



## Review Article

### STRESS, A SELF GENERATED PROBLEM-AN AYURVEDIC APPROACH

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#### ABSTRACT

In the modern era, the high-tech communication facilities, rapid industrialization, sophisticated life style and extensive use of computers have made lives much easier but they are blamed for making the life stressed. It is estimated that 80% of all modern diseases have their origin in stress. Stress and health are closely linked. Constant exposure to stress leads to psycho-somatic disorders affecting immune, cardiovascular and nervous systems. The diseases linked to stress includes heart disease, asthma, allergies, hypertension, diabetes and even cancer. In view of the changing concepts of health and diseases and with the emergence of modern health hazards, attention has been drawn to the holistic concept of Ayurveda. Ayurveda proclaims that the main purpose of human birth is to attain *Purusharthas -Dharma, Artha, Kama and Moksha*. To achieve these aims, one needs a healthy body and healthy mind. Ayurveda considers body and mind as inter-related and inter-dependent to each other. *Dhi, Dhairya* and *Atmadi vignynana* plays a very important role in the attainment of healthy mind and it in turn contributes a healthy body. Any factor which adversely affects the *Sareera, Indriya, Satwa* and *Athma* may lead to ill health either at somatic or psychic level. This review tries to explain how the individuals himself is responsible for stress.

**KEYWORDS:** Stress, Eustress, Distress, HPA axis.

#### INTRODUCTION

Now a days, one of the most heard and much discussed word in modern society and among health care professionals is stress. Everyone might have come across the word stress in day to day activities. So many classes, researches are conducted on the topic stress, stress related disorders, its management and its relation with life style.

Stress affects all aspects of life-emotions, behaviour, thinking ability and physical health. Stress affects the mind resulting in a multitude of symptoms ranging from mild problems like loss of interest in day to day activities to grave consequences like emotional outrage or chronic depression. It leads to mental illness which is one among the most important health problem emerging as a leading cause of death. Mental health includes emotional stability and maturity of character as well as strength to withstand the stress of living.

Stress is body's way of responding to any kind of demand or threat. When sensed a danger – whether it's real or imagined- the body's defenses kick into high gear in a rapid, automatic process known as the "fight -or- flight" reaction or the "stress response". Stress is the 'wear and tear' experienced by mind and body to cope with the continually changing environment.

In today's competitive and demanding society, it seems everyone is always stressed out. From tiny tots to age old folk are in stress to meet their necessities. No one is escaping from the fetch of stress but its intensity is varying from person to person. Stress is often regarded by researchers as a vague and highly subjective experience.

Even though stress is a universal phenomenon it means different things to different people. It depends upon people's perception of a situation and their ability to cope with it. All stress is not bad. Richard Lazarus classified stress into Eustress and Distress. The beneficial stress which improves the functions and performance of the person when subjected to responsibilities, challenges or opportunities is called eustress. The prolonged, sustained stress referred to as chronic stress is known to have serious, detrimental effects on the mental, physical and spiritual health of individuals. Too much heavy responsibilities which one cannot afford leads to negative stress called distress. Distress is really a threat.

Endocrinologist Hans Selye borrowed the term stress from the world of physics which describes the force that produce strain on a physical body. He proposed that Stress was a non-specific strain on the body caused by irregularities in normal

body functions. It can be defined as emotional, physical or biological factors which evokes an integrated response of the sympatho adrenal medullary system and hypothalamic-pituitary-adrenal cortex axis.<sup>[1]</sup> In other words stress can be defined as disruption of homeostasis through physical or psychological stimuli.

### Physiology behind stress

The process of physiological stress response starts from the moment the body realizes the presence of the stressor. Stressor is any condition or event that cause a stress response like the death or accident of a near relative. It may be of any of the life components –physical, social, emotional, economic, intellectual and spiritual. Stress receptors send signals to the brain, and to the specific sympathetic and hormonal responses to eliminate, reduce or cope with the stress..

In human body psychosomatic process is controlled by four basic systems- (1) Autonomic nervous system (2) Endocrine system (3) Immune system (4) Neuropeptide system. Primarily Autonomic nervous system and endocrine control the stress response.

The components of the stress system include peripheral limbs of the hypothalamic pituitary adrenal axis, the efferent sympathetic adreno medullary system and the components of the parasympathetic system. In response to stressful situation, hypothalamic-pituitary-adrenal system is activated. It triggers the production and release of steroid hormones glucocorticoids including primary stress hormone cortisol. Cortisol is important in marshalling systems throughout the body. HPA system also releases certain neurotransmitters called catecholamines particularly dopamine, nor epinephrine and epinephrine. Catecholamines activates amygdala which triggers an emotional response to a stressful event. During stressful event, catecholamines also suppress activity in areas at the brain concerned with short term memory, concentration, inhibition and rational thought.

When the sympathetic nervous system is stimulated, all its parts react with a mass discharge to accomplish a common purpose- enabling the body to act above and beyond its normal every day function, so the body needs more blood, oxygen and energy. After the arousal response, the parasympathetic system works to normalize the functions of all the organs involved. In response to stress, the levels of various hormones changes.

- **Cortisol:** Primary stress hormone is released in response to fear as a part of the fight –or- flight response by the adrenal cortex. Chronic stress and elevated cortisol level increase risk for

depression, mental illness and lowers life expectancy.

- **Catecholamines:** include neurotransmitters such as dopamine, epinephrine, and nor epinephrine released by adrenal gland, causes adrenaline rush which increases heart rate, blood pressure, perspiration, blood sugar and metabolism.
- **Vasopressin:** Repeated stress enhances vasopressin synthesis which stimulate cortisol secretion.
- **Gonadotropins:** In stress, gonadotropins are suppressed leading to disruption of the normal menstrual cycle. Prolonged exposure to stress can lead to complete impairment of reproductive function.
- **Thyroid hormones:** During stressful condition thyroid function is usually down regulated. T3 and T4 levels decrease, inhibits the secretion of thyroid stimulating hormone.
- **Growth hormone:** During acute physical stress the growth hormone is increased and in psychological stress GH responses are rarely seen.
- **Insulin:** Insulin decrease during stress.

Common symptom seen in stress are low energy, oesophageal spasm, increased respiration, headache, upset stomach, constipation, rapid heartbeat, insomnia, confusion, reduced memory etc

### Ayurvedic approach

The description of conditions similar to stress is available in Vedic literature. During *Samhitha* period the *Brihatrayis* have given valuable contribution regarding *Manas*, *Manasika rogas* and its management. But there is no direct reference regarding stress in any of the Ayurvedic literatures.

From Ayurvedic perspective there are two different manifestation of stress-physical and psychic. Physical stress is caused by overuse or misuse of the body. For example strenuous exercise for long time without food, suppression of natural urges leads to vitiation of *Prana vaha srothas* causing cough, breathing difficulty etc.<sup>[2]</sup> Mental stress which manifest as emotional disturbances is directly related to the state of *Manas* and *Hridaya*. When person becomes more stressed, it adversely affects the proper functioning of *Dhi*, *Dhriti* and *Smriti* and thus causing anxiety, confusion, anger and fear are the common symptoms of stress.

### Role of *Doshas* with reference to the stress

According to Ayurveda total physiology of a body is contributed by *Tridoshas*. *Tridoshas* play a very important role in the functioning of mind. Some

of the subdivisions of *Tridosha*, i.e., *Prana vayu*, *Udana vayu*, *Samana vayu*, *Vyana vayu*, *Sadhaka pitta*, *Alochaka pitta* and *Tarpaka kapha* are associated with the functioning of mind. *Prana vayu* controls the action of *Buddhi*, *Indriya*, *Hridaya* and *Manas*, *Udana vayu* is responsible for speech, *Vyana vayu* for all action. *Sadhaka pitta* is responsible for higher mental functions and emotional states of a human being.<sup>[3]</sup>

*Tridoshas* are vitiated by emotional disturbances. *Vata* and *Pitha* can be considered as *Doshas* that get most vitiated by stress. *Nidanas* like *Bahuchintha*, *Bhaya*, *Lobha*, *Akala bhojana*, *Vega nighraha*, *Shoka* plays a very important roles in the formation of stress.<sup>[4]</sup> In all these situation, *Vata dosha* is mitigated. *Vata dosha* have an important role in stress response as *Manas* is controlled by *Vata*, which is also the controller of other *Doshas*. Vitiated *Vata* disturbs the functions of *Indriya* and mind, afflicts sensory faculties. As a result, it gives rise to fear, grief, anxiety and delirium.<sup>[5]</sup> *Krodha* vitiates *Pitta dosha*. In *Pitta* predominant diseases like *Amlapitta* and *Parinamasoola*, the influence of stress can be seen. *Akalasayana*, *Divaswapna*, *Vidahi annapana* etc causes *Pitha kopa*. Lack of friendship, social activities, communication and isolated lifestyle leads to depression which have some predisposition for *Kapha* vitiation.

According to Ayurveda, *Swasthya* (health) is defined as the balanced state of *Dosha*, *Dhatu*, *Agni* and *Mala* with normal functioning of *Atma*, *Indriya* and *Manas*.<sup>[6]</sup> This definition of health is of prime importance as it covers the balance between the body and mind. Apart from *Tridoshas*, *Trigunas* also influence the mind. The diversity in the personality of a man is attributed to the relative predominance of *Trigunas*. The production of pleasure, pain, confusion all depends upon *Triguna*. On the basis of *Trigunas*, there are three type of *Kaya- Satwika*, *Rajasika* and *Tamasika*. The person predominant of *Satwa guna* never suffers disease as they are eternally pure and free from *Ragas*. He copes with stress and get through it. Mental and emotional stress is seen in individuals with predominant *Rajas* and *Tamas*, in greater frequency. They are always susceptible to physical and mental illness.

## DISCUSSION

*Tridoshas* along with *Rajas* and *Tamas* play a major role in the contributions of vitiation of *Sareerika* and *Manasika bhavas*. *Bahuchintha*, *Krodha*, *Bhaya*, *Shoka*, *Lobha*, *Akala bhojana* and *Vega dharana* –all these lead to vitiation of *Vata*, *Pitta dosha* as well as *Manovaha srothas*. *Atichinta* causes vitiation of *Rasavaha srotas* too, the one which shares the *Moolasthan* with *Manovahasrotas*. *Rasa*, being the first *Dhatu*, *Rasavahasroto dushti* leads to

impaired *Dhatu* formaion, and also to *Ojodushti*. When *Dhatu satmyatha* is disturbed, it brings about abnormal responses in body and mind. *Ojodushti* contributes further to this state, leading to various pshyco-somatic diseases reducing the *Sareerika* and *Manasika bala*. Even the sub division of *Tridoshas* get vitiated in stress response. Oesophageal spasm and increased respiration seen as a part of stress are due to the involvement of *Prana vata*. Low energy, reduced memory etc are observed in stress, when *Udana vayu* is affected. Impairment in digestion is associated in stress due to the affected nature of *Samana vayu*. Elevation in B.P is caused by the affected nature of *Vyana vayu* in stress. Constipation is a symptom presented by the individuals with stress response, due to the involvement of *Apana vayu*. When a person becomes more stressed, it adversely affects the proper functioning of *Sadhaka pitta* and thus affects *Dhi*, *Dhriti* and *Smrithi*. Thus, actions performed by a person with mental stress can lead to *Pragnyaparadha*, thus creating a vicious circle. This creates obstacles in the pathway of achievement of *Purushartha*. To restore the mental health *Daivavyapasraya*, *Yukthivyapasraya* and *Satwavyajaya Chikitsa* can be adopted considering the *Dosha* involved. The individuals should take care to maintain healthy status of mind by regular practice of *Dhi*, *Dhairya* and *Atmadivignyana*.

## CONCLUSION

Stress is the state of increased arousal necessary for an organism to defend itself when faced with danger. Body is designed to react to environment in an effort to preserve homeostasis. Thus Stress is a need and would not want to eradicate one's capacity for stress response even if, that occurs. Body, mind, heart and spirit are all subjected to the ravages of day-to-day stress. The stress reaction can present as a physiologic, emotional and intellectual symptoms. Gradual and chronic stress factors lead to immune suppression producing different types of psychosomatic as well as systemic diseases. The major *Doshas* that get involved in stress response are *Vata* and *Pitta*. Hence, emphasis should be given to those procedures that restore the tranquility of mind by balancing *Tridoshas* and to enhance the mental endurance of the individual by *Dhi*, *Dhairya* and *Atmadi vignyana*. The goal should be to manage stress by diminishing the excess stress in day to day life that is appropriate for accomplishing the objectives of life, i.e. *Purushartha*.

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**Cite this article as:**

Babitha.K, Anjali Sivaram. Stress, A Self Generated Problem-An Ayurvedic Approach. International Journal of Ayurveda and Pharma Research. 2018;6(2):59-62.

**Source of support: Nil, Conflict of interest: None Declared**

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