



Review Article

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A REVIEW ON SARA PARIKSHA OF AYURVEDA: AN IMPORTANT DETERMINANT TOOL FOR FUTURE PERSPECTIVE

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ABSTRACT

The ancient system of Indian medicine (Ayurveda) has mentioned various physiological concepts; one of them is dhatu sarata. Acharya Charaka has described dashvidha aatur parikshya vishaya (ten important aspects for examination) for vaidya to enhance their knowledge. Dashvidha aatur pariksha bhava (ten-fold examination of patients) are physical constitution (prakruti), morbidity (vikruti), excellence of dushya or tissue elements (sara), compactness or tissues or organs (samhanana), measurement of body constituents (pramana), homologation (saatmya) psychic condition (satwa), power of intake and digestion of food (aaharshakti), power of performing exercise (vyayam shakti) and age (vayah) for bala pramaan. All nine except vikruti pariksha are used to assess bala of rogi and vikruti pariksha to access the bala of dosh. Sara pariksha is one component of dashvidha aatur pariksha, specifically used to examine the strength of an individual or dhatu. As Charaka stated, "Bala maan vishesh gyanartham", means for assessment of bala. In this review article, we attempted to correlate the various dhatu sarata with modern physiological entities and to determine possible methods to assess dhatu sarata and its application by compiling the previous work done by multiple researchers.

Keywords: Bala, Dhatu, Future Perspective, Sarata.

INTRODUCTION

Ayurveda has mentioned dosha, dhatu and mala as the three essential components of sharir.¹ Dhatu can be considered a significant tissue part of our body.²

Dhatu serves the dharan function of the body.³ Seven types of dhatus are mentioned in Ayurveda, i.e., rasa, rakta, mansa, meda, asthi, majja, and shukra.⁴

The process of dhatu nourishment and replenishment depends upon the strength of agni. There are three types of agni, i.e., jhataragni, bhootagni and dhatwagni. Digestion is brought about by jataragni and converts ahara into ahararasa. Bhootagni converts ahara rasa into sajateeya components that the body can utilize. Dhatwagni uses this sajateeya component for the nourishment of dhatus. Acharya Charaka has described certain features related to the sarata of each dhatu and satva in vimana sthana. The person with characteristic features of asthavidha-sarata is called sara purush; some of the features are named madhyam sara purush, devoid of these distinctive features, are called asara purush.⁵ These features of sarata help to determine the strength of an individual.

Acharya Chakrapani has considered sara as 'Vishudhataro Dhatu', which means the essence of all dhatus.⁶ Sara pariksha is one of the ten methods to examine a patient, which is explained under dashvidha aatura pariksha.⁷ Based on the excellence of saptadhatu and sattva, eight types of sara have been said by Acharya Charaka and Acharya Vagbhata. i.e. twak sara, rakta sara, mamsa sara, meda sara, asthi sara, majja sara, shukra sara and satva sara both acharya followed the same sequence.⁸

Acharya Kashyap has added another type of sara, i.e. oja sara; in this way, he mentioned nine types of sara. Each succeeding one is better than its proceeding. Acharya Sushruta also said eight types of sara but in reversed sequence, i.e. satva sara, shukra sara, majja sara, asthi sara, meda sara, mamsa sara, rakta sara and twak sara.⁸

There is increasing excellence of ayu (life span) and saubhagya (fortune) in the initial order. Every sara is characterized by specific physical as well as psychological parameters. These parameters and characters help decide the strength of a person, both physically as well as mentally.

Acharya Charaka has classified sarata, depending on strength, i.e. sarva sara (optimal status of tissue health), madhyam sara (average quality of tissue health), and asara (suboptimal quality of tissue health).⁹

Table 1: Classification of Sara according to different Acharya

Sarata	Charaka Samhita	Sushruta Samhita	Ashtanga Samgraha & Hridaya	Kashyap Samhita	Brihat Samhita (Varaha Mihir)
Twak sara	✓	✓	✓	✓	✓
Rakta sara	✓	✓	✓	✓	✓
Mansa sara	✓	✓	✓	✓	✓
Meda sara	✓	✓	✓	✓	✓
Asthi sara	✓	✓	✓	✓	✓
Majja sara	✓	✓	✓	✓	✓
Sukhra sara	✓	✓	✓	✓	✓
Satva sara	✓	✓	✓	✓	
Ojas sara				✓	

Physical and Physio-Psychological Characteristics of Different Sara Purusha

Physical Characteristics of Twak sarata: Twak sara individuals have lustrous, unctuous, smooth, soft, clean skin and fine, thin, deeply held, and delicate hairs.

Physio-Psychological Characteristics of Twak sarata: This essence is associated with happiness, good fortune, power, enjoyment, intelligence, knowledge, health, cheerfulness, and longevity. Acharya Kashyap said that uttam twak sara person possesses the quality of rapid wound healing.¹¹

Physical Characteristics of Rakta sarata: Acharya Charaka has explained the characteristic features of Raktsarpurush; they bear unctuousness, red colour, the beautiful dazzling appearance of ears, eyes, face, tongue, nose, lip, soles of feet and palm, nails, forehead and genital organs.

Physio-Psychological Characteristics of Rakta sarata: Such individuals are endowed with happiness, great genius, enthusiasm, tenderness, moderate strength and inability to face difficulties.¹²

Physical Characteristics of Mamsa sarata: Individuals having the essence of mamsa dhatu have their temples, forehead, nape, eyes, cheek, jaws, neck, shoulder, abdomen, axillae, chest, hands, feet and joints well developed with firm, heavy and good looking muscles.

Physio-Psychological Characteristics of Mamsa sarata: This essence represents patience, restraint, wealth, knowledge, happiness, simplicity, health, strength and longevity and lack of greed.

Physical Characteristics of Meda sarata: The person endowed with the essence of meda dhatu has significant unctuousness, specifically in complexion, voice, eyes, hair, skin hairs, nails, teeth, lips, urine and faeces.

Physio-Psychological Characteristics of Meda sarata: This essence indicates wealth, power, happiness, pleasure, charity, simplicity and delicacy in dealings.

Physical Characteristics of Asthi sarata: A person with asthi dhatu sara has prominent heels, ankles, knee joints, elbows, collarbones, chin, head, flanks and joints, and bones and teeth.

Physio-Psychological Characteristics of Asthi sarata: Such persons are excessively enthusiastic, active, enduring, and have a firm body and longevity.

Physical Characteristics of Majja sarata: People with soft body parts, robust and unctuous complexion, sweet voices, and prominent, long and rounded joints should be known as majja dhatu sara.

Physio-Psychological Characteristics of Majja sarata: They are long-lived, strong and endowed with learning ability, wealth, understanding, progeny and respectful image.

Physical Characteristics of Shukra sarata: Individuals with shukra dhatu sarata have a delicate and charming appearance, beautiful eyes that seem to be filled with milk, are ecstatic, have unctuous, rounded, firm, even, and compact teeth, a pleasant and unctuous complexion and voice, and prominent buttocks.

Physio-Psychological Characteristics of Shukra sara: Women, for enjoyment like them, are strong and endowed with happiness, luxury, health, wealth, honour and progeny.

Characteristics of Sattva sarata: A man, who is possessed of an excellent retentive memory, and is intelligent, valorous and cleanly in his habits, and whose mind is graced with such rare and excellent virtues as purity of thought, and a fervent and unflinching devotion to gods and the reverend, and who exerts himself for the furtherance of the absolute good, should be regarded as satva sara.

Characteristics of sarva sarata: Outcome of a person possessing all essences of dhatu and satva is very strong and happy, enduring, confident in all actions, inclined to benevolent acts, having firm and balanced body with balanced movements; resonant, melodious, deep and high voice; endowed with happiness supremacy, wealth, enjoyment, and honour; with slow ageing and pathogenic process, mostly having similar and numerous offspring and which are long-lived.¹⁰

Madhyam sara purush possess their respective qualities in moderate degrees, and asara purush is devoid of these qualities. Chaple J. *et al.* (2013) suggested a method to detect the degree of sarata, i.e. sarva, madhyam, or asara purush. When an individual possesses more than 75% of all features recommended in Charaka Samhita, it can be considered under the "sarva sara" category. When the components are between 75% and 25%, it can be regarded as under madhyama sarata. When the features are below 25%, it can be considered under "asarata".¹³ Gunawat C. P. *et al.* (2015) suggested a weighted mean score for all sarata to classify the sarata into different categories, i.e. if the features of dhatu sarata are less than 33.3%, can be considered as asara, if between 33.3-66.6%, can be considered as madhyam sara and if the feature is between 66.7-100% then can be considered as sarva sarata. Further, they clarify that this method allows the researcher to divide the study sample into two halves based on the weighted mean scores, taking the "Median" as the midpoint. In this case, the sample falling in "above the median category" can be understood to represent "better sarata", whereas that falling in "below the median category" can be understood to represent relatively "suboptimal sarata".¹⁴

IMPORTANCE OF SARA PARIKSHAN

For evaluating Bala: In Ayurvedic classics, sarata is a tool for determining the strength of an individual, as only physical appearance, such as an emaciated body, is not enough to assess the bala of any individual.¹⁵ People who are small, slim, and thin in appearance may have enough strength, and prominent and corpulent persons may have less strength. In this regard, Charaka has cited an example as "Pippillika Bhara Haranvat Siddhi", which means that a small-looking ant can carry much more weight than its weight.¹⁶ Chakrapani commented that "Elephant having big and corpulent body possessing less strength than the lean and short bodies lion".¹⁷

For Chikitsa: Before starting treatment, it is necessary to assess the bala of a patient to determine the disease's prognosis and the dose of the drugs. Or to decide whether the patient is fit for shodhan therapy or not. Bala of avar sara can be enhanced by rasayana therapy.¹⁸ For example, sukumaryta, anatabalam, these feature of rakta sarata and meda sarata indicate that the person is delicate or cannot bear vigorous treatment (tikshan aushad or shodan) and need particular precaution during treatment.

In Vyadhikshamatva: The concept of dhatu sarata has three perspectives, namely the balanced state of the dhatu by quantitatively, qualitatively, and functionally, which resists any abnormal vridhi (increase), kshaya (decrease) or dhatu-pradushaja vikara (vitiation of that dhatu). A person having sara predominant of particular dhatu can easily withstand the symptoms of the disease related to that dhatu and even recover from it. e.g. persons having pravara rasa dhatu sara can tolerate fasting easily and frequently.

For best progeny: During pregnancy, garbhakara bhavas affect the sarata and asarata of offspring, so parents should be tested to determine their dhatu sarata to get the best offspring. By examining the parents, we can advise treatment in dhatu asarata condition for sarata enhancement.

In Occupation: Sara pariksha helps choose a particular occupation, as each occupation demands certain qualities in the individual in terms of physical and mental constitution. E.g. rasa and rakta sara individuals have good lustrous, pinkish skin,

beautiful looks, and intolerance for heat and physical strain, so that they will be best for the cosmetic and modelling industry. The body built of asthi and mamsa sara individuals are firm; they can face difficulty, enthusiastic and active nature are more suitable for the army and the police department. Majja sara individuals may be more appropriate for an administrative job because of their intelligence, melodious, resonant voice and cooperative attitude.

Factors influencing Dhatu Sarata

Ahara matra: Consumption of improper food, significantly lesser than the required quantity, would not be sufficient to nourish all body tissues (shareeragata dhatus) and can cause depletion of all dhatusarata.¹⁹

Vaya pramaan: Features of the dhatu sarata are best reflected in madhyama avastha (middle age) because all the dhatus are fully formed and matured. Dhatus are aparipakava in balaya avastha, and jeerna avastha. Due to vitiation of vaat, ahara rasa cannot nourish the dhatus properly; therefore, deterioration of dhatus occurs.²⁰

Dhatu pramaan: When dhatu is in swapramaan it contributes towards dhatu sarata, Acharya Sushruta said physician can assess the dosha, dahtu, and mala pramaan by observing patients presenting with "Aprasannendriya".²¹

Garbhotpadaka Bhava: Factors responsible for forming the foetus (garbhotpadaka bhavas) play a vital role in determining the dhatu sarata. Body tissues like rakta, mamsa and meda are derived from maternal factors, while asthi and shukra are derived from paternal factors in embryogenesis. Rasaja bhava or rasa nourishes the dhatus of a developing foetus. Satvaj bhava decide the satva of the foetus.²²

Agni: Sara is defined as the purest form of dhatus. The quality of dhatu depends on the proper functioning of agni. When the agni is sama or in a balanced state, it helps in maintaining the dhatus in homeostatic condition (dhatu samya), too.²³

A validated standardised tool is not yet developed to measure dhatu sarata, but some authors suggested various objective and subjective parameters measure dhatu sarata.

Table 2: Methods suggested by different authors to assess Dhatu Sarata

Dhatu sarata	Objective method
Twak sara	(1) level of plasma proteins, especially the immunoglobulin ²⁴ (2) serum electrolyte and blood sugar level ²⁵ (3) Skin moisture meter, Sebumeter, Blotting Paper test and Body hair per unit area ²⁶
Rakta sara	(1) Hb%, MCHC, MCH, MCV, PCV ^{26,27,29} (2) Hb estimation and Hematocrit ²⁵
Mamsa sara	(1) Creatine phosphate, glycogen content, and myoglobin content in muscle fibre and TEM (electron micrographs of muscle tissue) ²⁵ (2) level of creatine kinase- MM, Electromyography, Mid-Arm and Mid-Thigh Circumference, and Hand Grip Dyanamometer ²⁸ (3) Hand Grip Dyanamometer ²⁶ (4) Modified sphygmomanometer ³⁰
Meda sara	(1) Lipid Profile-Level of HDL should be higher, decreased level of LDL and VLDL ²⁵ (2) Blood cholesterol and triglyceride level. ²⁶ (3) BMI, BMR, Waist-Hip ratio, Skin fold test and Lipid profile ²⁸
Asthi sara	(1) Bone mineral density by DEXA scan ^{31,26,30} (2) Quantitative computerized tomography and Densitometer, Single-energy photon absorptiometry, and dual-energy absorptiometry can accurately estimate the compactness or otherwise of bones ²⁵ (3) Quantitative ultrasound scanner ³¹ (4) Serum calcium, phosphorus and alkaline phosphatase ²⁵ (5) Serum calcium, BMD, QCT, Serum Para thyroid hormone, Serum calcitonin and Head Circumference ²⁸
Majja sara	(1) Bone marrow smear examination ²⁵ (2) Bone marrow smear examination, Step test and Knee and elbow joint Circumference, ²⁸ (3) Western neurological tests ³²
Shukra sara	(1) the blood level of testosterone in males and estrogen in females ²⁵ (2) Semen analysis ³² (3) Hip/Pelvic circumference ³³
Satva sara	Electroencephalogram (EEG) ²⁵

DISCUSSION

Sarata is the purest form of dhatu. When the dhatu is in its purest form, it gives some characteristic features explained under dhatu sarata. The degree of purity of dhatu is directly proportional to the

features of dhatu sarata. Features of dhatu sarata, described by Acharyas, are subjective. In this review, many authors suggested objective methods to assess these subjective features. The methodology explained by various authors is not feasible to evaluate the dhatu sarata of all dhatus, as these objective methods

are not justified tools to assess the subjective criteria (features) of sarata given by acharyas, i.e. level of immunoglobulin is considered as twak sarata, this method is not suitable because, variety of immunoglobulin is present in the plasma, and they are present in a specific range, in pathological conditions it increases beyond the limit and dhatu sarata is not a pathological condition. Some authors suggested serum electrolytes and blood sugar levels as twak sarata assessment criteria, but if it increases beyond the limit, it will also be considered a pathological condition.

Some researchers suggested Hb%, MCHC, MCH, MCV, PCV, and haematocrit assess rakta sarata. All variables have their specific range. They have not given any value of these parameters that should be considered as rakta sarata.

Electromyography and electron micrographs of muscle tissue suggested for mansa sarata is a slightly painful and expensive test.

For the assessment of meda sarata, many authors suggest Lipid profile as an objective criterion, but it is seen commonly that obese people may also have normal lipid profiles and non-obese people also have abnormal lipid profiles, so it is difficult to decide that such a person should place in which category.

Single-energy photon absorptiometry, dual-energy absorptiometry and quantitative computed tomography (QCT) are expensive. These tests need trained technicians and include a risk of causing cancer as these techniques involve radiation exposure. Pregnant women are prohibited from these tests, a significant drawback of these methods. Again, there is a lack of proper range or mean value for the other scenarios given by different researchers.

Suggesting a bone marrow examination for the patient to assess majja Sarata is not feasible and invasive as it is excruciating and expensive. The knee and elbow circumference measuring method does not give a good range as an outcome of the test or method. There is a list of various neurological tests in modern medical science; researchers should specify the test suitable for assessing majja sarata.

The main disadvantage of EEG recording is poor spatial resolution. The EEG signal does not help pinpoint the exact source of activity. In other words, the results are not very precise. EEG locations. Moreover, EEG does not assess most of the psychological and behavioural parameters like the habit of cleanliness, courage, devotion to God etc., due to which EEG is not a suitable tool to assess satva sarata. So, these loopholes should be covered in futures research. We also need simple tests or subjective methods, which are less expensive or comfortable to assess dhatu sarata at the OPD level or with minimum time.

CONCLUSION

Dhatu sarata is a unique concept of Ayurveda. Acharya Charaka has given specific physical and physio-psychological characteristics of all dhatu sarata which are subjective. A physician needs to understand the concept of dhatu sarata as it is helpful in many aspects of life, i.e., for evaluating bala, in chikitsa, in vyadhikshamatva, for having the best progeny, for choosing occupation etc. Several factors like agni, vaya, dhatu pramaan, garbhotpadaka bhava and ahaar matra influence the dhatu sarata. Various researchers suggested different methods for the assessment of dhatu sarata, most of them are objective methods which are not suitable for assessing subjective parameters and give an idea only to set the quantitative or physical character of dhatu sarata, but the concept of sarata also includes many qualitative characteristics (behavioural, functional

and mental qualities) and most of the study lack to suggest methods to assess these parameters. We need to develop a standardised tool to evaluate these parameters for better diagnosis and understanding of the concept, which can be used to determine dhatusarata at the OPD level with minimum time.

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