

## A CONCEPTUAL STUDY OF SAMHANANA AS A MEASURING TOOL

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### ABSTRACT

For examination of healthy persons, *samadoshatva*, *samagnitva*, *samadhatutva*, *sama malatva* & *samakriya* should be assessed. For assessing *samadhatutva*, Ayurved has mentioned some examinations like *anguli pramana*, *aayam vistar samatva*, *pourushmana*, *samhanan*, *sara* etc. *Samhanan* examination has been chosen for the study which is mentioned in ten-fold examination of Charak samhita. *Samhanan* examination is useful for knowing the strength as well as immunity of a particular person. The parameters given by Charakacharya are mainly subjective & assessment may change due to subjective bias. So this is an attempt to decide objective parameters to get uniformity & to avoid subjectivity in *samhanana* examination. In the definition of *samhanana* given by Charakacharya, it is mentioned that *samhanana* of three *dhatus* i.e. *rakta*, *asthi* & *mamsa* should be assessed. So it has been tried to assess the qualities & functions of *rakta dhatu*, *mamsa dhatu* & *asthi dhatu*. It has also been tried to decide parameters for *samhanana* examination so as to bring objectivity in this examination. It is concluded that *samhanana* examination can be done more precisely & accurately with the help of parameters & this examination will be definitely helpful in assessing the strength & immunity of a particular person.

**Keywords:** *samhanana*, *bala*, *sama dhatutva*

### INTRODUCTION

Ayurveda gives priority to maintain healthy state of an individual & its second aim is to treat the disease of patient. The criterion for the person to be called healthy is *sama doshatva* (equilibrium of bio-energies), *samagnitva* (equilibrium of digestive fire), *sama dhatutva* (equilibrium of tissues), *sama malatva* (equilibrium of wastes), *sama kriya* (equilibrium of body functions) and is happy with balanced state of soul, sense organs and mind.<sup>2</sup>. For assessing *sama dhatutva*, Ayurved has mentioned some examinations like *anguli pramana*, *aayam vistar samatva*, *pourushmana*, *samhanan*, *sara* etc. Examination of a diseased person becomes necessary to obtain knowledge regarding the span of life,

strength & the intensity of morbidity, because it is on the basis of intensity of morbidity that the dosage of the therapy is determined & the latter is dependent upon the strength or the power of resistance of the individual. Therefore the patient should be examined with reference to his *prakruti* (physical constitution), *vikruti* (morbidity), *sara* (excellence of *dhatus*), *samhanana* (compactness of organs), *pramana* (measurement of body organs), *satmya* (homologation), *sattva* (psychic constitution), *aaharshakti* (power of intake & digestion of food), *vyayamshakti* (power of performing exercise) & *vaya* (age) in order to ascertain strength of a person.<sup>3</sup> From these examinations, one can know about the

strength & immunity of that particular person. *Samhanana* examinations has been chosen for the study which is mentioned in *dashavidha pariksha* (tenfold examination) of Charak samhita.

*Samhanana* is a concept given by Charakacharya. Concepts are mental images or perceptions & therefore their meanings vary markedly from person to person whereas variables are measurable. It is important for the concepts to be converted into variables as they can be subjected to measurement. Therefore this is an attempt to establish objective parameters for *samhanana* examination.

## NEED OF STUDY

*Samhanana* examination is useful for knowing strength as well as immunity of a particular person. Immunity or strength depends on *dhatubala* (strength of tissues). *Dhatubala* can be measured by subjective & objective criteria. Subjective criteria can differ from person to person. Objective criteria can bring uniformity in assessment. Charakacharya has explained *dashavidha pariksha* to assess strength of a person. *Samhanana* examination is one out of those criteria but this type of assessment is neglected now a days. In definition of *samhanana*, it is mentioned that *samhanana* of three *dhatus* i.e. *rakta, asthi & mamsa* should be assessed.<sup>9</sup> So it has been tried to assess the qualities & functions of *rakta dhatu, mamsa dhatu & asthi dhatu* & to decide parameters for *samhanana* examination so as to bring objectivity in this examination.

## AIMS & OBJECTIVES

1. To review the literature of *samhanana*.
2. To decide parameters for *samhanana* examination & to bring objectivity for assessment of the strength & immunity of a person from his/her *samhanana*.

## MATERIALS & METHOD

### A] Literature search

- a) Brihatrayi & laghutrayi
- b) Modern texts
- c) Relevant websites

### B] Type of study – Conceptual study

#### Conceptual study of *samhanana*

Meanings of *samhanana* word from various shabda koshas & Samhitas:

- a) Compactness, firmness, the body, person, strength.<sup>4</sup>
- b) Compact, solid, firm, striking together, robustness.<sup>5</sup>
- c) In Sushruta Samhita Sutra sthana, while explaining the significance of *mamsa rasa*, the word ‘*samhanana*’ is referred as physique. *Mamsa rasa* (meat soup) bestows contentment (nourishing), restores life, relieves dyspnea, cough & consumption, mitigates vata, pitta & fatigue, good for heart, satisfying to those who have loss of memory, vitality & voice, who have become weak by fevers, loss of tissues, injury to the chest, fractures & dislocation of bones & joints, the emaciated & poor of semen; **builds physique**, unites bones, increases semen & strength when added with dadima, it is aphrodisiac & when processed with pungent etc., it mitigates the *doshas*.<sup>6</sup>
- d) In Sushruta Samhita Nidana sthana, while describing the signs & symptoms of *kaphaja granthi*, the word ‘*samhanana*’ is referred as growth. That produced by *kapha*, the swelling is cold to toe such, not discolored, has slight pain but severe itching, **grown big like a stone**, develops slowly & when pricked exudes white thick pus.<sup>7</sup>
- e) While describing definition of *samhanana* in Charak Samhita Vimana

sthana ,a term “*sunivishta mamsa shonit*” is used & in Charak samhita sutra sthana ,a term “*anivishta mamsa shonit*” is given in reference with *vyadhikshamatva* (immunity).Chakrapani has commented on *anivishta* as uneven or flabby muscles & other tissues.<sup>8</sup>

#### Definition of *samhanana* -

A person is to be examined with reference to his *samhanana* or compactness of the body. *Samhanana*, *samhati* & *samyojana* terms are synonymous. A compact body is characterized by the symmetrical & well divided bones, well-knit joints & well bound muscles & blood .An individual having a compact body is very strong otherwise he is weak. When the body is moderately compact, the individual is possessed of moderate strength.<sup>9</sup> According to Charak, persons having proportionate musculature & compactness of the body no doubt possess very strong sensory & motor organs & as such they are not overcome by the onslaught of diseases. They can tolerate hunger, thirst, the heat of the sun, cold & physical exercises. They can have good digestive capacity & assimilation.<sup>10</sup> In Ayurveda, the process of learning, research and clinical practice are empirical (based on observations) and which follow scientific methods. Like other systems of ancient Indian learning, Ayurveda is discovered through most recognized schools of acquiring knowledge and producing evidence i. e. *Pramanas* viz. (1) Direct perception through sense organs (*Pratyaksha*), (2) Inference (*Anumana*) (3) Verbal texts from many of the trustworthy persons, who knows truth and communicate correctly (*Aptopadesha*) and (4) Logical/rational interpretation (*Yukti*), etc. These *pramanas* can be applied as tools for acquiring knowledge regarding *Roga* (dis-

ease) & *Rogi* (patient) and healthy persons too. *The diagnosis in Ayurveda is based on a two-fold approach to diagnostics viz. (1) Examination of the patient i.e., Rogi-pariksha; and (2) Examination of the disease i.e., Rogapariksha.* Therefore, *Rogi-pariksha* is essentially concerned with ascertaining the constitution of the individual and status of his health and vitality. This is achieved through tenfold examination of patient comprising of *Prakriti*, *Vikriti*, *Sara* etc. *Samhanana* refers to the physique of a person. A compact body frame usually suggests a healthy body. Lean or obese body is unhealthy. *Samhanana* (Physical build) examination of the body is carried out by well-built healthy body, symmetric bones, strong stable joints and sufficient flesh and blood.

According to definition of *samhanana* as stated by Charak, *samhanana* of *rakta dhatu*, *mamsa dhatu* & *asthi dhatu* should be assessed. In our *Samhitas*, the excellent qualities of *dhatus* i.e. *dhatu sarata* (tissue excellence) and their functions are explained very well. While assessing the qualities of *dhatus*, the characteristics of *sarata* that are explained in our *Samhitas* can be considered. But only characteristics related with *sharir* (body) can be considered & not the psychological ones because in *samhanana*, no *manas bhavas* (psychological elements) are mentioned. Functions of *dhatus* are also given in *Samhitas*.

To decide criteria for assessment of *dhatus*, qualities & functions of *dhatus* can be considered.

**Qualities of *rakta sara* person:-** According to Charak, the salient features of *rakta sara* persons are: *Karna* (ears), *netra* (eyes), *mukha* (face), *jihva* (tongue), *nasa* (nose), *oshttha* (lips), *panitala* (palms), *paadatala*

(soles of the foot), *nakha* (nails), *lalata* (fore head), *medhra* (penis) are *snigdha* (unctuous), *raktavarna* (red), *shrimad* (beautiful ), *bhra-jishnu* (dazzling).<sup>11</sup>

According to Sushruta, *raktasara* person is known to possess unctuous and coppery nails, eyes, palate, tongue, lips, palms and soles.<sup>12</sup>

**Functions of rakta dhatu :-**The functions of *rakta dhatu* given in our Samhitas are- *Jeevan* (to maintain life process) is the most important function of *rakta dhatu*.<sup>13</sup>

*Rakta dhatu* is a medium for conduction of *prana*; hence life depends on *rakta dhatu*.<sup>14</sup> Living creatures are endowed with *bala* (strength), *varna prasadan*(complexion), *sukha* (happiness )& *ayu* (longevity) due to pure blood. Blood plays a vital role in the sustenance of life.<sup>15</sup> *Rakta dhatu* bestows colour, nourishment to the *mamsa dhatu* & maintains life activities.<sup>16</sup>

*Rakta* moving in its own *sira* (*raktavaha sira*) performs functions such as *puran* (supplying nutrition to the tissues), *varna* (bestowing of colour), *sparsha dnyana* (tactile sensation) & many others also, when aggravated, *rakta* accumulates in their own *sira*, and then many diseases caused by blood develop in the body.<sup>17</sup> In all, the functions of *rakta dhatu* are *Jeevan,bala, varna prasadan,sukha,purana & sparsha dnyana* according to our Samhitas.

**Qualities of mamsa sara person:-**According to Charak, the salient features of *mamsa sara* persons are: *Shankha* (temples), *lalaat* (fore-head), *krukatiika*(atlanto-occipital joint),*akshi* (eyes),*ganda* (zygomatic bone region), *hanu* (jaw), *griva* (neck), *skandha*(shoulder), *udar* (abdomen), *kaksha*(axilla), *vaksha* (chest), *pani-pada sandhi* (joints of limbs)are *sthira*(stable),*guru*(heavy), *shubha* (good looking) & *mamsopachit* (well covered with muscles).<sup>19</sup>

According to Sushruta, *mamsasara* is known to possess few depressions (hollows) in the body, to have well covered (concealed) bones and joints and to be muscular.<sup>20</sup>

**Functions of mamsa dhatu:-** The functions of *mamsa dhatu* given in our Samhitas are-*Skin is the upadhatu of mamsa dhatu which covers whole body. Lepa (covering) is main function of mamsa dhatu*.<sup>21</sup> *Meda pushti* (nourishment of medodhatu) is the important function of *mamsa dhatu*.<sup>22</sup> *Mamsa peshi* (muscles) confer *bala* (strength) & working capacity to the body.<sup>23</sup> Since *sira*(veins),*snayu* (ligaments),*asthi* (bones),*asthi parva* (small bones)& *sandhi* (other joints of muscles etc.) of the body are covered by muscles ,they are strong.<sup>24</sup> In all,*lepa,meda pushti & bala* are functions of *mamsa dhatu* according to our Samhitas.

**Qualities of asthi sara person:-** According to Charaka,the salient features of *asthi sara* persons are : *Parshni* (heels), *gulpha* (ankles), *janu* (knees), *aratni* (distance between elbow & tip of small finger), *jatru* (sternum),*chibuk*(chin),*parva* (digits), *asthi*(bones), *nakha* (nails),*danta* (teeth) are *sthula*(robust or big).<sup>26</sup> According to Sushruta, *asthisara* is known to possess a big head and shoulders and big teeth, jaws, bones and nails.<sup>27</sup>

**Functions of asthi dhatu:-** Function of *Asthi dhatu* is *dharana* (to provide support to the body) & *majja poshana* (nourishment to *majja dhatu*).<sup>28</sup> *Asthi dhatu* supports the body, keeps body in erect position.<sup>29</sup> In all, *dharana & majja poshana* are the functions of *asthi dhatu* according to our Samhitas.

## DISCUSSION

### Criteria for *rakta dhatu* assessment

While assessing qualities of *rakta dhatu*,

Organs to be assessed	Quality	Gradation
<i>Rakta sara</i> organs like ears, eyes, mouth, tongue, nose, lips, palms & soles, nails, forehead	<i>Snigdha</i>	1
	<i>Snigdha + Raktavarna</i>	2
	<i>Snigdha + Rakta varna + Shrimad</i>	3
	<i>Snigdha + Rakta varna + Shrimad + Bhrajishnu</i>	4

While assessing functions of *rakta dhatu*, For *Jivan karma*, Hemoglobin can be measured. As Haemoglobin carries oxygen which is necessary for life, *jeevan* function can be assessed by measuring Haemoglobin in blood. If the blood is pure & in appropriate quantity, then the other *dhatus* get nourished properly. The strength of other *dhatus* & ultimately the strength of body will increase due to proper quality & quantity of *rakta dhatu*. RBCs are major vehicle for O<sub>2</sub> & CO<sub>2</sub> transport. Haemoglobin present in RBCs acts as a buffer & helps in maintaining O<sub>2</sub> transport. Haemoglobin is a combination of haem & globin. Globin is a protein which is a body building material. So *bala* or strength of *rakta dhatu* can be assessed by measuring RBCs. *Varna prasadan* depends on pure *rakta dhatu* so it can be assessed by *darshan* examination. *Varna prasadan* can be recorded as Yes-1 & No-2. While assessing *sukha* function of *rakta dhatu*, intellectual happiness can be assessed. As *rakta dhatu* is responsible for *medha* i.e. intellect, intellectual happiness can be judged.

### Criteria for *mamsa dhatu* assessment

While assessing qualities of *mamsa dhatu*,

Organs to be assessed	Quality	Gradation
<i>Mamsa sara</i> organs like temples,	<i>Sthira</i>	1

by interest in reading, discussion & listening & it can be graded as reading -1, reading + discussion-2 & reading + discussion+ listening-3.

*Rakta dhatu* circulates throughout the body & nourishes all *dhatus* & is responsible for aggravation & alleviation of all *dhatus*. <sup>18</sup> This can be understood by *nadi-bala*(strength of pulse). By knowing *nadi bala*, *Puran karma* can be graded as *uttam*-3, *madhyam*-2 & *hina*-1 accordingly.

It is observed from textual literature that tactile (*sparsha dnyana*) disorders get cured by using drugs that are useful for treatment of *rakta dhatu* or for purifying *rakta dhatu*. For proper functioning of *sparshanendriya*, *rakta dhatu* should be in proper condition. Hence *sparsha dnyana* can be understood as a function of *rakta dhatu*. For assessing *sparsha dnyana*, sphygmomanometer can be used. The sphygmomanometer is tied around the upper extremity. The mercury level is raised up to 150 mm & the time when the person feels numbness in hands is noted.

<b>forehead, atlanto-occipital joint, eyes, cheeks, chin, neck, shoulder, abdomen, axilla, chest hands, legs, joints</b>	<i>Sthira + Guru</i>	2
	<i>Sthira + Guru + Shubha</i>	3
	<i>Sthira + Guru + Shubha + Mamsopachita</i>	4

*Sthira & Shubha* qualities can be judged by *darshana* (visual) examination. *Guruta* can be measured by a measuring tape. To measure *mamsopachitata*, vernier caliper can be used. While observing *sandhi*; height, breadth & circumference of *janu sandhi* (knee joint as it is a major joint) can be measured & graded accordingly. While assessing functions of *mamsa dhatu Lepa* is one of the functions of *mamsa dhatu*. So it can be assessed by observing *acchidra gatata* i.e. well bounded muscles which can be observed by yes/no criteria. *Meda pushti* depends on *mamsa dhatu* so it can be assessed by measuring *snigdha kala* with the help of moisture meter or time for absorption of oil can be noted. *Bala* i.e. *sharir bala* is assessed by *vyayam shakti* (physical strength) & *vyayam shakti* is determined by one's ability to perform work.<sup>25</sup> So this function of *mamsa dhatu* can be assessed with the help of bull worker & the reading on the scale can be noted.

### Criteria for *asthi dhatu* assessment

While assessing qualities of *asthi dhatu*, *Asthi sara* organs like heels, ankle, knee, distance between elbow & tip of small finger, sternum, head can be measured by a measuring tape to assess *sthulata*. Small joints, nails, teeth, chin can be measured by vernier caliper. Skeleton is formed by bones i.e. *asthi* so while doing *asthi* examination, *aayam* & *vistaar* (anthropometry) of whole body can be measured. While assessing functions of *asthi dhatu*,

for *dharana* & *majjaposhana* karma, serum calcium & serum phosphorus can be measured. As calcium & phosphorus are the important minerals that provide rigidity to skeleton & are responsible for strength of bones, *dharana* & *majja poshana karma* can be assessed from these criteria.

## CONCLUSION

*Samhanana* examination is one of the major examinations for the assessment of strength & immunity of a person. With the help of objective parameters, *samhanana* examination will become more suitable for its practical use by reducing subjective bias.

### Further scope of study

*Samhanana* examination can be used as a measuring tool for examination of study subjects in various clinical studies.

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