



A COMPREHENSIVE ANALYSIS ON SHRAMA (FATIGUE) IN ANCIENT TRANSCRIPT OF CHARAKASAMHITA

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ABSTRACT

The time privileged *Ayurveda* science has proposed many theory and concept for the well being of society. Utmost of these concept or theory are in coded language. Breaking these coded languages is the key for understanding the inner meaning of the subject. Present study was taken to find out the concept of '*shrama*' in ancient book of medicine, *Charakasamhita*. Review was made based on searching criteria '*shrama*' in the transcript of *Charakasamhita* and discussion was made by analysing the concept of fatigue with contemporary science. Review find out there are total 35 references are available regarding '*shrama*' in *Charakasamhita*. Among them 18 references are available in *sutrasthana*, 6 in *nidanasthana*, 2 in *shareersthana*, 1 in *vimanasthana* and 9 references are available in *chikitsasthana*. Based on analysis of all these references and by considering physiology, pathology and treatment study interpreted that the concept of *shrama* can be explained through the theory of fatigue, as per modern researcher. Also there is scope of further scientific research.

KEYWORDS : *Shrama*, Fatigue, *Ayurveda* concept, *Charakasamhita*.

INTRODUCTION: *Ayurveda* is not only a system of medicine, it emphasizes on the customs, traditions and enormous birthright of India regarding individual life style. It is a time experienced eternal science. The time honored *Ayurveda* science has proposed many concepts and principles for the overall wellbeing of mankind. Most of the information available in ancient medical transcripts of *Ayurveda* is in the form of coded language. Deciphering codes is the key for understanding the inner meaning of the concept^[1,2]. For practical utilization, generalization and globalization of *Ayurveda*, it is become necessary to analyze these ancient theories of health through the light of contemporary science. '*Shrama*' is one such concept that requires critical analysis and interpretation in comparison with existing knowledge. The word *shrama* denotes fatigue, tiredness, exhaustion, or exertion either physically or mentally. It is a subjective phenomenon that appears with physical stress or exhaustive exercises, which reduces the endurance capacity in physically and mentally^[3-5]. The ancient *Ayurveda* scholar has explained *shrama* under physiological, psychological and pathological phenomenon. Present study aimed to find out the concept of *shrama* in the eyes of father of *Ayurveda* medicine *acharya Charaka*. Review was made based on searching criteria '*shrama*' in the verse of *Charakasamhita* along with concept and mechanism of 'fatigue' available in modern literature.

METHODOLOGY: Present review was made based on searching criteria '*shrama*' in the transcript of *Charakasamhita*. Literary sources regarding the concept of 'fatigue' from contemporary science were also incorporated for making the discussion.

RESULT AND OBSERVATION: Concept of *shrama* (fatigue) in *Charakasamhita* has been documented in the table no 1-4. Table 1 depicts the description of *shrama* in *Charakasamhita* *sutrasthana*. Total 18 references are available regarding *shrama* in *sutrasthana*. In *nidanasthana* 6 references are available regarding *shrama* (Table 2). Similarly in *shareersthana* 1 and *vimanasthana* 2 references are available (Table 3). Maximum numbers of description are available in *chikitsasthana* (Table 4).

DISCUSSION: The word '*shrama*' denotes fatigue, weariness, tiredness, exhaustion, exertion or effort either physically or mentally^[6]. Synonyms of *Shrama* has mentioned in *Shabdakalpadruma*, are *Klama* (Condition exerted due to the slight effort), *Klesha* (discomfort), *Parishrama* (loss of physical strength), *Prayasa* (effort either physically or mentally), *Aayasa* (physically exhausting activity), *Glaani* (lack of desire for physical work). *acharya Charaka* has considered *Glaani* as tiredness of *manas* (mind)

and *Jnanendriya* (sense organ). *Indu* has opined *Glani* is a condition of depletion of *harsha*^[7]. As per *acharya Charaka* *shrama* can be seen in *swastha* (healthy) and *atura avastha* (unhealthy condition). *Shrama* may arise after *vyayama* (exercise), because of suppression of *pipasavega* (urge of thirst), *nishwasa vega* (urge of expiration) in healthy persons (Table-1). *Shrama* caused by underlying pathology can be seen in diseased condition also. *Shrama* (fatigue) has mentioned as a *lakshana* (sign) of *vatajajvara* (~fever due to vitiation of *vataadosha*), as etiological factor of *pittajajvara* (~fever due to vitiation of *pittadosha*). Excessive *shrama* (fatigue) is one of the etiological factor of *pittaja prameha* (~metabolic disorder due to vitiation of *pittadosha*) and *Kustha*(~skin disorder) (Table-2). *Shrama* (fatigue) may arise as general *purvarupa* (prodromal sign) of *kustha* (~dermatological disorder), *jvara*(~fever), *pandu* (~anaemia and nutritional disorder) (Table-2,4). *Shrama* (fatigue) may arise as general *rupa* (sign) of *pandu* (~anaemia and nutritional disorder), *madataya* (alcoholic disorder). It may cause of male infertility due to *beejopghata* (decrease sperm count) (Table- 4). *Acharya* has opined various diet and activity to overcome the *shrama* as-milk, *sura*(~*Ayurveda* wine), *Lajapeya*(special diet), Meat of pig, cow, activity like bath, leg massage etc. There are certain medicine has mentioned by *acharya Charaka* can be prescribed in *shrama* as *shramaharamahakashaya* (group of ten anti-fatigue drugs), *sarpigudadvitiya* and *rasayana sevana* (~antioxidant therapy). According to modern science fatigue is a subjective feeling of tiredness, can be alleviated by periods of rest. It is of 2 types viz. physical and mental. Physical fatigue is the transient inability of a muscle to maintain optimal physical performance and is made more severe by intense physical exercise. Mental fatigue is a transient decrease in maximal cognitive performance resulting from prolonged periods of cognitive activity. Prolonged fatigue is a self-reported, persistent (constant) fatigue lasting at least one month. Chronic fatigue is a self-reported fatigue lasting at least six consecutive months. Chronic fatigue may be either persistent or relapsing. Chronic fatigue is a symptom of many diseases and conditions similarly like as *Shrama*. Several theories explain the mechanism of fatigue^[8], such as- the 'exhaustion theory' suggests that during exercise, many energy sources, such as glucose and liver glycogen, will be exhausted, thus leading to physical fatigue. Several reports showed that post-exercise nutrition through the administration of proteins, peptides or amino acids can facilitate recovery from fatigue (Wang et al., 2008). The 'clogging theory', interprets the over accumulation of serum lactic acid (LA) and blood urea nitrogen (BUN) will also result in metabolic disorders leading to fatigue (Wang et al., 2008). The 'free radical theory' suggests that intense exercise can produce an imbalance between the body's oxidation system and its anti-oxidation system. The accumulation of

reactive free radicals will put the body in a state of oxidative Stress and bring injury to the body by attacking large molecules and cell organs (Wang et al., 2008).

CONCLUSION: *Shrama* is a subjective feeling of tiredness. It can be alleviated by periods of rest when arising in healthy condition. Along with it may adjoin with several pathological conditions also. Based on the physiology, pathology and treatment, *shrama* can be explained through the theory of fatigue, which is known to be accompanied by a feeling of extreme physical or mental tiredness resulting from severe stress. It can also be defined as the reversible decline in skeletal muscle contractile performance due to intense muscle activity. In *Charakasamhita*, *acharya* has scientifically ruled out the concept of fatigue in term of '*shrama*'. Present review suggests scope for further scientific research on different physical, pathological and therapeutic aspect of ancient concept of fatigue.

Table 1: Description of *Shrama* in *Charkasamhita Sutrasthana*⁽⁹⁾:

Sl. No	Chapter Name	Description	References
1.	<i>Dirghanjiviteey adhyaya</i>	<i>Shramahara</i> (anti-fatigue) has mentioned under general Properties of <i>Kshira</i> (Milk)	Ca. Su 1/108
2.	<i>Sadavirechans hatashriteeyad hyaya</i>	<i>Shramahara Mahakashaya</i> (10 groups of drugs having anti fatigue effect)	Ca.Su-4/16
3.	<i>Matrashriteeya dhyaya</i>	<i>Shramahara</i> (anti-fatigue) is one of benefit of <i>Padabhanyga</i> (massage of leg)	Ca. Su-5/90
4.	<i>Tasyashiteeyad hyaya</i>	Properties of <i>Snana</i> (bath) has mentioned as <i>Shramahara</i> (anti-fatigue)	Ca.su-5/94
5.	<i>Navegandhara neeyadhyaya</i>	<i>Shrama</i> (fatigue) may arise as Suppression of <i>Piapasavega</i> (natural urge of thirst)	Ca.Su-7/21
6.	<i>Navegandhara neeyadhyaya</i>	<i>Shramaniswasa</i> (expatriation during fatigue) has mentioned as a <i>adharaniyavega</i> (the natural urge which should not be suppressed)	Ca.Su-7/24
7.	<i>Navegandhara neeyadhyaya</i>	<i>Shrama</i> (fatigue) may arise as due to excessive exercise.	Ca.Su-7/33
8.	<i>Indriyopakram aneeyadhyaya</i>	During <i>Shrama</i> (fatigue) sexual intercourse should be avoided.	Ca. Su-8/22
9.	<i>Upakalpaneey adhyaya</i>	<i>Shrama</i> (fatigue) is a indicatory factor for <i>samshodhana</i> (purification therapy)	Ca.Su-15/14
10.	<i>Kiyantashirase yadhyaya</i>	<i>Shrama</i> (fatigue) is a <i>lakshana</i> (sign) of <i>Asthidhatukshaya</i> (disorder of musculoskeletal system)	Ca.Su-17/67
11.	<i>Kiyantashirase yadhyaya</i>	<i>Shrama</i> (fatigue) is a <i>lakshana</i> (sign) of <i>Shukradhatukshaya</i> (~disorder of testosterone synthesis)	Ca.Su-17/69
12.	<i>Astauninditeey adhyaya</i>	<i>Shrama</i> (fatigue) has mentioned under <i>Manasharirashrama sambhava</i> which is a type of sleep	Ca.Su-21/58
13.	<i>Yajyapurushsee yadhyaya</i>	<i>Sura</i> (~Ayurveda wine) is a best <i>Shramahara</i> (anti-fatigue)	Ca.Su-25/40
14.	<i>Santarpaneey adhyaya</i>	<i>Vatajanak ahara</i> (food responsible for aggravation of <i>vata</i>) is a <i>Avastha viruddha</i> (contradictory factor) during <i>shrama</i> (condition of fatigue)	Ca.Su-26/96
15.	<i>Annapanavidh yadhyaya</i>	Property of pig meat is <i>shramahara</i> (anti-fatigue)	Ca.Su-27/78
16.	<i>Annapanavidh yadhyaya</i>	Property of beef has mentioned as <i>shramahara</i> (anti-fatigue)	Ca.su-27/80
17.	<i>Annapanavidh yadhyaya</i>	Property of <i>Khadag</i> (type of animal) meet is <i>shramahara</i> (anti-fatigue)	Ca.su-27/85
18.	<i>Annapanavidh yadhyaya</i>	Property of <i>Lajapeya</i> (special food item) has mentioned as <i>shramaghna</i> (anti-fatigue)	Ca.Su-27/253

Abbreviation: Ca-Charaka Samhita, Su-Sutrasthana

Table 2: Description of *Shrama* in *Charkasamhita Nidanasthana*⁽¹⁰⁾:

Sl. No	Chapter Name	Description	References
1.	<i>Jvaranidana</i>	<i>Shrama</i> (fatigue) has mentioned as a <i>lakshana</i> (sign) of <i>vatajajvara</i> (~fever due to vitiation of <i>vataadosha</i>)	Ca.Ni-1/21
2.	<i>Jvaranidana</i>	<i>Shrama</i> (fatigue) has mentioned as one of the etiological factor of <i>pittajajvara</i> (~fever due to vitiation of <i>pittadosha</i>)	Ca.Ni-1/22
3.	<i>Jvaranidana</i>	<i>Shrama</i> (fatigue) may arise as <i>purvarupa</i> (prodermal sign) of <i>jvara</i> (~fever)	Ca.Ni-1/33
4.	<i>Jvaranidana</i>	<i>Shrama</i> (fatigue) is one of the general characteristic of <i>jvara</i> (~fever)	Ca.Ni-1/35
5.	<i>Pramehni dana</i>	Excessive <i>shrama</i> (fatigue) is one of the etiological factor of <i>pittaja prameha</i> (~metabolic disorder due to vitiation of <i>pittadosha</i>)	Ca.Ni-4/24
6.	<i>Kusthanidana</i>	<i>Shrama</i> (fatigue) is one of the etiological factor of <i>Kustha</i> (~skin disorder)	Ca.Ni-5/6

Abbreviation: Ca-Charaka Samhita, Ni-Nidanasthana

Table 3: Description of *Shrama* in *Charkasamhita Vimanasthana and Shareerasthana*⁽¹¹⁾:

Sl. No	Chapter Name	Description	References
1.	<i>Janapadodham saneeyadhyaya</i>	Characteristic of human being in <i>satyayuga</i> (deity period) was devoid of all kind of <i>shrama</i> (fatigue)	Ca.Vi-3/24
2.	<i>Atulyagotreeyas hareeradhyaya</i>	<i>Shrama</i> (fatigue) is one of the cause of discharge of Pseudo Pregnancy	Ca.Sha-2/9
3.	<i>Purushvichayas hareeradhyaya</i>	For getting <i>mokshya</i> (eventual destination) one have to build the capacity to tolerate <i>shrama</i> (fatigue)	Ca.Sha-5/12

Abbreviation: Ca-Charaka Samhita, Sha-Shareerasthana, Vi-Vimanasthana

Table 4: Description of *Shrama* in *Charkasamhita chikitsasthana*⁽¹²⁾:

Sl. No	Chapter Name	Description	References
1.	<i>Pranakameeyar asayanapada</i>	<i>Shramahara</i> (anti-fatigue) is one of the benefit of <i>rasayana sevana</i> (~antioxidant therapy)	Ca.Chi-1/2/3
2.	<i>Jvarachikitsadhyaya</i>	<i>Langhana</i> (~light dieting therapy) is contraindicated in <i>vataja shramajajvara</i> (~fever raised due to vitiation of <i>vataadosha</i> caused by fatigue)	Ca.Chi-3/272
3.	<i>Kusthachikitsadhyaya</i>	Intake of water immediate after <i>shrama</i> (fatigue) is one of the responsible etiological factor for <i>kustha</i> (~dermatological disorder)	Ca.Chi-7/6
4.	<i>Kusthachikitsadhyaya</i>	<i>Shrama</i> (fatigue) may arise as general <i>purvarupa</i> (prodermal sign) of <i>kustha</i> (~dermatological disorder)	Ca.Chi-7/12
5.	<i>Kshataksheenachikitsadhyaya</i>	<i>Shrama</i> (fatigue) has mentioned as one of indication area of <i>Sarpiguda Dvitiya</i> (a special Ayurveda formulation)	Ca.Chi-11/60
6.	<i>Pandurogachikitsadhyaya</i>	<i>Shrama</i> (fatigue) may arise as general <i>purvarupa</i> (prodermal sign) of <i>pandu</i> (~anaemia and nutritional disorder)	Ca.Chi-16/12
7.	<i>Pandurogachikitsadhyaya</i>	<i>Shrama</i> (fatigue) may arise as general <i>rupa</i> (sign) of <i>pandu</i> (~anaemia and nutritional disorder)	Ca.Chi-16/13

8.	<i>Madatyayachiki tsadhyaya</i>	<i>Shrama</i> (fatigue) may arise as general <i>rupa</i> (sign) of <i>madataya</i> (alcoholic disorder)	<i>Ca.Chi-24/102</i>
9.	<i>Yonivyapadchiki tsadhyaya</i>	<i>Shrama</i> (fatigue) is cause of male infertility due to <i>beejopghata</i> (decrease sperm count)	<i>Ca.Chi-30/161</i>

Abbreviation: *Ca-Charaka Samhita, Chi-Chikitsasthana*

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