



CRITICAL ANALYSIS OF SHRAMA VIS-À-VIS FATIGUE – AYURVEDA ORIENTATION

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ABSTRACT

Ayurveda, the science of life is described in Charaka Samhita through Trisuthra i.e., Hetu, Linga, and Aushadha for both Swastha and Atura. Instead of Vyadhi, Linga has been mentioned as any Vyadhi can exist in the form of Linga also. Many conditions have been mentioned as Linga but not a separate or Swatantra Vaydhi in the Samhita. At the same time, freedom has been given for consideration of any condition as Vyadhi or Linga based on its nature. If the condition has developed by its own Nidana, then it can be considered as Vyadhi otherwise as Linga. One such condition is Shrama which is mentioned as Linga in Samhita and can manifest as Vyadhi also. As such, there is no detail description of Shrama in classics apart from its definition and consideration under a few Vyadhi as a Nidana, Purvarupa, and Lakshana. At the same time, there is a symptom 'Fatigue' which associates with almost all pathological conditions. The mechanism of Fatigue has been described based on a few theories which seem to be complete with respect to the conditions. Hence, in this article, an attempt is made to review the available literature on Shrama and Fatigue as well as critical analysis of the same.

Keywords: Shrama, Fatigue, Oxidation, exhaustion.

INTRODUCTION

Ayurveda, the holistic science describes the subject matter in a unique manner that can be explored to any extent and do anything. In the same way only, even in the present day, the novel pathological conditions could be understood. One such unique description is the concept of Trisuthra. Whole Charaka Samhitha is embedded in the form of this Trisuthra i.e., everything has been dealt in terms of Hetu, Linga, and Aushadha. Among them, Linga stands at the centre as it acts as Karya of Hetu and Adhishtana for Aushadha Prayoga. There are instances in Samhitha that, any Vyadhi can be a Linga and vice versa. One such context is the concept of Shama. It has not been mentioned as Vyadhi but mentioned as a Nidana, Lakshana, and Purvarupa of many other diseases. In the same way, Fatigue. *Shrama* holds equal with the concept of Fatigue in contemporary science, which is defined as the condition characterized by a state of exhaustion or generalized weakness with a pronounced inability to find sufficient energy to accomplish daily activities². Fatigue is increasingly identified as a complex, multi-factorial disorder with physical and psychological dimensions. Subjects suffering from fatigue are found to have a higher risk for low productivity and efficiency as they are having problems with starting things, problems with concentration, thinking, and memory. Low productivity and low-efficiency in-turn cause stressful family and work atmosphere and impacts the overall quality of life. *Shrama* is one of the symptoms in *Rasa-Asthi-Shukra Kshaya, Pandu, Kushta, Jwara, Vata vyadhi*, etc. Whereas fatigue is found in Anemia, malnutrition, Osteoarthritis, Rheumatoid Arthritis, etc. by observing both these conditions, it is found that *Shrama* is present in both *Santarpana* and *Apatarpana Janya Vikaras*.

Objectives:

To understand the concept of Shrama

To understand the Concept of Fatigue in Ayurveda.

Materials & Method:

Available information about both Shrama and Fatigue was collected from Ayurveda and contemporary textbooks, published journals, and research works

done on Shrama and Fatigue in various institutions. The study was done conceptually, analyzed, and discussed critically and conclusions have been drawn.

Review of literature:

Concept of Shrama: There are some conditions in which there will be a derangement of normalcy physiologically due to day-to-day activities and pathologically due to some causative factors. One Such condition is *Shrama*. *Shrama* is defined as the incompetence of *Karmendriya* for their respective function¹, *Shrama* is *Shranthatva* i.e., fatigue produced by *Vyayamadi Karma*².

❖ *Shrama* as *Vikruthi Avastha*: In the classics, *Shrama* has been mentioned as *Nidana, Purvarupa, and Rupa* of many *Vikruthi Avastha*.

- *Shrama* as *Nidana*: *Shramaja Jwara, Pittaja jwara, Pittaja prameha, Kushta, Shotha, Nidra, Palithya, Vatakantaka, Raktapradosha, Thrushna, Vishavardhana*

- *Shrama* as *Purvarupa*: *Jwara, Kushta, Pandu*

- *Shrama* as *Lakshana*: *Vataja jwara, Pandu, Asthikshaya, Shukrakshaya, Athi Vyayama, Bahudosha, Pipasa Vegadharana, Madathyaya, Medavruddhi, Rasakshaya, Medakshaya, Ojovisramsas, Mamsa-Medogata Vata, Kshudha nirodhaja udavarta lakshana, Vataja Shiratapa*

Concept of Fatigue:

Fatigue can be defined as a disorder Characterized by a state of generalized weakness with a pronounced inability to summon sufficient energy to accomplish daily activities³. It is not a unitary concept in terms of its definitions or measurement. Over the twentieth century, it became clear that fatigue was viewed as both a symptom and a disease. As symptom fatigue has many causes, ranging from physiological states (physical deprivation) to medical conditions (thyroid abnormalities, infections, cancer, coronary heart disease or CHD), insults to the brain (traumatic brain injury, multiple sclerosis, and stroke), psychiatric disorders Such as depression, medications (antihistamines) and even 'unhealthy lifestyles. As a disease, Fatigue is often part of a group of

'unexplained' illnesses with little understanding of its causes.

Classification of fatigue⁴

- A. Physiological fatigue and Pathological fatigue.
- B. Physical and Mental Fatigue
- C. Central and Peripheral muscle fatigue

D. Acute Fatigue, Prolonged Fatigue, and Chronic Fatigue.

Theories of Fatigue:

Theories such as 'Exhaustion theory, Radical Theory, and Clogging theory' are helpful tools to understand the mechanism of fatigue in a better way.

Fatigue in various diseases: This is tabulated in the following table

Table 01: fatigue that occurs in various pathological conditions	
Pathological Condition	Example
Tissue hypoxia	Anaemia, IBS, cardiac failure, pulmonary hypertension, Addison's disease, excessive diuretic therapy, and so on
Autoimmune diseases	Celiac disease, systemic lupus erythematosus, multiple sclerosis, myasthenia gravis, Sjogren's syndrome, and spondyloarthritis.
Infectious diseases	Viral infections, primary biliary cholangitis, hepatitis, tuberculosis, brucellosis, infective endocarditis, toxoplasmosis, and so on
Neurological disorders	Parkinson's disease, Narcolepsy, traumatic brain injury, postural orthostatic tachycardia syndrome, and so on
Malignancies	All types of Cancers
Endocrine and metabolic disorders:	Hypothyroidism, hyperthyroidism, diabetes mellitus, PCOD, and so on
Muscular disorders	Myasthenia gravis, multiple sclerosis, motor neuron disease, myopathies, and so on
Connective tissue diseases	Rheumatoid arthritis, osteoarthritis, polyarthritis nodosa, polymyalgia rheumatica, giant cell arteritis and polymyositis, and so on
Psychological	unhappiness, boredom, disappointments, overwork, and lack of sleep, anxiety, and depression, and so on
Drug-induced	ciprofloxacin, beta-blockers, chemotherapy, and so on
Su. Substance use disorders	alcohol use disorder
Inborn errors of metabolism	Fructose malabsorption
Kidney diseases	Acute renal failure and chronic renal failure
Liver diseases	hepatitis, liver failure
Chronic fatigue syndrome	
Idiopathic chronic fatigue	

DISCUSSION

Shrama as Lakshana of various conditions as mentioned in classics has been quoted in the review part. Discussion on each condition is carried out and Samprapti Ghataka of each has been tabulated in table No. 2. based on Anumana Pramana and Oohya Tantrayukti, conclusions have been drawn on the

involvement of Dosh, Dushya, Srotas, Srotodushti Lakshana, Agni, Udbhavasthana, Rogamarga and Samprapti type (Dhatukshayajanya and Avaranajanya) based on Bhuyasthva Tacchilya. Sanchara Sthana and Vyaktasthana have not been mentioned as Shrama are Sarvashareragatha. With the help of this information, Nidana Panchaka of Shrama has been framed.

Table 02: Doshadi Samprapti Ghataka of Conditions where Shrama is one of the Lakshana

Sl No.	Condition	Dosha	Dushya	Agni	Srotas
1	Vataja Jwara	Vata Pitta	Rasa	Jatar Agni Dhathw Agni	Rasa Swedavaha
2	Pandu	Pitta	Rasa, Rakta, Meda	Jatar Agni and Dhathv Agni	Rasa, Raktavaha
3	Asthikshaya	Vata	Asthi	Jatar Agni	Asthivaha
4	Shukra Kshaya	Vata	Shukra	Jatar Agni	Shukravaha
5	Athi Vyayama	Vata	Rasa	Jatar Agni	Rasavaha
6	Bahudosha	Tridosha	Rasa	Jatar Agni	Rasavaha
7	Pipasa Dharana	Vata Pitta	-	Dhathv Agni	Udakavaha
8	Madatyaya	Vata-Pitta	All Soumya Dhatu	Dhatw Agni	Soumya Dhatuvaha Srotas.
9	Bijopaghataja Klaibya	Vata	Shukra	Jatar Agni Dhathv Agni	Shukravaha
10	Medavruddi	Kapha	Meda	Jatar Agni Dhathv Agni	Medovaha
11	RasaKshaya	Vata	Rasa	Jatar Agni	Rasavaha
12	Medakshaya	Vata	Meda	Jatar Agni	Medovaha
13	Ojovisramsas	Vata, Pitta	Rasa	-	Rasa
14	Mamsa medogata Vata	Vata	Mamsa Meda	Jatar Agni	Mamsa Medavaha
15	Kshudha nirodhaja udavarta Lakshana	Vata	Rasa	Jatar Agni	Rasavaha
16	Vataja Shiratapa	Vata	Rasa	Jatar Agni	Rasavaha

Sl No.	Condition	Srotodushti Lakshana	Udbhava Sthana	Rogamarga	Samprapti
1	Vataja Jwara	Sanga	Amashaya	Abhyantara	Dhatukshaya
2	Pandu	Sanga	Amashaya	Abhyantara	Dhatukshaya
3	Asthikshaya	Sanga/ Athipravrutthi	Pakwashaya	Madhyama	Dhatukshaya
4	ShukraKshaya	Sanga/ Athipravrutthi	Pakwashaya	Madhyama	Dhatukshaya
5	Athi Vyayama	Athipravrutthi/ Sanga	-	-	Dhatukshaya
6	Bahudosha	Sanga	Amashaya	Abhyantara	Avarana
7	Pipasa Dharana	Sanga	-	-	-
8	Madatyaya	Sanga/ Athipravrutthi	Amashaya	Abhyantara	Dhatukshaya
9	Bijopaghataja Klaibya	Sanga/ Athipravrutthi	Pakwashaya	Madhyama	Dhatukshaya
10	Medavruddi	Sanga	Amashaya	Abhyantara	Avarana
11	Rasa Kshaya	Sanga/ Athipravrutthi	Amashaya	Abhyantara	Dhatukshaya
12	Medakshaya	Sanga/ Athipravrutthi	Pakwashaya	Abhyantara	Dhatukshaya
13	Ojovisramsas	Vimargagamana	Pakwashaya	Madhyama	Dhatukshaya
14	Mamsa medogata Vata	Sanga	Pakwashaya	Abhyantara	Dhatukshaya
15	Kshudha nirodhaja udavarta Lakshana	Vimargagamana	Pakwashaya	Abhyantara	Dhatukshaya

16	Vataja Shiratapa	Sanga	Pakwashaya	Abhyantara	Dhatukshaya
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Samprapti Ghataka of Shrama are as follows:

Dosha: *Vatadosha* and *Shrama* are having mutual direct relation that *Vataprakopa* will cause *Shrama* and vice versa.

Dushya: *Shrama* mainly includes *Dushti* of *Rasadhatu* and also it cannot be neglected that, *Shrama* can also occur due to the *Dushti* of another *Dhatu*.

Srotas: *Shrama* mainly involves *Rasavaha Srotas* than other *Srotas* and at the same time, the involvement of another *Srotas* should also be considered for *Chikithsa* aspects.

Srotodushti Lakshana: *Sanga* type is considered in two aspects. *Apravrutthi* as *Abhava* of *Poshaka Rasa* in the conditions like *Pandu*, which has ‘*Nihssara*’ *Dhatuthva*, is mainly because of *Sanga* i.e., *Abhava* of *Poshaka Rasa*. Hence because of the lack of *Rasa* and *Rakta* which does *Preenana* and *Jeevana*, there will be an experience of *Shrama*. *Sanga* as *Vatamargavarodha* in conditions like *Bahudosha*, *Medovruddhi* where due to *Vruddha Dosha* or *Dhatu*, *Vatavarodha* takes place leading to an experience of *Shrama*. Therefore, *Sanga* and *Athipravrutthi* are significantly appreciated, these can be considered as the *Pradhana Srotodushti Lakshana* involved in *Shrama*.

Udbhava Sthana: *Vataprakopa*. *Vyayama*, *Anashana*, *Chintha*, *Ruksha-Alpa Bhojana* so on are mentioned as *Sharira Kshaya Hetu* which are inferred as *Vataprakopaka Nidana*. The *Mulasthan*

of *Vata* is said to be *Pakwashaya* and the *Pradhana Dosha* involved in *Shrama* has been proved as *Vata*. Thus, *Shrama* can be considered as *Pakwashayotha Vyadhi*.

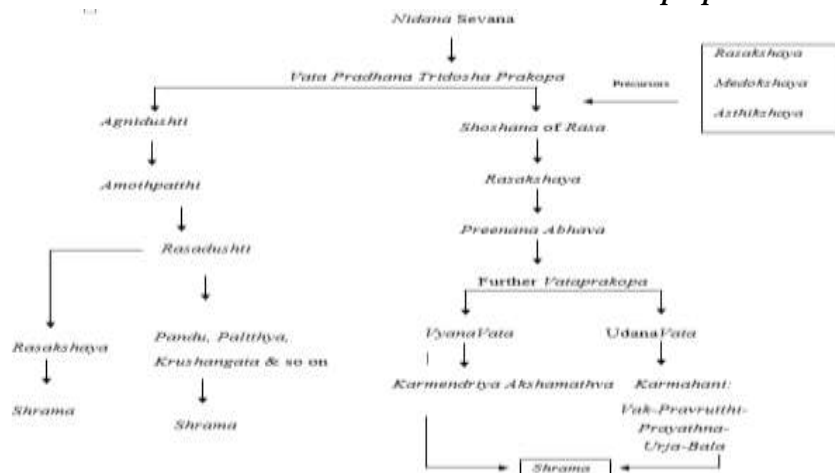
Rogamarga: As *Vataprakopa* is leading to *Dhatukshaya*, the pathogenesis is from *Pakwashaya* (*Mulasthan* of *Vatadosha*) to *Dhatu*. Hence it can be considered as *Shrama* involves mainly *Abhyantara Rogamarga*.

Samprapti: *Dhatukshayajanya*

Agni: Though *Agni* is an integral part of *Dhatuposhana*, in most conditions like *Asthikshaya*, *Medakshaya* the etiologies are signifying excess utilization of *Dhatukarma* or *Shoshana* of *Dhatu* rather than its production and thus the role of *Agni* in the pathology of *Shrama* is not considered with much importance. By observing the conditions of *Shrama*, the involvement of *Jataragni* than *Dhathvagni* can be appreciated. Hence, it can be said that *Shrama* may manifest as a result of *Vishmagni*.

NIDANA PANCHAKA OF SHRAMA:

- **Nidana:** *Vata Prakopakara Ahara-Vihara*, *Dhatukshaya*, *Bala Kshaya*, *Ojovisrams* so on.
- **Purvarupa:** As it is considered *Vatavyadhi*, *Purvarupa* will be *Avyakta*.
- **Rupa:**
 - *Kheda*
 - *Balahani*.
 - *Karmendriya Akshamatva*
- **Samprapti:**



Shrama and Fatigue:

Oxidation is a process is described through Radical Theory. i.e., the production of Reactive Oxygen Species (ROS) is a physiological process through various biochemical reactions in the body. At the same time, the human body is having a free radical scavenging system also. When the production and scavenging process alters, there will be an experience of fatigue due to ROS. And also, during exercise, many energy sources Such as glucose & liver glycogen will be exhausted thus leading to physical fatigue which is explained through exhaustion theory. Both of these theories can be compared to *Vataprakopa* by *Dhatukshaya* due to various reasons. Blood Lactic Acid (BLA) is a glycolytic product of

carbohydrates under anaerobic conditions, and glycolysis is the principal pathway that provides an energy source for intensive exercise for a short time. The increase in BLA concentration and the consequent acidosis observed in skeletal muscles during exercise were the major cause of muscle fatigue. This process can be compared to *Vataprakopa* by *Avarana* such as in the case of *Bahudoshavastha*, *Medovridhi*, etc. Preceded by *Vataprakopa*, there will be involvement of *Dhatu* (*Rasa*, *Mamsa*, *Meda*, etc) and manifestation of further *Samprapti* of *Shrama* occurs. The mechanism of manifestation of *Shrama* occurs almost in the same way which is depicted in table no. 3

Table 03: Relation between *Shrama* and Fatigue

Factors	<i>Shrama</i>	Fatigue
Cause	<i>Bahu/Alpa/Anayasa</i>	Mental or physical exertion
Characteristics	<i>Karmendriya Akshamathva</i> <i>Manas Akshamathva</i> <i>Buddhindriya Akshamathva</i>	Motor and sensory inability.
State of mind	<i>Kheda</i>	Distressed
Importance in physiological state.	Limiting factors in <i>Vyayama</i> state.	Limiting factors in physical activity (especially in high-intensity short duration exercises.)
The main pathology involved	<i>Balakshaya</i>	Oxidation
Rare pathology	<i>Avarana</i>	Accumulation of Lactic acid and urea Nitrogen
Associated diseases	<i>Jwara</i> , <i>Pandu</i> , <i>Mamsa-Medogata Vata</i> , <i>Hrudroga</i> so on	Inflammations, anemia, myasthenia gravis, multiple sclerosis, cardiac failure <i>so on</i>
Management	<i>Vata-Pitta Shamana</i> <i>Santarpana</i> , <i>Indriya Prasadana</i>	Anti-oxidation, nutrition supplement, Cognitive behavioral therapy and graded exercise therapy.

CONCLUSION

There are many health conditions that have become significant with time. Earlier there were very fewer incidents of Fatigue related issues but it has become one of the major symptoms associated with a number of diseases and in most of them the mechanism of Fatigue has not been understood completely. Hence with the help of Ayurveda and contemporary principles, *Shrama* or Fatigue is better understood. Most of the time, the *Shrama*/Fatigue is

an expression of the underlying pathology and occurs in all types of pathologies that signify the need to address the same.

REFERENCES

1. Pt. Hari Sadashiva Shastri Paradakara, Vagbhata, Astanga Hridaya, Sarvanga Sundara commentary of Arunadatta & Ayurveda rasayana commentary of Hemadri, Reprint Ed, Varanasi, Chaukhambha Surabharati Prakashan, 2019, p-27

2. Pt. Hari Sadashiva Shastri Paradakara, Vagbhata, Astanga Hrdaya, Sarvanga Sundara commentary of Arunadatta & Ayurveda rasayana commentary of Hemadri, Reprint Ed, Varanasi, Chaukhambha Surabharati Prakashan, 2019, p 82-83
3. <https://www.icd10data.com/ICD10CM/Codes/R00-R99/R50-R69/R53-/R53.83>

4. <https://en.wikipedia.org/wiki/Fatigue>

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