activity in areas at the front of the brain concerned with short-term memory, concentration, inhibition, and rational thought. This sequence of mental events allows a person to react quickly to stress (It also hinders the ability to handle complex social or intellectual tasks and behaviors.)

The implications of stress pathology: as stress response occurs in every cell and tissue of the body.

Common conditions attribute to stress

- ▣ Gastritis
- ▣ Ulcerative colitis
- ▣ Irritable bowel syndrome
- ▣ Peptic ulcers
- ▣ Hypertension
- ▣ Diabetes mellitus
- ▣ Respiratory disorders
- ▣ Anxiety
- ▣ Depression
- ▣ Infections
- ▣ Cardiac disorders

HYPERTENSION

The etio pathology of hypertension takes place as follows

- ▣ Vasopressin released during stress has a significant contribution towards stress due to its anti diuretic effect i.e. due to sodium and water retention.
- ▣ The cardio accelerator affect of stress puts an extra load over the circulatory system there by acting as a supportive factor for stress
- ▣ The vasoconstriction caused due to stress also plays a role in hyper tension
- ▣ These along with various other stress induced mechanisms like increased BMR act as causative factors for stress.

DIABETES

- ▣ Increased sugar levels are seen whenever a person is under a stress. This is due to the mechanisms in the body, which make the sugar available extra energy needed
- ▣ Cortisol secreted by adrenal cortex during stress leads to productions of sugar from amino acids and glycerol. If this is a chronic symptom this might lead to a condition called adrenal diabetes.
- ▣ Type 2 diabetes can also be attributed due to constant load over the beta cells to secrete more insulin.

CARDIAC DISORDERS

- ▣ The vasoconstriction, water retentions and cardio acceleration seen in stress puts an extra load over the heart there by leading to a wide variety of cardiac disorders in the long run

INFECTION

- ▣ Stress has an immunosuppressor activity due to reduction in the number of T-lymphocytes and B-lymphocytes. This might result in susceptibility to infections in due course.
- ▣ Apart from these stress has various other long-range implications directly and indirectly. Important among these is the secretion of interleukin-1
- ▣ This is a macrophage secreted by macrophages of immune system
- ▣ But if stress continues for too long then negative feedback mechanism of Interleukin 1 comes into play.

- ▣ Increased I.L-1 stimulates the secretion ACTH and there by Cortisol, Glucocorticoids like are known immunosuppressant.
- ▣ This in the long run can seriously hamper the immune system of the body.
- ▣ Once the immune system is hampered it is like an open invitation to infections, which later on take their own course.

Auto immune disorders

If brain can't make enough of stress hormones to turn the immune system off when it doesn't have to be active anymore, then it will go on unchecked and result in autoimmune diseases like rheumatoid arthritis, lupus, or other autoimmune diseases.

Respiratory tract disorders

On exposure to external stressors there might be release of eosinophilic chemo tactic factor, bradykinin, and serotonin. These cause bronchodilation and reduced oxygen supply, which might contribute to respiratory disorders in long run.

Diseases of G.I.T

Stimulation of ANS and PNS in particular leads to a mass discharge of stimuli all over the body. This discharge will be seen because the body will be in a state of alarm and a quick discharge of reflexes is needed to deal with this state of emergency.

1. Intestointestinal reflexes that control some of the motor functions of the gut are activated
 2. Peritoneo intestinal reflexes that inhibit gastric motility in response to gastric irritation
 3. Evacuation reflexes for emptying bladder and colon
 4. Reflexes leading to increased vascular tone
 5. Reflexes to increase the gastric secretion

These reflexes when remain in on position for a long time.

- ▣ They affect the gastric mucosa and may cause Gastritis, ulceration, irritable bowel syndrome etc.

Diet problems

Stress can have varying effects on eating problems and weight.

Weight Gain

Often stress is related to weight gain and obesity. Many people develop cravings for salt, fat, and sugar to counteract tension and, thus, gain weight. Weight gain can occur even with a healthy diet, however, in some people exposed to stress. And the weight gained is often abdominal fat, a predictor of diabetes and heart problems. The release of Cortisol, a major stress hormone, appears to promote abdominal fat and may be the primary connection between stress and weight gain in such people.

Weight Loss

Some people suffer a loss of appetite and lose weight. In rare cases, stress may trigger hyperactivity of the thyroid gland, stimulating appetite but causing the body to burn up calories at a faster than normal rate.

Eating Disorders

Anorexia nervosa and bulimia nervosa are eating disorders that are highly associated with adjustment problems in response to stress and emotional issues.

Skin Disorders

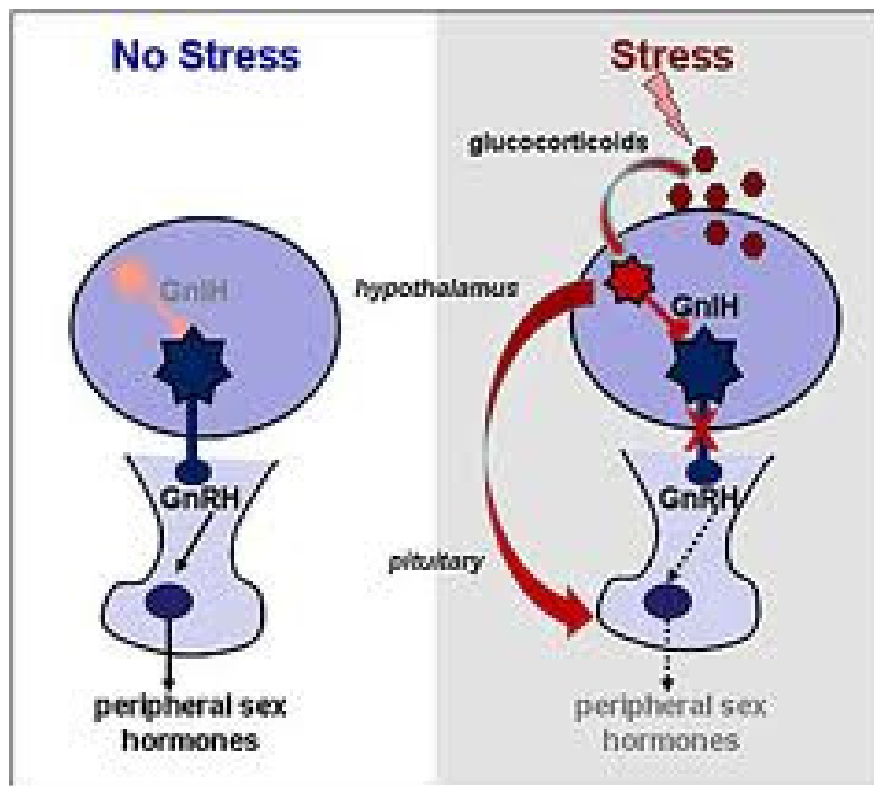
Stress plays a role in exacerbating a number of skin conditions, including hives, psoriasis, acne, rosacea, and eczema. Unexplained itching may also be caused by stress.

PSYCHOLOGICAL DISTURBANCES

- ☐ The intensity of stress when exceeds the bearable limits may lead to a variety of psychological disturbances.

Our actions, moods, thoughts are all play of A.N.S and hypothalamus. Stress directly hampers these two systems of the body, which might lead to:

- ☐ Anxiety neurosis
- ☐ Loss of sleep
- ☐ Mood swings
- ☐ Depression etc



The stress pathology does not just stop here these events will trigger of a series of other pathological events, which later on take an independent name and course. So it is also difficult to pinpoint etiology of stress on many such disorders.

STRESS & PSYCHOSOMATIC ILLNESS

The link between stress and illness is becoming well-known but the extent to which stress affects our health is often under-estimated. We all experience some form of stress to some extent from time to time but it does not always make us ill.

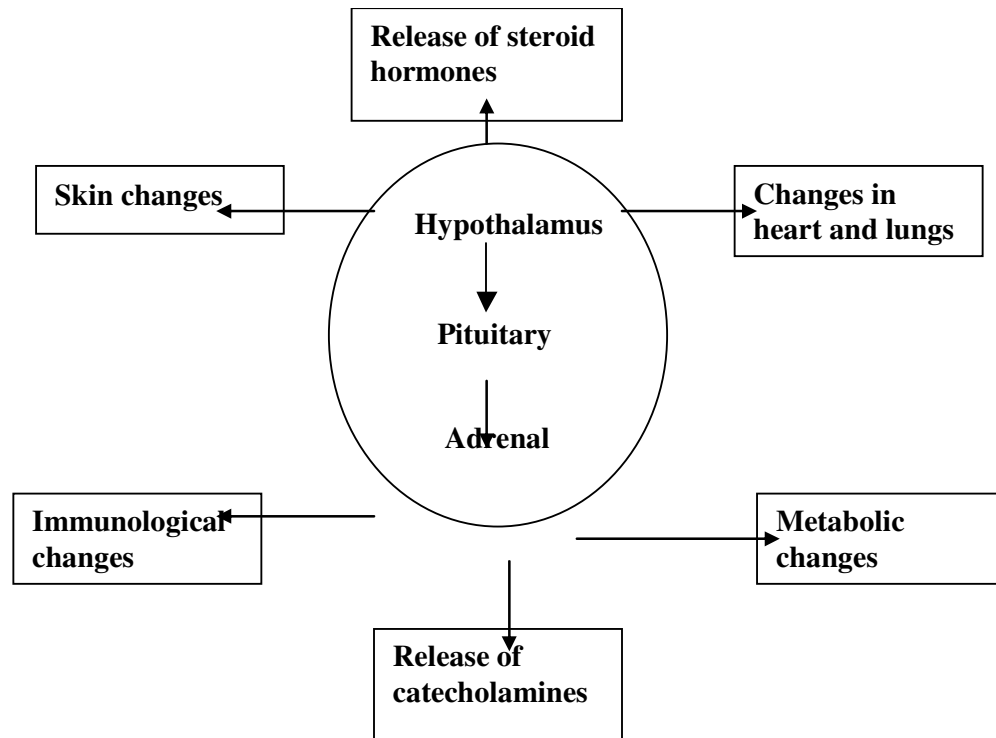
Psychosomatic illnesses can be classified in three general types:

- ❖ The first type includes people who have both a mental (psychiatric) illness and a medical illness, and these illnesses complicate the symptoms and management of each other.**

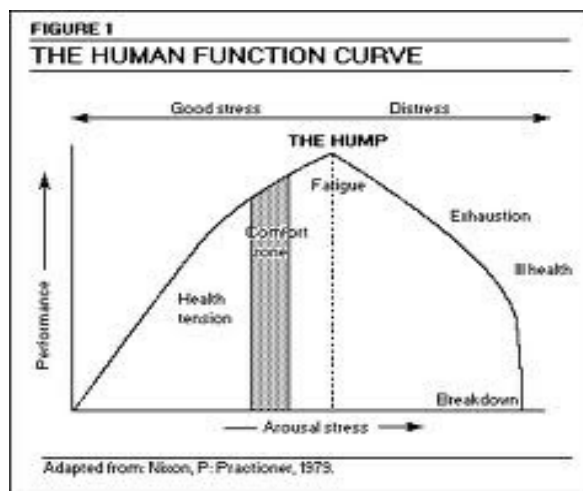
- ❖ The second type includes people who have a psychiatric problem that is a direct result of a medical illness or its treatment, such as having depression due to cancer and its treatment.**

- ❖ The third type of psychosomatic illness is somatoform disorders. Somatoform disorders are psychiatric disorders that are displayed through physical problems.**

STRESS REACTION



During prolonged stress, the body is forced to maintain higher levels of these natural chemicals which eventually results in burnout. This is where the term 'adrenal fatigue' comes from - the adrenal system literally becomes fatigued from having to operate in overdrive for long periods. How long we can operate under this stress reaction all depends on our tolerance for stress or our 'stress threshold'.



CONCEPT OF MANTRA

Mantra is a mystic syllable with esoteric meaning. It is extremely efficacious when it is pronounced properly with clear awareness of its meaning. It produces certain vibrations which alter the organic & mental states of an individual. It is also capable of altering the organic and mental states of other person. It is even capable of producing changes in the environment. Patanjali in Yoga Sutra 1.29 speaks that mantra leads to awareness of the indwelling spirit.

According to Swami Prabhavananda, repetition of the mantra is directed to the five senses --- eyes, ears, nostrils, tongue & skin---these organs become refined and the corresponding five perceptions----sight, hearing, smell, taste, touch -----become purified.

Sense objects constantly draw the mind outward causing distractions, agitations& suffering. When the sense organs become more imbued with Sattva---- purity and calmness---- this state of things changes. Then, whatever we experience through our senses"ll no longer agitate the mind.

Swami Vishnu Devanandas states that mantras are sanskrit invocations of the Supreme Being. Reinforced and propelled by japa, meditation; they pass from the verbal level through the mental & telepathic states and onto pure thought energy.

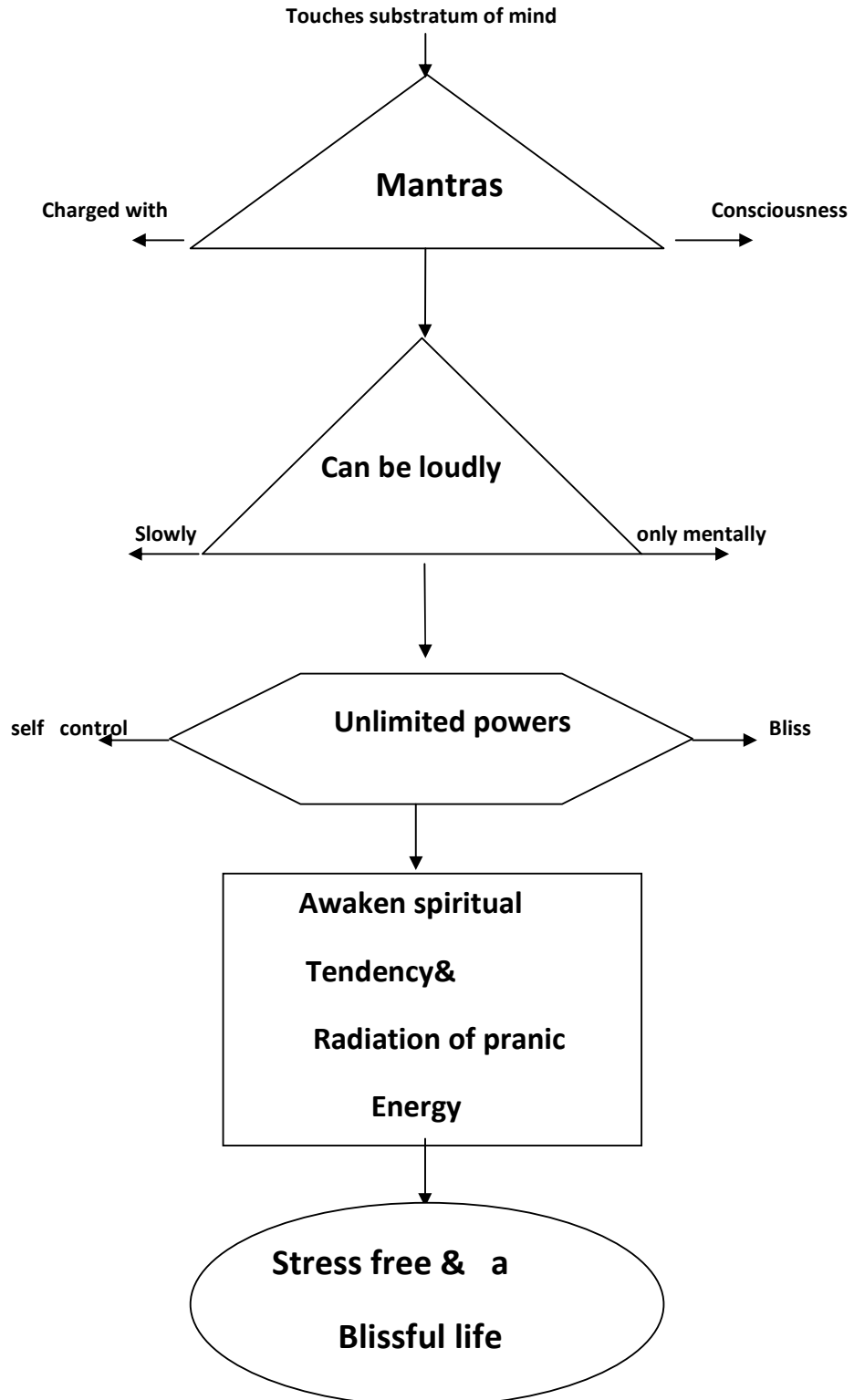
Swami Rama states that mantra is a syllable, a sound, a word, or set of words found in the deep state of meditation by the great sages. Those sounds which are received from the super conscious state lead the seeker higher and higher until he reaches the perfect silence. It makes one aware of higher dimensions of consciousness.

OM is the primordial spanda (vibration). All mantras have emerged out of it. OM is nature of pure light. All other mantras are also of the nature of light waves. "GAYATRI – MANTRA" is called as supreme medicine (manaushadhi) because it heals all diseases. Any sick person may be cured of his disease by just regularly reciting Gayatri mantra.

OM is the first syllable of gayatri mantra which the ancient Vedic seers used to recite. Pure consciousness is the source of gayatri mantra. Gayatri mantra symbolizes the sun. Anybody who habitually recites the gayatri mantra gets purified in his mind and body because the radiant energy of the mantra burns all the blemishes in his personality.

OM and the GAYATRI MANTRA have acquired such great importance that they are often referred to as 'Pranaya' & the gayatri just as Bhagvad- Gita is to as the gita. In Vedas, Upanishads, the Gita & the later literature, there are numerous references to the holiness, importance& significance of the Pranaya and the Gayatri. The whole of the Mandukya Upanishad is devoted to the delineation of the spirituo---philosophical significance of OM. When the body, senses, prana& mind become infused with Sattva by the practice of japa, it is then time to purify all objects and phenomena outside ourselves. The moon, sun& stars above, the

trees,flowers,streams,forests,hills,deserts& living beings on the earth or in water----- all of these endless segments as parts of the universe ----- can be purified by the mantras.



THE GAYATRI MANTRA

Gayatri Mantra was first written in Sanskrit language in the Rig Veda, 8000 B.C. Ancient scriptures suggest that this mantra was gifted by god to the Sage vishwamitra for his eons of deep meditation and penance. This was gifted as humanity for all.

The Gayatri Mantra

Aum : The divine sound of Aum teaches us that our individual consciousness is a subset of the Universal Consciousness, that pervades this Universe. Therefore we should live life in a manner that upholds the flag of Universal Consciousness.

“Bhoor”: teaches us to identify and modify those traits which deteriorate us and modify them with those that upbring us in an all round manner.

“Bhuvaha”: tells us to engage in actions and Karma that uphold the welfare of all.

“Svaha”: emphasizes the importance of developing a balanced thought process where we can face both joy and sorrow, pain and pleasure, profit and loss, good and bad with equanimity of character.

“Tat”: signifies that we should not overconsider the pleasures attained through the body and senses to be the be all and end all of our life. Their benefits are transient in nature and spiritual pleasures in contrast are lifelong and eternal.

“Savitur”: emphasizes that we gain wisdom, righteous intellect, good health, righteously gained wealth, righteously gained name and fame.

“Vareniyam”: suggests us to incorporate only those traits which are truly exalted.

“Bhargo” : tells us to incorporate purity in our overall body, mind, wealth, health, house, dress and behaviour .

“Devasya”: signifies developing a generous, divine and farsighted thought process.

“Dhimahi” : signifies developing the ability to imbibe good characteristics,divine glories and wise thinking.

“Dhiyo” : refers to development of our intellect . It signifies to us that we should not blindly follow an individual, ritual, literature or sect just because a crowd of people is doing so. Instead we should apply discriminating intellect to understand what is just and right and follow the same.

“Yonaha” : signifies to us that we should imbibe all good qualities for not just our well being but also for the benefit of those around us.

“Prachodayaat” : signifies the quality of Inspiration. It signifies to us that we live our life in such a way that we are a source of inspiration to others, so that they too may live life in the same righteous, wise way.

GLORY OF GAYATRI MANTRA

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SCIENTIFIC BASIS OF GAYATRI CHANTING

The syllables of Gayatri mantra are sung by various parts of the mouth such as larynx, tongue, teeth, lips and the root of the tongue. During speech, the nerve-fibres of the particular parts of the mouth from which sound emits stretch up to various parts of the body and exert pressure on the corresponding glands. There are various large, small, visible and invisible glands in the body. Uttering of different words has its impact on different glands and by such impact the energy of these glands gets stimulated.

The chanting of Gayatri Mantra stimulate the overall network of nerves in the mouth and activate specific glands. In Gayatri-Mantra, the twenty four letters are related to twenty-four such glands located in the body which, on getting stimulated, activate and awaken the powers of mind for righteous wisdom (satva guna). This modifies the individual’s personality out of the rajas and tamas pradhan prakruti towards satva pradhan prakruti (It removes ignorance from the subconscious and thus helps in the emergence of light of spirit within the individual soul) .

Gayatri mantra is the most important and sacred among the mantras . It has immense material and spiritual benefits. Gayatri mantra is a compact mantra having three parts. That is why it is called tripada . Its simple meaning is - “We behold the illuminating brilliance of Lord Savita (Sun). May He inspire our minds into the righteous path.” In the last part of the mantra "dhiyo yo nah prachodayat " there is a prayer for buddhi or intellect (satva). The sublimity of human life lies in the upliftment of satva i.e., intellect.

MANAGEMENT OF STRESS ACCORDING TO AYURVED

Stress can be described as a mental or emotionally disruptive condition that generally occurs in response to some adverse external or internal influence. It is the greatest threat to the well being of people and ultimately affects the physical health, manifesting itself in the form of increased heart rate, raised blood pressure, irritability, anger, fear or depression. Stress is an integral part in the modern lifestyle, due to the hectic schedule and the need to balance our personal and professional life. Since the idea of banishing stress from life seems impossible, especially in these modern times, a more important area of focus is to manage that stress. This is possible with Ayurveda techniques, especially when done alongside key lifestyle changes.

Stress has become a common reality in our culture but the truth is that *Rajas* has overwhelmed our culture and societies...Technology naturally creates more distraction and *Rajas*. Rather than trying to cope with distraction we should cultivate *Sattvic* qualities and the stress will dissipate by itself. This is exactly how an Ayurvedic Therapist treats a patient with psychosomatic illness.

Essentially we are immature in our approach to the problem on an individual level and cultural level. Five hundred Years in the western hemisphere may seem like a long time but not compared to 5000 years of recorded wisdom. Our medical system is not much better when dealing with stress. *Sattvic* diet, *Sattvic* Colors, *Sattvic* environments, and *Sattvic* Activities are the long term cure for Stress. *Sattvic* Diet is explained in many popular books of Ayurveda today...It is the most pure and healthy diet. *Sattvic* Colors can be used in many forms. Most vibrational remedies like Floral Essences, Gem Elixirs, Aroma Therapy, Crystal therapy, are based on understanding the meaning and nature of colors of flowers, minerals etc. Color is vibration after all. The original vibrational remedy is sound in the form of *mantra* (special sounds in the *Sanskrit* language that have the ability to change the architecture of the mind). This is one of the principle supports or adjuncts of meditation. *Sattvic* Environments are usually in nature and in isolation. Waterfalls are highly *sattvic* and the beach at sunrise when the ozone is fresh in the air is very *satvic*, These qualities have been used for centuries to create artificial spaces that are highly *sattvic*...*Ashrams*, *temples*, *parks*, *nature preserves* etc...this can be done in one's home and is very effective if it is used in healing environments like clinics, offices, detoxification centers, and rest spaces in work environments. Rather than focusing on a coffee pot (a *Rajasic* substance) there can be a quiet natural space with fountains and refreshing colors.

Sattvic activities can be the most healing treatment. Meditation is the most *sattvic* activity possible. Meditation can be adapted for countless conditions. Visualization is a part of meditation that is easily taught to patients that leads to healing. Positive thinking is a natural side effect of meditation. It has been proven that laughter increases immunity.

By combining ancient wisdom with the preconscious energy of our western culture, we can find that none of this is alternative but really just complementary.

MANAGEMENT OF STRESS IN YOGA

Yoga for Stress Relief:

Dating back over 5000 years, yoga is the oldest defined practice of self development. The methods of classical yoga include ethical disciplines, physical postures, breathing control and meditation. Traditionally an Eastern practice, it's now becoming popular in the West. In fact, many companies, especially in Britain, are seeing the benefit of yoga, recognizing that relaxed workers are healthier and more creative, and are sponsoring yoga fitness programs.

योगः चित्तवृत्ति निरोधः ।

Yoga is the means of gaining control over aberrations of mind

Yoga mainly helps have a harmonious mind-body-sync.

Yoga is the means by which we can gain normalcy over our body mechanism

Stress is something that occurs due to failure to gain control over mind.

Yoga corrects this problem or in other words corrects homeostatic imbalance.

आसनेन रुजं हन्ति प्राणायामेन पातकं ।

विकारं मानसं रोगि प्रत्याहारेण मुचति ॥ (योग चूडामणि)

The above Shloka says that asana help in gaining control over pain; pranayama helps to gain control over mind and prevents us from doing sinful acts and pratyahara helps in controlling aberrations of mind

The simplest way to control stress is to have a control over oneself i.e to gain control over the way the body responds to stress and the simplest way to do this is through yoga

Various researches have been carried out on this in the allied fields.

It has been proved that yoga is one of the best ways to counter stress.

Yoga along with its ashtangas has proven to be an effective stress remedy. A combined practice of physical postures, breathing exercises and meditation in a sequence is the best compromise to meet the present day needs of the society. The results of these practices can be enhanced much more if one follows all the recommended restraints and observances in everyday life.” The restraints and observances are the yamas and niyamas of classical Yoga. The ethics and morality (Acaras) explained in the traditional texts help lay a groundwork for moderate, compassionate living which is the need of the hour.

Overview of Yoga

Many of the popular techniques found to reduce stress derive from yoga:

- controlled breathing
- meditation
- physical movement
- mental imagery
- stretching
- Yoga, which derives its name from the word, “yoke”—to bring together—does just that, bringing together the mind, body and spirit. But whether you use yoga for spiritual transformation or for stress management and physical well-being, the benefits are numerous.

Few asana found to be useful in stress are as follows

Bhujangasana

This posture promotes flexibility in the spine and encourages the chest to open.

Halasana

Plow Pose reduces backache and can help you get to sleep.

Pincha Mayurasana

this pose is so called because it looks like a peacock dancing with its tail feathers fanned out.

Salamba Sirsasana

Standing on the head in proper alignment calms the brain and strengthens the body.

Shavasana

Shavasana is a pose of total relaxation.

Setu Bandha Sarvangasana

This active version of Bridge Pose calms the brain and rejuvenates tired legs.

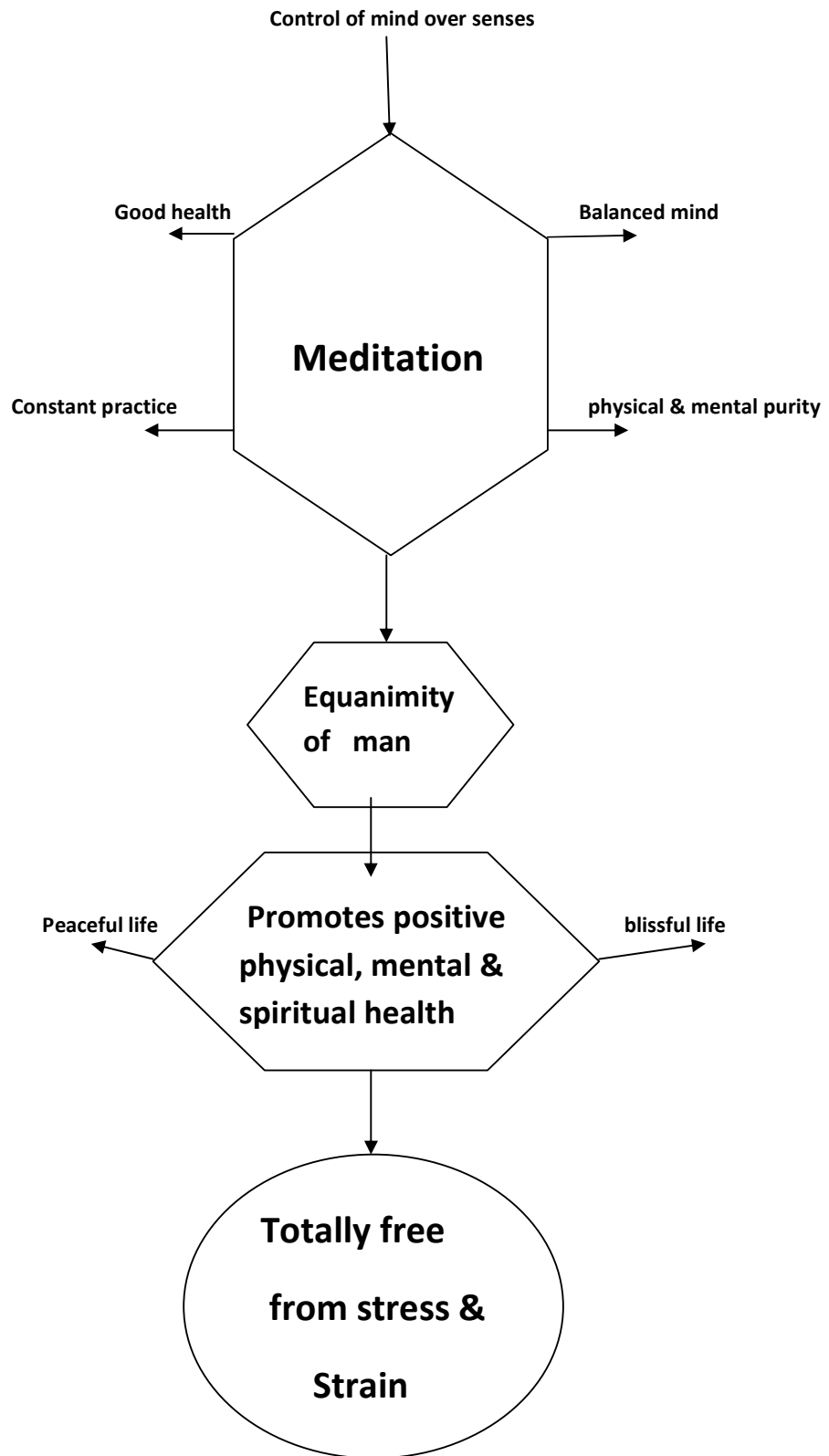
Uttanasana

literally translated as intense stretch pose, Uttanasana will wake up your hamstrings and soothe your mind.

MANAGEMENT OF STRESS VIA MEDITATION

“Meditation is the only royal road to the attainment of freedom. It is a mysterious ladder which reaches from earth to heaven, from error t truth, from darkness to light, from pain to bless, from ignorance to knowledge, from mortality to immortality.”

----- Swami Sivananda Bliss Divine



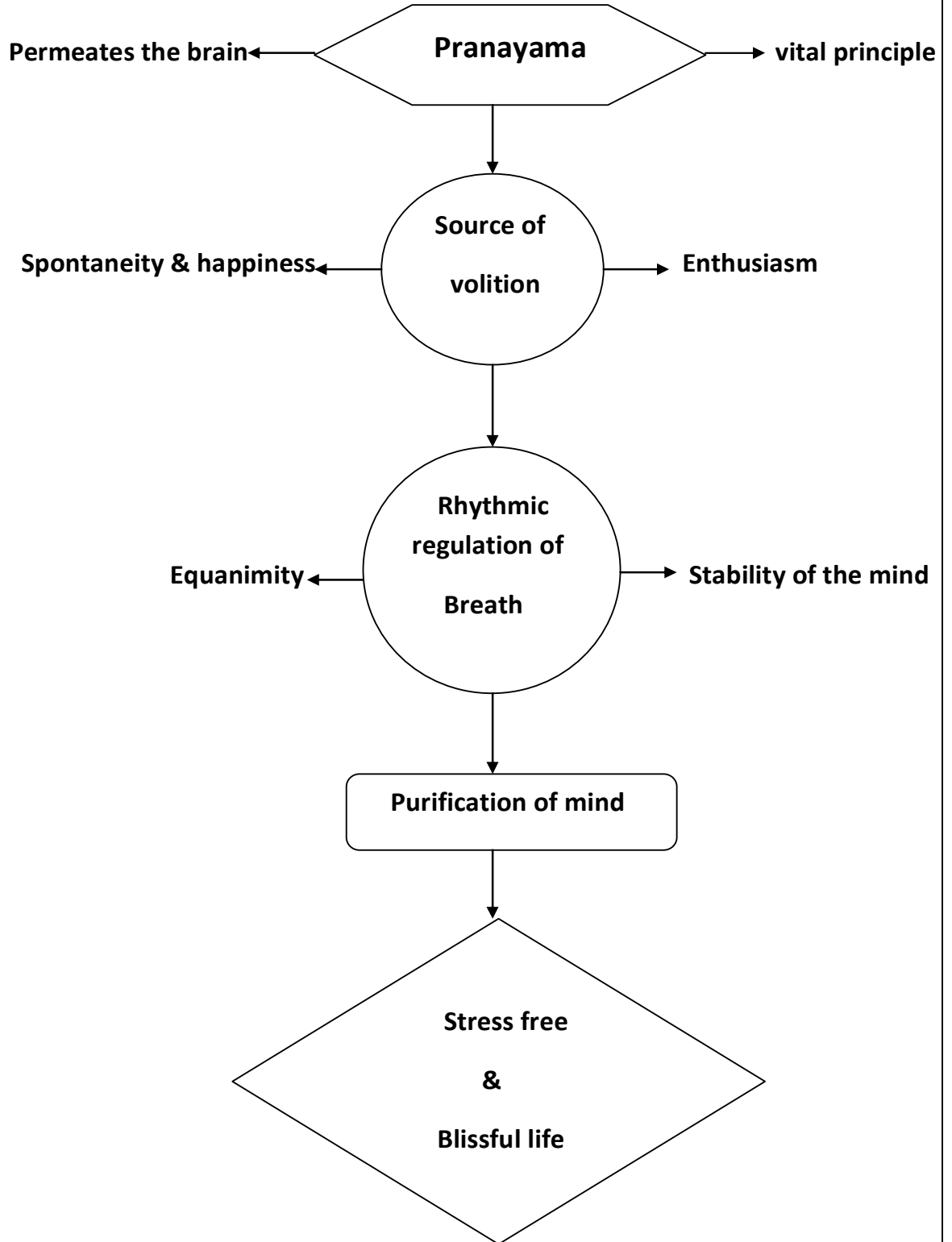
ROLE OF PRANAYAMA IN STRESS MANAGEMENT

..... By rhythmic breathing and controlled thought, you are enabled to absorb a considerable amount of prana (vital energy) and are also able to pass it into the body of another person, stimulating weakened parts and organs & imparting health and driving out diseased conditions.

----- Yoga Ramacharaka

The Science of Psychic Healing

This is a reference to the practice of pranayama as a method of purification. Regulation of breath gives control over the thought waves which is directly related to control of mind. There are many pranayama exercises each of which has a special effect on the autonomic nervous system and the psyche.



MANAGEMENT OF STRESS VIA COMPLEMENTARY THERAPIES

Acupuncture

Acupuncture involves stimulating specific locations on the skin, usually by inserting thin, disposable metallic needles into points along the meridians in the body in order to alter the flow of energy. Other methods of stimulating the skin may also be used, including finger pressure (also known as acupressure or *shiatsu* in Japan), *cupping* with small heated cups, *electro acupuncture* with electrically-stimulated needles, and *moxibustion* with smoldering fibers of an herb called "Asian mugwort."

Of approximately 400 acupuncture points on the body, approximately four to 12 are stimulated in a single treatment session. It generally takes six to 10 sessions to determine if the treatment is going to be beneficial.

Massage Therapy

Releasing the tension from our muscles is one way to manage our stress. When you take the time to rub out your muscles, you will release not only tightness in the body, but tightness in the mind. Stress Monitor before and after the massage to see the difference in your stress.

Spiritual Gatherings as another Form of Stress Management

Some people say that finding some sense of spirituality is the best form of stress management. No matter what you might believe or how you might want to practice, having some sort of community in which you can talk with others about your feelings will help to reduce stress.

Music therapy

Every one of us has been affected by sound at one or the other point in profound or discrete way somewhere in our life. Pleasing sound or music generates positive emotions in a person and 'noise' generates unpleasant or negative emotions in a person.

Music has been traditionally used to soothe the mind as a pacifier or as a motivator right from the time of ancient civilizations to the present era of digital music.

Certain ragas have been tried following results were arrived at.

RAGA MALHAR: This was found to be useful over anger and stress

RAGA MADHYAMAVATI: this relieved tension and anxiety

RAGA NEELAMBARI: In sleeplessness

RAGA MOHANA: In migraine

These startling discoveries can be attributed to the fact that music helps a person to let out his hidden emotions, which may have been suppressed for a long time. In the same way 'mantras' or religious 'hymns' have also proven themselves to be effective in relieving stress and anxiety.

Aroma therapy

We may have ourselves experienced many times a nauseating effect on being exposed to 'foul smell'. This simple thing illustrates how instantly smell can affect us physically.

Specially formulated aromas have been developed these days for curing various physical and mental illnesses. In Ayurveda also we have seen smells been given importance in treatment aspect.

According to Robert Frawley's book "Ayurveda and mind" Sandal wood oil and lotus flower oil are helpful in Vata prakṛti persons

In pitta prakṛti persons Rose and champak oils have been said to be effective

Camphor and henna oils are effective in kapha prakṛti people who are under stress.

Touch & gem therapy

Touch can prove magical at times. Just like a gentle touch will be reassuring and caring, gems have been used traditionally to cure illnesses. This combines a combination of celestial powers and the psychological powers to gain useful effects.

In Ayurveda too we can find extensive usage of these gems in the field of rasashastra by their internal intake and wearing of these gems.

Vidruma or red coral has been traditionally used to strengthen the will and vitality in a person. Wearing of pearl or mouktika will give calmness and peace to the mind. Tarkshya or emerald represents mercury and is known to increase the balance and judgmental perception in a person. Pushyraga or yellow sapphire represents Jupiter and gives wisdom strength and creativity to a person. Diamond gives sensitivity and love to a person where as Saturn gives patience and detachment of tension.

Color therapy_T

his therapy uses color to affect any imbalances in your energy vibrations caused by stress or ill health. Every color has its own frequency of vibration as does every other living thing including our own bodies. When imbalance or disruption occurs in our energy vibrations, such as during stressful times or periods of ill health, it is believed that certain colors can help to re balance these energies. Colors which help with stress reduction are:

- **Red – uplifting**
- **Yellow – Helps with clear thinking and self control**
- **Green – relieving nervous tension**
- **Blue – calming**
- **Indigo – reduces anger**

SPIRITUAL ENLIGHTENMENT

तद्विद्धि प्रणिपातेनपरिप्रश्नेनसेवया ।

उपरक्ष्यन्तितेजानंज्ञानिनस्तत्त्वदर्शिनः ।। भगवद् गीता 4/34

Understand the true nature of that knowledge approaching illumined soul. If you prostrate at their feet, render them service & question them with an open heart, those wise seers of truth will instruct you in that knowledge. Control over senses to avoid any temptation to do wrong actions.

योगयुक्तोविशुद्धात्माविजितात्माजितेन्द्रियः ।

सर्वभूतात्माकुर्वन्नपि न लिप्यते ।। भगवद् गीता 5/7

Untill the mind & senses are fully controlled and perfect purity of heart is attained, one cannot be called a real karmyogi.

Loyalty and integrity

Loyal devotion, knowledge of the things necessary for the state, clear decision to promote them and absence of greed, he who has these four gifts must be implicitly trusted by the king says Chanakya in Arthashastra.

No temptation to take credit for action/results .Public officials should not be tempted to personify them for results to come into limelight. This would add to the impurities in mind to make him proud.

युक्तः कर्मफलं त्यक्त्वा शान्तिमाप्नोति नैष्ठिकीन् ।

अयुक्तः कामकारेण मलं सक्तो निबध्यते ।। भगवद् गीता 5/12

Offering fruit of action to God the harmony attains everlasting peace in the shape of god --- Realisation, whereas he who works with a selfish motive, being attached to the fruit of actions through desire , gets tied down.

HUMAN EXCELLENCE –A PRE REQUISITE FOR STRESS FREE LIFE

Actual definition of excellence is found in ancient Sanskrit literature, which is permanent and based on spirituality. Excellence is not a figment of imagination incapable of being achieved at any stage. Human excellence is based on human strength & not human wellness.

Here are some great components quoted by Swami Vivekananda:

1. CHARACTER

*“Some say knowledge is power,
Others say, the above is not true,
Character is power & wealth”-SatyaSai Baba*

Excellent character is first & foremost quality of a man of excellence. It is very difficult to remain firm in character.

येयंप्रेतेविचिकित्सामनुष्येडस्तीत्येकेनायमस्तीतिचैके ।

एतद्धि घामनफशिष्टस्त्वयाडहंवराणामेषवरस्तृतीयः ॥

कथा उपनिषद् 1.1: 20

A boy of eleven years wanted to know truth about man:

All good character traits have a common denominator of social courage, usefulness, common sense besides self-acceptance & self confidence. Men of character may not be popular, but they are respected and followed.

2.USE OF INTELLECT:

बुद्ध्या युक्तो यथापार्थकर्मबन्धंप्रहास्यसि । भगवद् गीता2/39

‘Being endowed with such intellect you’ll get rid of the bondage of actions OPartha’.Buddhi alone has the capacity to determine the real nature of an object. In the path of knowledge, the aspirant has to realize the truth by constant reasoning. Intelligent people always choose the path of selfless work using their discriminative faculty.

3. POSITIVE ATTITUDE

The person of excellence should develop a positive attitude and firm faith in himself & scriptures. This will create respect towards scriptures & such person would welcome challenges and solve them intelligently.

शास्त्रस्य गुरुवाक्यस्य सत्य बुद्धयवधारणम् ।

सा श्रद्धाकथितासभिदर्यावस्तुः उपलभ्यते ॥ विवेकचूडामणि 25

The firm conviction that the words of the scriptures and the guru are true, is called *shraddha*, by which the real is attained.

4. SELFLESSNESS

When we pray for welfare of others, all our pity and selfish feelings go away and our intellect expands. There are many prayers in the Vedas & the puranas such as:

सर्वेभवन्तुसुखिनः सर्वेसन्तुनिरामयः ।

सर्वेभद्राणि पश्यन्तुमाकश्चिद् दुःखभाग् भवेत् ॥

“May all be happy,

May all be free from disease,

May all realize what is god,

May none be subject to misery.”

Pursuit of knowledge

A person is great not because of money but because of knowledge. A beautiful verse in *chanakyaniti*:

ज्ञाननराणामधिकोविशेषः

ज्ञानेनहीनाः पशुभिः समानाः ॥ XVII—17

‘What distinguishes a man from an animal is his capacity to acquire knowledge. Without knowledge man are equal to animals.

Performance of one's duty without attachment:

तस्मात्सक्तः सततः कार्यकर्मसमाचर ।

असक्तोहाचरन् कर्मपरमाप्नोतिपुरुषः ।।भगवद् गीता3/19

Therefore go on efficiently doing ur duty without attachment.By doing work without attachment man attains thw supreme i.e. excellence.

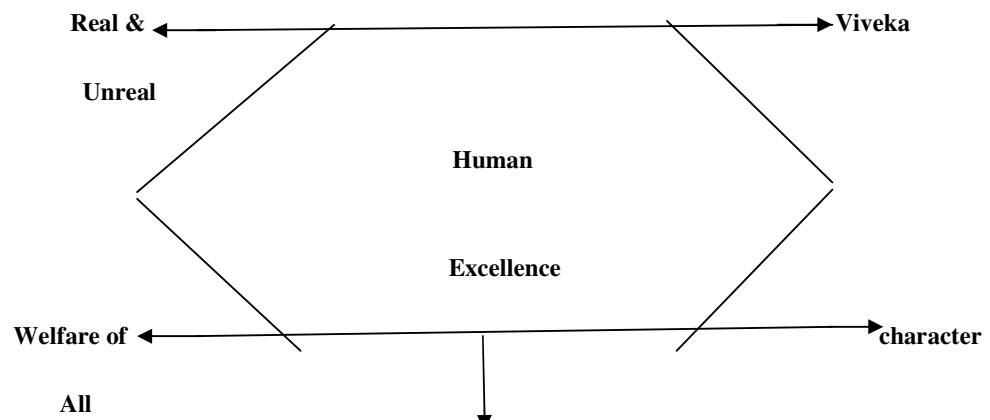
Honesty

मयिसर्वाणिकर्माणिसंन्यस्याध्यात्मचेतसा ।

निराशीनिर्ममोभूत्वा युध्यस्व विगतज्वरः ।।भगवद् गीता3/3

Therefore ,so long as while performing actions or enjoying their fruit, a participant is found to have the feeling of possession & desire with regard to those actions and their fruit & so long as his mind is subject to morbid feeling such as attraction and repulsion,joy& grief etc. It should be clearly understood that all his actions have not been dedicated to god

Discrimination b/w



Right Knowledge

Right Action

Harmony b/w oneself & Cosmos

No scope for tensions/stress in oneself & others

← **Life of bliss** → **life of beauty**

(Bhagavad Gita3/3)

OBSERVATIONS AND STATISTICAL ANALYSIS

Statistics is the most important and effective tool of portraying findings in any research. Statistics helps to evaluate the research findings and its significance in a proper manner. In the present chapter the findings from the study were evaluated using proper tests and depicted using diagrams

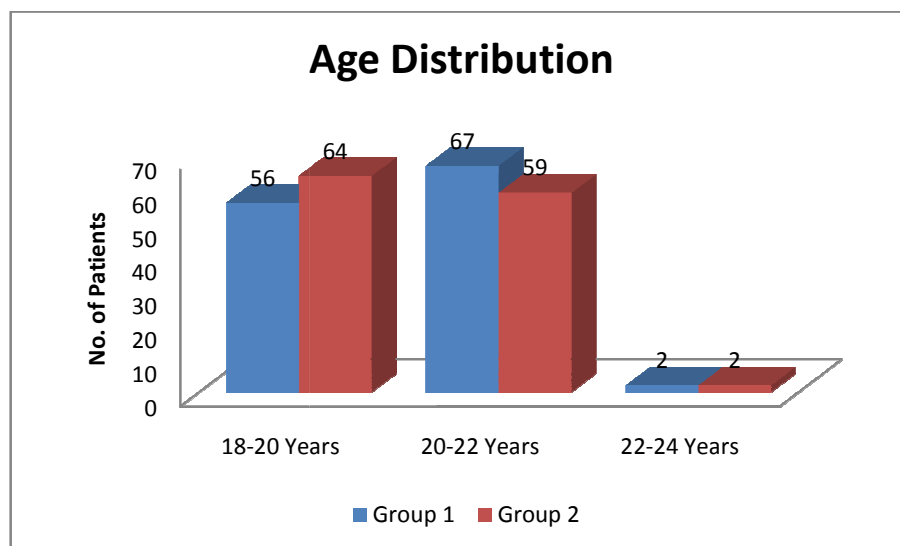
OBSERVATION OF PRACTICAL WORK

Total 250 subjects were taken for the experiment and the study was divided into two groups of 125 subjects each.

Here are the observations on the basis of distribution on age in both groups.

AGE DISTRIBUTION

Age Group	Group 1		Group 2	
	Frequency	Percentage	Frequency	Percentage
18-20 Years	56	44.8	64	51.2
20-22 Years	67	53.6	59	47.2
22-24 Years	2	1.6	2	1.6
TOTAL	125	100	125	100



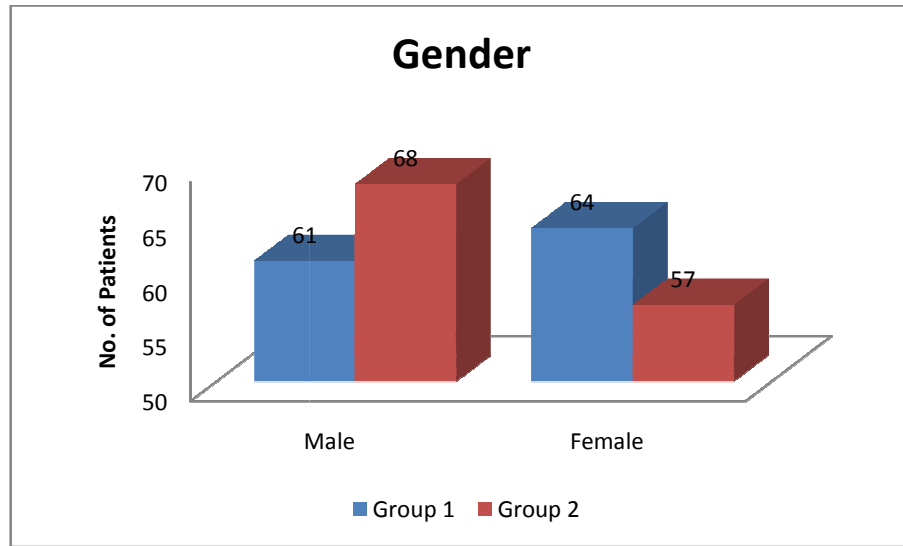
In Group 1, out of 125 patients, 56 (44.8%) belongs to age group 18-20 years, 67 (53.6%) patients belongs to age group 20-22 years and 2(1.6%) patients belongs to age group 22-24 years.

In Group 2, out of 125 patients, 64 (51.2%) belongs to age group 18-20 years, 59 (47.2%) patients belongs to age group 20-22 years and 2(1.6%) patients belongs to age group 22-24 years.

GENDER DISTRIBUTION

Gender	Group 1		Group 2	
	Frequency	Percentage	Frequency	Percentage
Male	61	48.8	68	54.4
Female	64	51.2	57	45.6
TOTAL	125	100	125	100

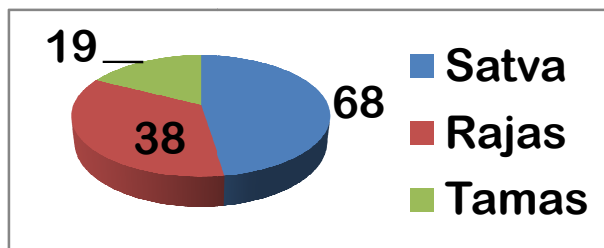
In Group 1, 61 (48.8%) patients were male and 64(51.2%) patients were female while in Group 2, 68 (54.4%) patients were male and 57 (45.6%) patients were female.



ANALYSIS OF GROUP 1

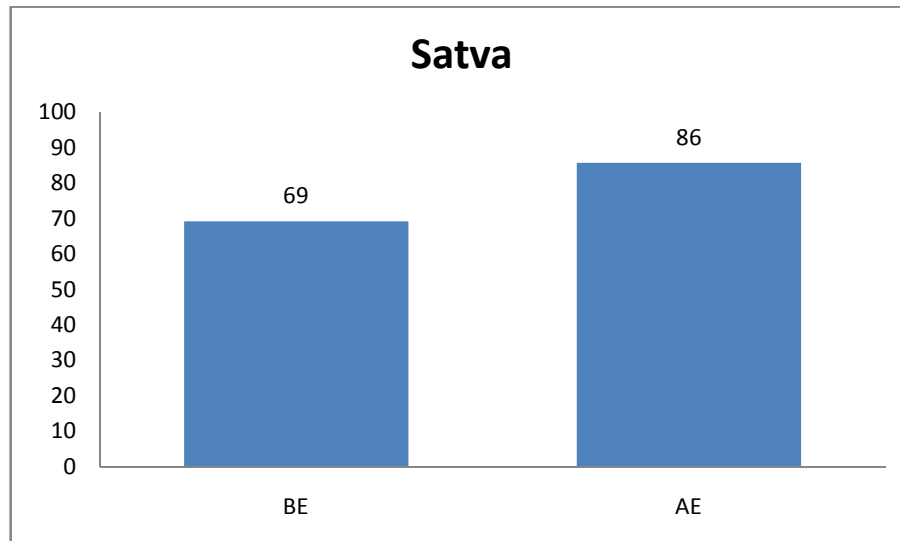
Group I

- ⊙ On the basis of Standard,authentic,reliable manas prakruti questionnaire,assessment of satva pradhan prakruti,Rajas pradhan prakruti and tamas pradhan prakruti was done
- ⊙ Satwa pradhan prakṛuti – 68subjects
- ⊙ Rajas pradhan prakṛuti – 38subjects
- ⊙ Tamas pradhan prakṛuti –19subjects



ANALYSIS OF SATVA IN GROUP I

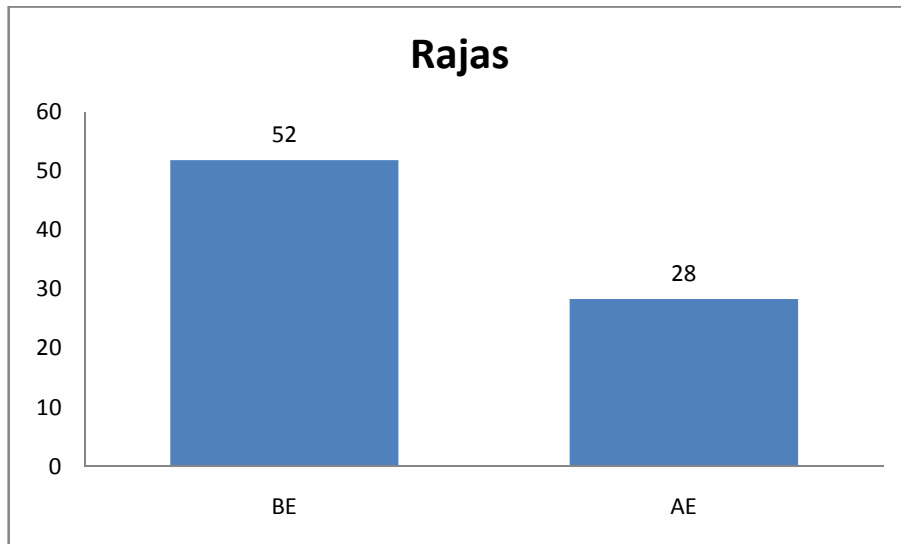
Satva	Mean	N	Std. Deviation	Std. Error Mean	Z-Value	P-Value
BE	69	125	8.68	0.78	-31.73	0.000
AE	86	125	7.47	0.67		



Since sample size was more than 30 hence we have used Z-test to test the change in Satva percentage in Group 1. From above table we can observe that P-Value is less than 0.05 hence we conclude that there is significant change in Satva percentage. Mean before experiment was 69% it is significantly increased to 86%.

ANALYSIS OF RAJAS IN GROUP I

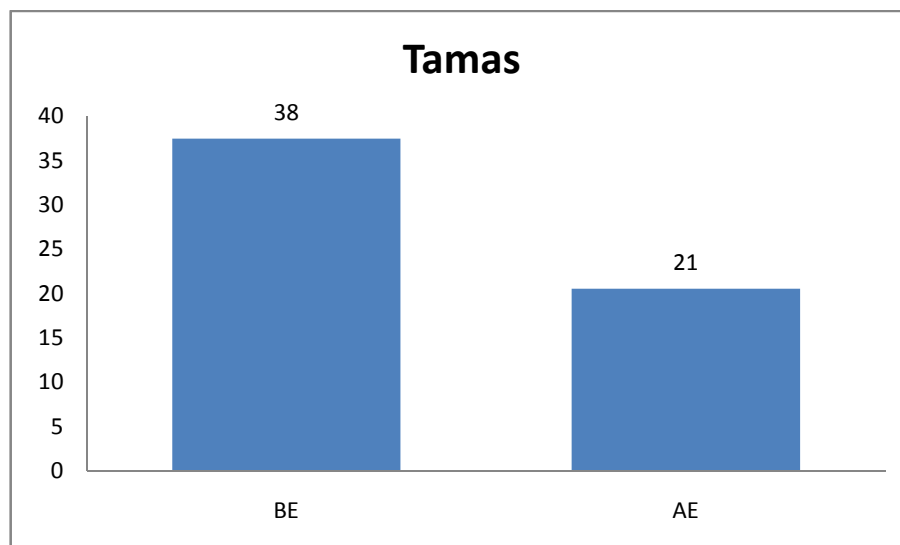
Rajas	Mean	N	Std. Deviation	Std. Error Mean	Z-Value	P-Value
BE	52	125	20.39	1.82	23.23	0.000
AE	28	125	12.69	1.14		



Since sample size was more than 30 hence we have used Z-test to test the change in Rajas percentage in Group 1. From above table we can observe that P-Value is less than 0.05 hence we conclude that there is significant change in Rajas percentage. Mean value before experiment was 52% it is significantly decreased to 28%.

ANALYSIS OF TAMAS IN GROUP I

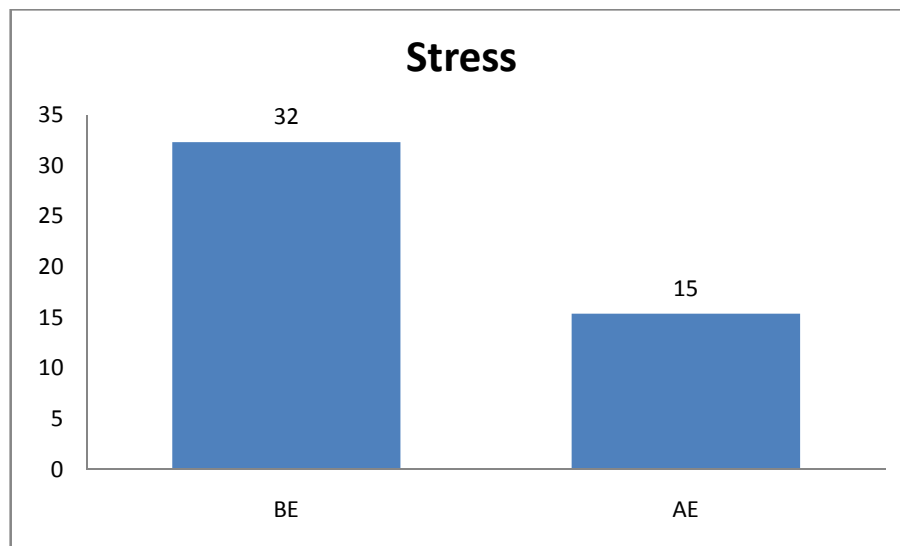
Tamas	Mean	N	Std. Deviation	Std. Error Mean	Z-Value	P-Value
BE	38	125	18.42	1.65	18.06	0.000
AE	21	125	10.66	0.95		



Since sample size was more than 30 hence we have used Z-test to test the change in Tamas percentage in Group 1. From above table we can observe that P-Value is less than 0.05 hence we conclude that there is significant change in Tamas percentage. Mean value before experiment was 38% it is significantly decreased to 21%.

ANALYSIS OF STRESS IN GROUP I

Stress	Mean	N	Std. Deviation	Std. Error Mean	Z-Value	P-Value
BE	32	125	8.05	0.72	31.99	0.000
AE	15	125	4.52	0.40		

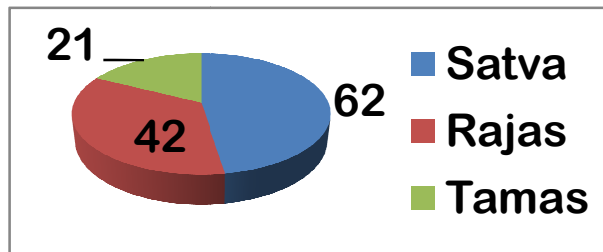


Since sample size was more than 30 hence we have used Z-test to test the change in stress in Group 1. From above table we can observe that P-Value is less than 0.05 hence we conclude that there is significant change in stress. Mean value before experiment was 32 it is significantly decreased to 15.

ANALYSIS OF GROUP 2

Group II

- ⊙ On the basis of Standard, authentic, reliable manas prakruti questionnaire, Assessment of satva pradhan prakruti, Rajas pradhan prakruti and tamas pradhan prakruti was done.
- ⊙ Satva pradhan prakruti – 62 subjects
- ⊙ Rajas pradhan prakruti – 42 subjects
- ⊙ Tamas pradhan prakruti – 21 subjects



- ⊙ Assessment of galvanic skin resistance was done using the psychogalvanometer

ANALYSIS OF SATVA IN GROUP II

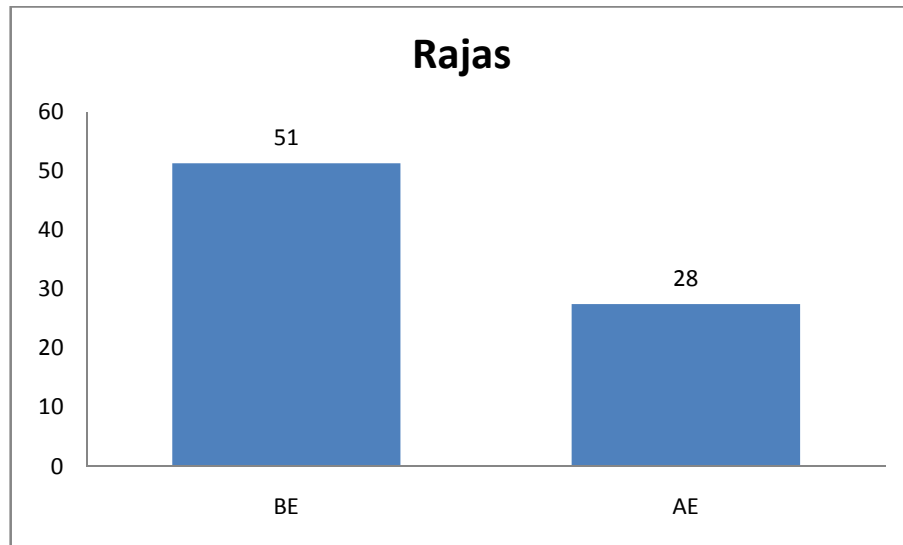
Satva	Mean	N	Std. Deviation	Std. Error Mean	Z-Value	P-Value
BE	69	125	8.38	0.75	-32.10	0.000
AE	86	125	6.90	0.62		



Since sample size was more than 30 hence we have used Z-test to test the change in Satva percentage in Group 2. From above table we can observe that P-Value is less than 0.05 hence we conclude that there is significant change in Satva percentage. Mean value before experiment was 69% it is significantly increased to 86%.

ANALYSIS OF RAJAS IN GROUP II

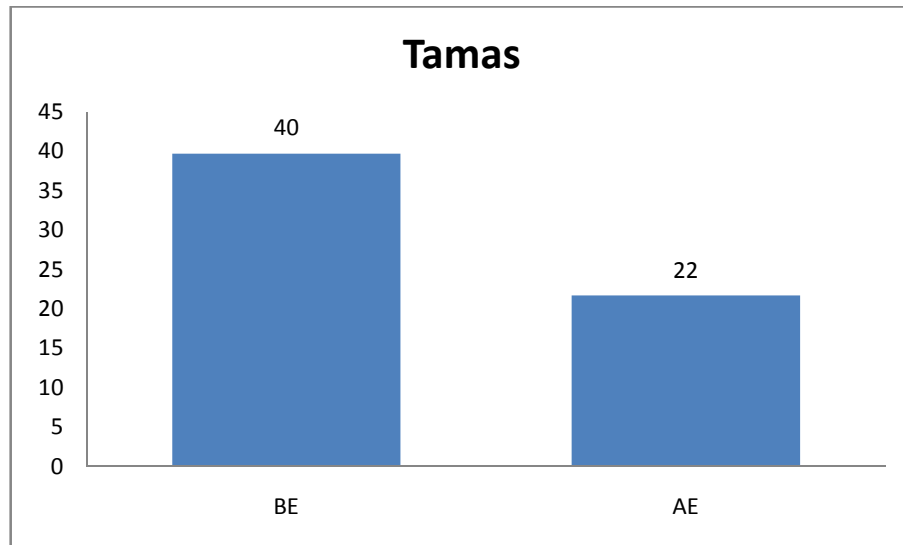
Rajas	Mean	N	Std. Deviation	Std. Error Mean	Z-Value	P-Value
BE	51	125	20.47	1.83	22.60	0.000
AE	28	125	12.38	1.11		



Since sample size was more than 30 hence we have used Z-test to test the change in Rajas percentage in Group 2. From above table we can observe that P-Value is less than 0.05 hence we conclude that there is significant change in Rajas percentage. Mean before experiment was 51% it is significantly decreased to 28%.

ANALYSIS OF TAMAS IN GROUP II

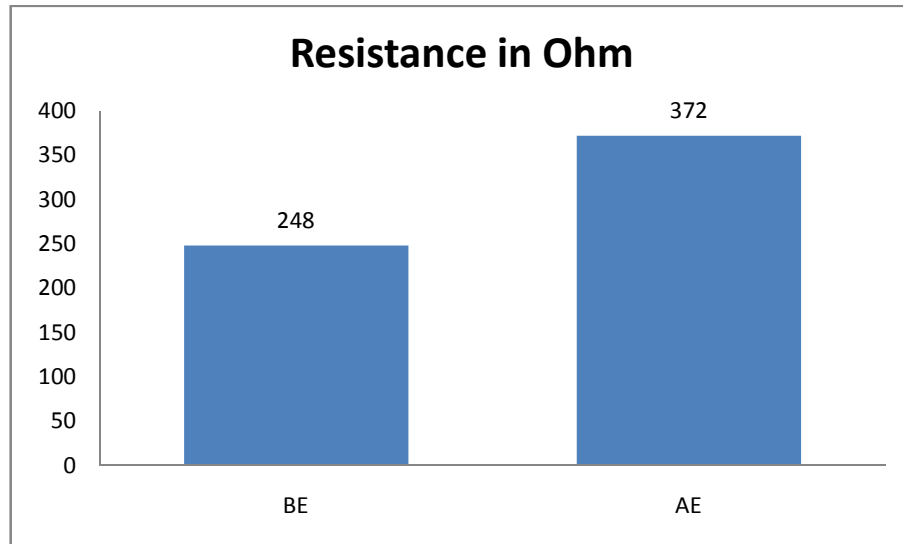
Tamas	Mean	N	Std. Deviation	Std. Error Mean	Z-Value	P-Value
BE	40	125	19.39	1.73	18.48	0.000
AE	22	125	11.22	1.00		



Since sample size was more than 30 hence we have used Z-test to test the change in Tamas percentage in Group 2. From above table we can observe that P-Value is less than 0.05 hence we conclude that there is significant change in Tamas percentage. Mean before experiment was 40% it is significantly decreased to 22%

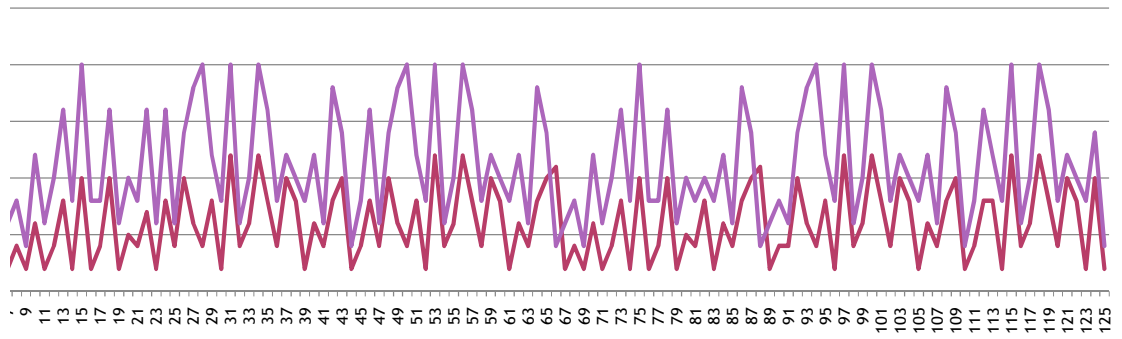
ANALYSIS OF GALVANIC SKIN RESISTANCE IN GROUP II

Resistance in Ohms	Mean	N	Std. Deviation	Std. Error Mean	Z-Value	P-Value
BE	248	125	62.33	5.57	-29.03	0.000
AE	372	125	43.55	3.90		



Since sample size was more than 30 hence we have used Z-test to test the change in Resistance in Group 2. From above table we can observe that P-Value is less than 0.05 hence we conclude that there is significant change in Resistance. Mean before experiment was 248 it is significantly increased to 372.

EEG IN GROUP II



Age 18-25		Mean	SD	r	SE	Signifi cance level
Experi ment	BE	6.24	1.20	0.20	0.42	0.01
	AE	8.12	1.50			

DISCUSSION

Ayurveda emphasizes on treating a diseased person and also maintaining the health of normal individuals. Diseases are defined as there which on conjunction cause pain. They are located in mind and body. Rajas and Tamas are considered as the two doshas of the manas (mind). The balance of *tamas* and rajas are disturbed by stress condition, desires and negative thoughts. To maintain a healthy body and mind, one should try to balance the three gunas. Stress is a state of tension that is created when a person responds to the demands and pressures that come from work, family and other external sources, as well as those that are internally generated from self imposed demands, obligations and self-criticism.

Acharaya Charak explains that one who indulges in activities which are above ones performing capacity, putting too much of stress on a system leads to disastrous effects on the body. State of mana is related to stress .For years it has been “common knowledge” that people who are under a lot of stress have an increased risk of various disorders. How people respond to stress may be more important than the stress itself. People respond according to their Manas gunas.

Mental disorders or imbalances are caused when “sattva” decreases and “rajas” and “tamas” increase. As “sattva” decreases, mental strength, determination, and the power to distinguish right from wrong also decrease. When such a state is prolonged, the mind becomes stressed. This may then lead to other mental disorders like anxiety, depression, fear, and nervous debility. Stress is a state of tension that is created when a person responds to the demands and pressures that come from work, family and other external sources, as well as those that are internally generated from self imposed demands, obligations and self-criticism.

In this jet age, each one of us is exposed to some amount of stress. Some of us can handle stress in a better way than others. In our own lives we come across situations when we can efficiently deal with high amount of stress.

It is impossible to change sharir prakruti but a person can definitely change the percentage of satva, rajas and tamas in his manas prakruti. He can achieve more powerful and superior quality of mind with the help of self-psycho analysis and by evolving oneself with philosophic thoughts by nurturing self mind with positive emotions. Various means to overcome rajas and tamas are described in Upanishads, allied literature and even in *charak samhita*. One of such effective mean is to chant the Gayatri mantra. The Gayatri mantra chanting is a form of meditation to protect one from all human sins, physical dissipation and to bestow knowledge, health and longevity. OM is the first syllable of gayatri mantra which the ancient Vedic seers used to recite. Pure consciousness is the source of gayatri mantra. Gayatri mantra symbolizes the sun. Anybody who habitually recites the gayatri mantra gets purified in his mind and body because the radiant

energy of the mantra burns all the blemishes in his personality. Gayatri mantra chanting is a scientific process of inward orientation of mind. The vibrations induced by the repeated chanting of mantra generate specific pulsation of prana. The syllables of Gayatri mantra are recited by various parts of the mouth such as larynx, tongue, teeth, lips and the root of the tongue. During speech, the nerve-fibres of the particular parts of the mouth from which sound emits stretch up to various parts of the body and exert pressure on the corresponding glands. There are various large, small, visible and invisible glands in the body. Recitation of different words has its impact on different glands and by such impact the energy of these glands gets stimulated. The performance of Gayatri mantra chanting serves as a primary route for self purification (increasing *satva* guna and decreasing *rajas* and *tamas*). This mantra is supercharged with power and has been suggested to mankind under the Vedas.

RESULT

- Manas prakruti and stress studies were significant.
- Gayatri mantra chanting enhances satvik characteristics and reduce rajasic and tamasik characteristics in an individual.
- Statistically, it was proved that percentage of satva is increased while rajas and tamas and stress decreased after Gayatri mantra chanting.
- Regular chanting of Gayatri mantra can be proved highly beneficial to manage ill effects of stress.

SUMMARY

Ayurveda is the divine science of life being practiced since time immemorial & which deals with *Ayu* (life). Therefore every research done in this field also gives- emphasis to health prophylaxis along with treatment.

The aim of Ayurveda emphasizes on treating a diseased person and also maintaining the health of normal individuals. Diseases are defined as there which on conjunction cause pain. They are located in mind and body.

Ayurveda divides persons according to prakruti. They are of two types:

- Sharir Prakruti
- Manas Prakruti.

Sharirprakruti belongs to vatta, pitta, kapha and manas prakruti belongs to Sattva, *Rajas and Tamas*.

Worries have always been a constant companion of human life. In ancient texts, Acharya Charak while explaining about sadatura (constantly ill person) says that worries are the main reason of a constantly ill person. Acharya Charak further explains that one who indulges in putting too much of stress on a system leads to disastrous effects on the body⁵. State of mana is related to stress. For years it has been “common knowledge” that people who are under a lot of stress have an increased risk of various disorders. How people respond to stress may be more important than the stress itself. People respond according to their Manas gunas.

According to Wikipedia, Stress may also be defined as the sum of physical and mental responses to an unacceptable disparity between real or imagined personal experience and personal

expectations. Thus in short any stimulus that causes any imbalance in the internal environment of an organism is called stress.

Stress itself might be a risk factor, or it could be that high levels of stress make other risk factors (such as high cholesterol or high blood pressure) worse. For example, if we are under stress, our blood pressure may go up, we may overeat, we may exercise less, and may be more likely to smoke. People respond in different ways to events and situations according to their Manas gunas. One person may find an event joyful and gratifying, but another person may find the same event miserable and frustrating. Sometimes, Tamas & Rajas dominant people may handle stress in ways that make bad situations worse by reacting with feelings of anger, guilt, fear, hostility, anxiety, and moodiness. Others may face life's challenges with ease.

It is impossible to change sharir prakruti but a person can definitely change the percentage of satva, rajas and tamas in his manas prakruti .He can achieve more powerful and superior quality of mind with the help of self-psycho analysis and by evolving oneself with philosophic thoughts by nurturing self mind with positive emotions.

Various means to overcome rajas and tamas are described in Upanishads, allied literature and even in charak samhita. One of such effective mean is to chant the Gayatri mantra.The Gayatri mantra chanting is a form of meditation to protect one from all human sins, physical dissipation and to bestow knowledge, health and longevity.

The Gayatri Mantra

“Aum Bhoor Bhuvah Swah Tat Savitur Vareniyam Bhargo Devasya Dhimahi Dhiyo Yonah Prachodayat” .

Aum : The divine sound of Aum teaches us that our individual consciousness is a subset of the Universal Consciousness, that pervades this Universe. Therefore we should live life in a manner that upholds the flag of Universal Consciousness.

“Bhoor”: teaches us to identify and modify those traits that deteriorate us and modify them with those that upbring us in an all round manner.

“Bhuvaha”: tells us that We should engage in actions and Karma that uphold the welfare of all.

“Syaha”: emphasizes the importance of developing a balanced thought process where we can face both joy and sorrow, pain and pleasure, profit and loss, good and bad with equanimity of character.

“Tat”: signifies that we should not overconsider the pleasures attained through the body and senses to be the be all and end all of our life. Their benefits are transient in nature and spiritual

pleasures in contrast are lifelong and eternal.

“Savitur”: emphasizes that we gain wisdom, righteous intellect, good health, righteously gained wealth, righteously gained name and fame.

“Vareniyam”: suggests us to incorporate only those traits which are truly exalted.

“Bhargo” : tells us to incorporate purity in our overall body, mind, wealth, health, house, dress and behaviour .

“Devasya”: signifies developing a generous, divine and farsighted thought process.

“Dhimahi” : signifies developing the ability to imbibe good characteristics,divine glories and wise thinking.

“Dhiyo” : refers to development of our intellect . It signifies to us that we should not blindly follow an individual, ritual, literature or sect just because a crowd of people is doing so. Instead we should apply discriminating intellect to understand what is just and right and follow the same.

“Yonaha” : signifies to us that we should imbibe all good qualities for not just our well being but also for the benefit of those around us.

“Prachodayaat” : signifies the quality of Inspiration. It signifies to us that we live our life in such a way that we are a source of inspiration to others, so that they too may live life in the same righteous, wise way.

OM is the primordial spanda (vibration). All mantras have emerged out of it. OM is nature of pure light. All other mantras are also of the nature of light waves. **“GAYATRI – MANTRA”** is called as supreme medicine (manaushadhi) because it heals all diseases. Any sick person may be cured of his disease by just regularly reciting Gayatri mantra.

OM is the first syllable of gayatri mantra which the ancient Vedic seers used to recite. Pure consciousness is the source of gayatri mantra. Gayatri mantra symbolizes the sun. Anybody who habitually recites the gayatri mantra gets purified in his mind and body because the radiant energy of the mantra burns all the blemishes in his personality.

Gayatri mantra chanting is a scientific process of inward orientation of mind. The vibrations induced by the repeated chanting of mantra generate specific pulsation of prana.

The syllables of Gayatri mantra are sung by various parts of the mouth such as larynx, tongue, teeth, lips and the root of the tongue. During speech, the nerve-fibres of the particular parts of the mouth from which sound emits stretch up to various parts of the body and exert pressure on the corresponding glands. There are various large, small, visible and invisible glands in the body. Uttering of different words has its impact on different glands and by such impact the energy of these glands gets stimulated.

Gayatri Mantra chanting stimulates the network of nerves in the mouth and activate specific glands. In Gayatri-Mantra the twenty-four letters are related to twenty-four such glands located in the body which, on getting stimulated, activate and awaken the powers of mind for righteous wisdom (*satva guna*). This modifies the individual's personality out of the *rajas* and *tamas pradhan prakruti* towards *satva pradhan prakruti* (It removes ignorance from the subconscious and thus helps in the emergence of light of spirit within the individual soul).

In the present research, Gayatri mantra chanting experiment was done on 250 subjects. Using various standard, reliable, authentic tools and statistical tests. Statistically, it was proved that Gayatri mantra can modify individual's *manas prakruti* from *rajas pradhan* and *tamas pradhan prakruti* to *satva pradhan prakruti*. It is significant that the chanting of the Gayatri mantra has a cumulative effect on our body and our mind. It can be concluded that chanting of Gayatri mantra can modify individual's *manas prakruti* from *rajas pradhan* and *tamas pradhan prakruti* to *satva pradhan prakruti*. Thus, it is significant that the chanting of the Gayatri mantra has a cumulative effect on our body and our mind. Mind becomes sharper and immune system is stronger. Our energy centers, including our main Chakras, are activated by the vibrations of the Gayatri mantra and this has a positive and healing effect on our mind and life (*Prana*). It enables the individual to follow the path of *satva guna* and hence least affected by ill-effects of stress.

CONCLUSION

The Gayatri Mantra chanting stimulate and activate the network of all the nerves in the mouth and specific glands. In Gayatri-Mantra, the 24 letters are related to twenty-four such glands located in the body which, on getting stimulation, activate and enhance the powers of mind for righteous wisdom (*satva guna*). This modifies the individual's personality out of the *rajas* and *tamas pradhan prakruti* towards *satva pradhan prakruti* (It removes ignorance from the subconscious and thus helps in the emergence of light of spirit within the individual soul).

Thus, it enables the individual to follow the path of *satva guna* and hence least affected by ill-effects of stress.

Therefore, it can be concluded that chanting of Gayatri mantra can modify individual's *manas prakruti* from *rajas pradhan* and *tamas pradhan prakruti* to *satva pradhan prakruti*. It is significant that the chanting of the Gayatri mantra has a cumulative effect on our body and our mind. Mind

becomes sharper and immune system is stronger. Our energy centers, including our main Chakras, are activated by the vibrations of the Gayatri mantra and this has a positive and healing effect on our mind and life (Prana).

Statistically it is proved that percentage of satva is increased while rajas and tamas and stress decreased after Gayatri mantra chanting.

In the present scenario, this mantra is chanted and sung not all around the world with devotion and love. This mantra has a universal meaning and is applicable to whole mankind irrespective of their faith and religious beliefs.

SCOPE & LIMITATIONS

Scope:

- ▶ Very less work has been done on concept of manas prakruti, stress and effect of mantras on it. So there is lot of scope for this type of research.
- ▶ This research can also be performed by using various tools such as:
 - I. Procedures like meditation, yoga, pranayama etc.
 - II. Using single or multi-drug therapy.

Limitations:

This is a pilot study. The study was done in limited time and limited sample size of 250 individuals only. So, further study can be done with large sample size.

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