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SAMHANANA-A DIAGNOSTIC TOOL FOR PHYSICAL HEALTH

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ABSTRACT

Ayurveda gives priority to maintain the healthy state of individual & to treat the disease of patient. Everyone is liking towards maintain the health, and all tries for the same. Equilibrium state of *Dosha*, *Agni*, *Dhatu*, *Mala* and *Kriya* is symbol of healthy status of human being. *Acharya Charaka* has mentioned *Dashavidha Pareeksha* for assessing status of strength of *Aatura* (Patient). *Samhanana* examination is one out of them. In the definition of *Samhanana*; *Raktadhatu*, *Mansadhatu* and *Asthidhatu* is mentioned. Structural and functional aspect of these three dhatus i.e. Rakta, Mansa and Asthi should be considered for *Samahana*. To rule out *Samhanana* of an individual whether it is *Uttama*, *Madhayama* or *Hina*; we must take consideration qualities, quantity & functions of *Dhatu*. It reflects strength of *Dhatu*. In Other word we can say, it gives idea about capacity of *Dhatu* (Vyadhik shamatva) against disease forming process (*Vyadhijananam*). *Jivanam* & *Dhatupooranam* are the function of the *Raktadhatu*, *Lepana* & *Dehadharana* are the function of the *Mansa* & *Asthidhatu* concerned with *Samhanana*. *Samhanana* is a broad concept put forward by *Acharya charaka*, He has provided an idea about what we should have to thing for *Samhanana*. It is one of the examination tools for to evaluate strength of patient. It is my petit effort to highlight importance of concerned body entities in *Samahana* or compactness of the body

Keywords: Asthidhatu, Bala, Mansadhatu, Raktadhatu, Samhanana

1. INTRODUCTION

Health is a fundamental human right and the attainment of the highest possible level of health is a most important worldwide social goal. *Ayurveda* is the most ancient health care system and traced on maintenance of the health of healthy individual & to treat the disease of diseased person. According to *Ayurveda* health indicated as *Samadosha* (equilibrium of bio-energies), *Samagni* (equilibrium of digestive fire), *Samadhatu* (equilibrium of tissues), *Samamala* (equilibrium of metabolic waste material), *Samakriya* (equilibrium of body functions) and happy or balanced state of soul, sense organs and mind.¹ According to modern, for systemic examination inspection, palpation, percussion, and auscultation methods are used. In *Ayurveda* many *Acharyas* has given different examination tools i.e. *Dwividhapareeksha*, *Trividhapareeksha*, *ShadavidhaPareeksha*, *Ashtavidhapareeksha* and *Dashavidhapareeksha*. *Samhana* is Part of *DashavidhaPareeksha* in which person should be examined for his body compactness to know *Bala* (Strength of Individuals).²

2. AIM & OBJECTIVES

2.1. To Study concept of *Samhanana*

2.2. To Study roll of Body components (*Panchamahabhoot*, *Dosha*, *Rakta*, *Mansa*, *Asthi*) in *Samhanana*

3. METHODOLOGY

Literary research study has been done on the *Samhanana* with the help of all the *ayurvedic samhita* and modern text books, research articles and related topics, journals.

4. CONCEPTUAL STUDY OF SAMHANANA

Samhana means compactness or firmness of the body. *Samhati* and *Sanyojana* are synonyms for *Samhana*. *Samhati* is strong union of joints [3].

4.1. Types of *Samhana* [4]

Well compact body is said to be that which has symmetrically and properly divided bones; well-bound joints, properly attached muscles and good quality of blood. One who is having well compactness of the body is strong, deficient compactness is weak, and one having moderate compactness has medium strength,

***Samhanana* can be categorized into**

1. *Pravara*,
2. *Madhyama* and
3. *Avara*

Pravara Samhanana-

The presence of symmetrical and well-defined (*Suvibhakta*) bones, well-formed

joints, and compact well bounded muscles and good muscles tone. Good quality and quantity of blood and proper blood circulation is considered as *Pravara Samhanana* (strong built). They have excellent body strength (*Uttam Bala*).

Madhyama Samhanana-

Person with moderately symmetrical and well-defined bones. Moderately formed joints, moderate muscles tone and moderate quality and quantity of blood is considered as *Madhyama Samhanana* (strong built). They have moderate body strength (*Madhyama Bala*).

Avarasam hanana-

Person with Asymmetrical bones and joints. Weak muscles tone and poor quality and quantity of blood are considered as *Avarasam hanana* (weak built). They have poor or weak body strength (*Heena Bala*).

4.2. Factors influence Samhanana:

4.2.1. Samhanana and Panchamahabhoot [5]

Pruthvi & *Aap Mahabhoot* are responsible for *Uttam Samhanana*. *Aakash* & *Vayu Mahabhoot* are responsible for *Hina Samhanana*.

- *Prithvi Mahabhoot*:- *Upachaya* (Anabolism), *Sanghatkar* (Keep compactly binded)

- *Aap Mahabhoot*- *Snehabandhanakara* (Make Strong Union)

- *Vayu Mahabhoot*- *Laghavakarani* (Catabolism)

- *Aakash Mahabhoot*- *Saushir* (Reduce Compactness)- *Laghava karanikarani*

4.2.2. Samhanana and Dhātu [6, 7]

• ***Rakta Dhātu***: *Jivanam*, *Dhatupooranam*, *Mansapushti*, *Bala* are the function of *Rakta Dhātu* that accelerate (*Samahana*) Compactness of the body. The strength of other *Dhatus* & ultimately the strength of body will increase due to proper quality & quantity of *Raktadhatu*. *Raktadhatu* circulates throughout the body & nourishes all *Dhatus* & is responsible for aggravation & alleviation of all *Dhatus*.

• ***Mansa Dhātu***: *Sharirpushhti* is function of *Mansadhatu* concerned with *Samahana* *Mansa Dhātu Kshaya* leads to *Shushkata* (leanness) of body parts

• ***Asthi Dhātu***: *Dehadharana* (Provide Stability to the body), *Majjapushti* (Nourishment of *Majadhatu*) are the concerned with *Samahana*.

4.2.3. Samhanana & Dhatusara [8]

Dhatu Sarata is the essence or best quality of *Dhatu*.

• In *Rakta Sara* included the features like *Shrimad* (Handsome), *Bhrajitaṣṇu* (shining

or bright), and constitutional essence indicates happiness, intelligence, strong etc.

• In *Mansa Sara* included features like *Sthira* (stable), *Guru* (heavy), *Mamsopachita* (properly covered with good musculature) and constitutional essence indicates tolerant, under control, non-greediness, wealthy, knowledgeable and strength and in *AsthiSara* included the features like *Sthula* (prominence of etc. *Gulpha*, *Janu*, *Sarasthira Sarīra* (strong and firm body), good tolerance for pain and longevity.

• In *Sarva Sara Purusha Lakṣaṇas* also *Acharya Charaka* mentioned *Sthira Samahitasharira* (have firm and well-formed body).

4.2.4. Samhanana & Prakruti [9]

Acharya Charaka while explaining the features of the each *Doṣhik Prakriti* explained some bodily related features,

• In *Kapha Prakriti* included *Sara-Samhat-sthir –Sharira* (Firmness, compactness and stability of body), *Uttamabala* (strong), *Upchit Paripoorna Sarvanga* (all organs well developed and perfect), *Sama* (symmetrical). We can say *Kapha Prakriti* individual is having *Pravara Samhanana*.

• In *Pitta Prakriti* included *Shithil-Mrudukansa* (looseness and softness of joints and muscles), *Madhyamabala* (moderate strength). We can say *Pitta Prakriti* individual is having *Madhyama Samhanana*.

• In *Vata Prakriti* included *Anavasthitha Sandhi* (unsteadiness of joints), *Bahukanḍara* (prominent tendons), *Bahusira* (prominent vein), *Avarabala* (Less body strength). From these features *Vata Prakriti* is more associated to *Avara Samhanana*.

4.3. Assessment of Samhanana

Table 1: Assessment of *Dhatu* for Samhanana [10]

<i>RaktaDhatu</i>	<i>Mansa Dhatu</i>	<i>AsthiDhatu</i>
<ul style="list-style-type: none"> • <i>Jeevana</i>– Hb % • <i>Balaor strength</i>- RBC • <i>Dhatupoornana</i>- NadiBala 	<ul style="list-style-type: none"> • <i>Sharirbala</i>(physical strength)<i>Vyayamshakti</i> • <i>Muscle tone</i> 	<ul style="list-style-type: none"> • <i>Sthulata</i>- Small joints, nails,teeth, chin Vernier calipers <i>Dharanaand Majja Poshana Karma</i>- serum calcium and serum phosphorus, BMD

4.3.1. Sam-Suvibhakta-Asthi-

• **Serological test:-** The combination of raised alkaline Phosphates', raised parathyroid hormone & low Vit. D (cholocalciferol) indicates osteomalacia.

Serum 'Ca' levels can be examined for diagnosis of status of bones

• **Bone Mineral density (BMD): [11]**

Instrument: - Dual Energy x-ray absorptiometry- (DXA) BMD. Bone tissue

placed between an X-ray source & a detector impedes the passage of radiation in proportion to the amount of minerals present.

T-score:- The T-score is a comparison of a patient's BMD to that of a healthy thirty-year-old of the same sex and ethnicity. This value is used in post-menopausal women and men over aged 50 because it better predicts risk of future fracture.

- Normal is a T-score of -1.0 or higher
- Osteopenia is defined as between -1.0 and -2.5
- Osteoporosis is defined as -2.5 or lower, meaning a bone density that is two and a half standard deviations below the mean of a thirty-year-old man/woman.

Z-score: - The Z-score is the number of standard deviations a patient's BMD differs from the average BMD of their age, sex, & ethnicity. This value is used in premenopausal women, men under the age of 50, and in children.

4.3.2. *Su-Baddha-Sandhi-*

Examination of all joints of body. Compare the corresponding joints on the two sides of the body.

- Inspection: - Inflammation / Redness.
- Palpation: - Swelling / tenderness
- Joint crepitus
- Range of movements

4.3.3. *Su-Nivishhta Mansa-*

There are three main investigations for diagnosis and monitoring of the muscle disease. Serum creatine kinase (CK), Electromyography (EMG), muscle histology.

EMG:- The process of recording electrical potential in human skeletal muscles is known as EMG. It is useful in diagnosing the disorders affecting lower motor neuron lesions, muscles, nerve & neuromuscular junctions.

Muscle Tone:- There is normally a small, continuous resistance to passive movement. Observe for decreased (flaccid) or increased (rigid/spastic) tone. Muscle tone is the amount of tension (or resistance to movement) in muscles. Our muscle tone helps us to hold our bodies upright when we are sitting and standing. Changes in muscle tone are what enable us to move. Muscle tone also contributes to the control, speed, and amount of movement we can achieve [12].

Dystrophy is a group of muscle disease marked by weakness and wasting of selected muscles, in which there is recognizable pattern of inheritance. The affected muscle fibers degenerate and are replaced by fatty tissues. Atrophy is reduction in muscle mass due to decrease in diameter of muscle fiber. Hypertrophy is an increase in total mass of

muscle due to increase in certain muscle fibers. May be pathological / physiological

- Hypotonia:- Lower motor neuron lesion.

- Hypertonia:- Upper motor neuron lesion.

Table 2: MRC Muscle Power Scale [13]

Score	Description
0	No contraction
1	Flicker or trace of contraction
2	Active movement, with gravity eliminated
3	Active movement against gravity
4	Active movement against gravity and resistance
5	Normal power

4.3.4. *Su-Nivishhta Shonitam* [14]

Following investigation can be done to know status of *Rakta* (Blood)

- CBC
- ESR
- Immunoglobulins
- CD 4 count etc.

4.4. Benefits of knowing *Samhanana* [15]

Samhanana is Part of tenfold examination is one of the most comprehensive formats of patient examination explained in *Ayurvedic* treatises. It is done mainly to study and analyze

- *Rogi Bala* - Strength (physical and mental) and endurance of the patient
- *Roga Bala* - Strength of the disease
- *Ayu Bala* - Quantity and quality of lifespan
- It helps in planning a comprehensive treatment protocol (including diet and lifestyle recommendations) protocol

- It helps in analyzing the normal and abnormalities related to body components, measurements and quantity of body components, tissues and organs, capacity to exercise and consume food, compactness and compatibilities related to body and mind and best qualities of the tissues of the body, all of which helps to know the strength of disease and diseased and in turn help in planning an effective treatment blueprint.

5. DISCUSSION

Charakacharya has explained *Dashavidha pariksha* to assess *strength* of a person. *Samhanana* examination is one; now a day this type of assessment is ignored. *Samhanana* examination is advantageous to know strength as well as immunity of person. Immunity or strength depends on *Dhatubala* (strength of tissues). It indicates integrality of the body components and composure of the body. It also governs the coordination between body and mind other integral health

and strength. Reduction in the compactness leads to the proneness to disease. So *Samhanana* is an indicator of *Atura* or *Rogi Bala*. Assessment of *Asthidhatu*, *sandhi*, *Mansadhatu* and *Raktadhatu* is important to know status of *Samhanana* whether it is *Pravara*, *Madhyama* or *Avara*. There are some other parameters like (Serum alkaline Phosphates, Parathyroid hormone, Vit. D (cholecalciferol, Serum 'Ca' Ph levels), (Serum creatine kinase (CK), Electromyography (EMG), muscle histology) & CBC, ESR, Immunoglobulins, CD 4 count etc. are also important to rule of status of bone, muscle and blood respectively. By taking support of investigation or examination, we can definitely improve quality of *samhanana* or quality of *Rakta*, *Mansa* & *Asthidhatu*.

6. CONCLUSION

- *Samhanana* is a concept given by *Charakacharya*.
- It is firmness / Compactness of body part, organs, or body.
- According to definition of *Samhanana*, *Rakta* (blood tissue), *Asthi* (osseous tissue) & *Mansa* (muscle tissue) should be assessed to know compactness of individual.
- *Pruthi* and *Jala Mahabhoot* is concerned with *Pravara Samhana*.

- *Kapha Prakruti* individuals is having *Pravara Samahana*.
- Person with *Pravara Samhana* indicates his best strength, hence may not suffer from diseases frequently.
- *Avarasamhanana* person may not tolerate very strong medicine, therefore mild medicine and low doses are advised. *Avara Samhanana* can be improved by advising daily exercise.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

CONSENT (WHEREEVER APPLICABLE)

NA

ETHICAL APPROVAL

NA

REFERENCES

- [1] Vaidya Yadavji Trikamji Acarya, Susruta Samhita Of Susruta With The Nibandhasangraha Commentary Of Sri Dalhanacarya, Edition 2014, Chowkhamba Krishnadas Academy:

-
- Varanasi, Sutra Sthana, Chapter 15 , Verse no.4, Choukhambha Krishanadas Academy Varanasi Reprinted 2004
- [2] Vaidya Yadavjitrikamji Acharya, Charakasamhita by Agnivesha revised by Charaka and Dridabala with the Ayurveda Dipika commentary of Chakrapanidutta, Chaukhambha Prakasan, 2013, on Vimana Stana, Chapter 8, Verse No. 94, Choukhambha Krishanadas Academy Varanasi Reprinted 2004
- [3] Vaidya Yadavjitrikamji Acharya, Charakasamhita by Agnivesha revised by Charaka and Dridabala with the Ayurveda Dipika commentary of Chakrapanidutta, Chaukhambha Prakasan, 2013, on Vimana Stana, Chapter 8, Verse No. 94, Choukhambha Krishanadas Academy Varanasi Reprinted 2004
- [4] Vaidya Yadavjitrikamji Acharya, Charakasamhita by Agnivesha revised by Charaka and Dridabala with the Ayurveda Dipika commentary of Chakrapanidutta, Chaukhambha Prakasan, 2013, on Vimana Stana, Chapter 8, Verse No. 116, Choukhambha Krishanadas Academy Varanasi Reprinted 2004
- [5] Vaidya Yadavjitrikamji Acharya, Charakasamhita by Agnivesha revised by Charaka and Dridabala with the Ayurveda Dipika commentary of Chakrapanidutta, Chaukhambha Prakasan, 2013, on Sutrastana, Chapter 26, Verse No.11-12, Choukhambha Krishanadas Academy Varanasi Reprinted 2004
- [6] Sushruta Samhita of Sushruta with Nibandhasangraha Commentary of Shri Dakhanacharya & Nyayachandrika Panjika of Shri Gayadasacharya edited by Vaidya Jadavaji Trikamji Acharya & Narayana Ram Acharya, Sutra sthana chapter 14, verse no.44, page no.66 Choukhambha Krishanadas Academy Varanasi Reprinted 2004
- [7] Vaidya Yadavjitrikamji Acharya, Charakasamhita by Agnivesha revised by Charaka and Dridabala with the Ayurveda Dipika commentary of Chakrapanidutta, Chaukhambha Prakasan, 2013, on Sutra Stana, Chapter 28, Verse No.7, Choukhambha Krishanadas Academy Varanasi Reprinted 2004
- [8] Vaidya Yadavjitrikamji Acharya, Charakasamhita by Agnivesha revised by Charaka and Dridabala
-

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- with the Ayurveda Dipika commentary of Chakrapanidutta, Chaukhambha Prakasan, 2013, on VimanaStana, Chapter 8, Verse No. 102-103, Choukhambha Krishanadas Academy Varanasi Reprinted 2004
- [9] Vaidya Yadavjitrikamji Acharya, Charakasamhita by Agnivesha revised by Charaka and Dridabala with the Ayurveda Dipika commentary of Chakrapanidutta, Chaukhambha Prakasan, 2013, on Vimanastana, Chapter 8, Verse No.95, Choukhambha Krishanadas Academy Varanasi Reprinted 2004
- [10] Conceptual Study Of Samhanana As A Measuring Tool, Waghulade Hemangini Sanjay Professor & HOD Department of Kriya Sharir, Dr. D.Y. Patil College of Ayurved and Research Centre, Nerul, Mumbai, Maharashtra, India
- [11] <https://www.nof.org/patients/diagnosiss-information/bone-density-examtesting>
- [12] https://www.rch.org.au/kidsinfo/factsheets/Low_muscle_tone
- [13] <https://geekymedics.com/muscle-power-assessment-mrc-scale>
- [14] <https://www.easyayurveda.com/2018/01/29/dasha-vidha-atura-pareeksha>
- [15] Dr. Parvathy J, Dr. Usha Kumari, Dr. Haritha Chandran, Dr. Leena P. Nair. Understanding of Samhanana based on Ayurvedic Concepts. J Ayurveda Integr Med Sci [Internet]. 2020. Oct.31 [cited 2021Aug.10]; 5(05): 369-73. Available from: <https://jaims.in/jaims/article/view/1070>
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