

## Study of Raktasarata and haemoglobin percentage

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### ABSTRACT –

Sara parikshana is explained to determine the strength of person. It is necessary to add modern parameter to ancient subjective parameter. 80 healthy students between the ages of 18 to 25 years were selected for study. Sarata parikshan was done with the help of questionnaire designed. Haemoglobin percentage was estimated by Sahli's haemoglobinometer method. Statistical analysis shows that 'there is a relation between Raktasarata and haemoglobin percentage.

**Keywords:** *Sara parikshana, Raktasarata, raktadhatu, haemoglobin percentage*

### INTRODUCTION -

Character of a person is collectively mirror of his/her physical and Psychological status. In Ayurvedic literature Charaka describes sarata mainly on the basis of physical and mental signs and characteristics. But Sushruta was practical thinker and mostly describes physical signs.

Characters of raktasara person described by Charaka and Sushruta belongs to rakta pravara sara persons.

Also person having features opposite to Uttam dhatu-sara, is called as Asara dhatu.<sup>1</sup>

Person having moderate no of features of dhatusara then such dhatu is called as Madhyam sara dhatu.<sup>2</sup>

Characters of raktasara as described by Charaka are as follows :

In persons having Rakta Sarata, raktadhatu plays significant role which means that the raktadhatu is sarwan in such persons and raktadhatu does the functions of vishudhatara (purest)<sup>3</sup>, sarvotkrista (excellent)<sup>4</sup>, balwana (having good strength)<sup>5</sup>, and jivana (giving life) predominantly.

Part of the body where the skin is very thin, seems to be Aarakta Varniya (Reddish in colour). Karna Pali (ear lobules), Akshi (sclera of eye), Mukha (face), Nasa (nose), Jeevha (tongue), Otha (lips), Hastatala (palms of hands), Padatala (sole of legs), Nakha (nails),

Kapala (forehead), Mehana (genitals) are Araktavarniya. (reddish in colour).<sup>6</sup>

Generally it is observed that some parts of the body like lips, tongue are basically redish in colour but in raktasara persons inspite of parts like lips and osthā other parts are also arakta varniya like karnapali, hastatala, padtala, kapala etc. and in such persons predominance of raktadhatu can be seen. That is why maximum parts are arakta varniya and shreematbhrajishnu.

Raktasara individuals are happy, delicate and they can not tolerate heat and physical strain. They don't possess more strength.

They are egoistic (Manaswi), intelligent with good grasping capacity. (medha)

According to Sushruta nails, eyes, palate, tongue, lips, palms, planter region are red like copper.<sup>7</sup>

Along with snigdha arakta varna of body structures uddhatam, manaswita should also be judged.

Raktasarata is very important and could be assessed on the pathological investigatory criteria such as haemoglobin percentage. Raktasarata directly shows condition of 'rakta dhatu' in the body. Rakta is the easily accessible element. That is why haemoglobin percentage is considered as primary criteria to assess Raktasarata.

This study could be helpful in establishment of objective parameters for rakta sarata. These objective criteria could be used to elaborate ancient

scientific experimental based knowledge of sarata parikshan.

### AIMS AND OBJECTIVE -

To assess the Co-relation between 'Rakta sarata' and 'haemoglobin percentage.

### OBJECTIVES -

- Calculate the percentage of rakta sarata with the help of proforma prepared.
- To estimate haemoglobin percentage in volunteers.
- To study relation between Raktasarata and haemoglobin percentage.

### RESULTS -

After observing the data calculations, statistics were carried out.

In order to determine the relation between Hb% and *raktasarata*, the Pearson's correlation coefficient was used.

Value of 'r'	Co-relation between	Degree of correlation
0 < r < 1	Hb% and madhyam raktasarata score	Moderate positive
0 < r < 1	Hb% and pravara raktasarata score	Moderate positive
0 < r < 1	Hb% and overall raktasarata score	Moderate positive

This means that there is positive co-relation between Hb% and raktasarata.

**OBSERVATIONS-**

The total individuals examined were 80. Various characters are noted and observations recorded as follows;

**1) CLASSIFICATION ACCORDING TO SEX**

Sex	No of volunteers	Percentage
Male	30	38.5%
Female	50	62.4%

**2) CLASSIFICATION ACCORDING TO TYPE OF RAKTASARATA.**

Type of raktasarata	No of volunteers	Percentage
Uttam	16	20%
Madhyam	64	80%
Hina	0	0%

**5) CLASSIFICATION ACCORDING TO DIET**

Type of raktasarata	Diet					
	Veg		Mix			
	volunteers	%	raktasarata	Volunteers	%	raktasarata
Uttam	8	10%	50%	8	10%	50%
Madhyam	19	23.75%	29.68%	45	56.25%	70.3%

**6) CLASSIFICATION ACCORDING TO AGE**

	No of volunteers	percentage
18 to 21	66	82.5%
22 to 24	9	11.24%
25 to 28	5	6.25%
29 to 32	0	0%

**3) CLASSIFICATION OF RAKTASARATA ACCORDING TO SEX**

Type of raktasarata	Male	Female
Uttam	43.33%	6%
Madhyam	56.66%	94%

**4) CLASSIFICATION ACCORDING TO HB%**

Type of Raktasarata	Sexwise average Hb%	
	Males	Females
Uttam	13.47%	12.16%
Madhyam	12.70%	10.52%

**DISCUSSION**

Snigdha and red colour of the structures indicates proper nourishment of the structures from which these structures are formed. Proper nourishment is not possible without proper haemoglobin percentage.

Part of the body where the skin is very thin, seems to be araktavarniya (reddish in colour). As circulating blood

functions for nourishing Dhatawah. It also brings colour to skin.<sup>8</sup>

Karnapali (ear lobules) –Pinna of the ear is made up of tarunasthi and skin, penetrated by siras. So reddish colour of pinna as described in Raktasara Person indicates proper nourishment of Rakta, Mansa and Asthidhatu.

Eyes – The intrastructures of eyes are nourished by the vascular layer and hence it appears mostly arakta in Raktasara person.

Face – Varna is predominantly reflected on face rather than other parts of body due to good quality of raktadhatu face of raktasara person is oily, redish and have lustre.

Tongue – Proper colour of tongue gives idea of proper functioning of GIT, so tongue of raktasara person is clear, red shiny and oily.

Nails – Reddish and lusterous nails are the signs of good health.

Forehead, Nose –Red colour shows proper nourishment of mansa and rakta dhatu.

Lips – Lips are nothing but thin muscular layer. As they are thin, colour of rakta can be observed easily on these structures and shiny, oily, red colour of external features of the body indicates good nourishment of other body parts by rakta.

Planter region of palms and soles – Siras are present beneath the skin of palm which nourishes the structure present in

the palm, so red colour of palm can be observed easily.

The percentage of uttamsarata is less in female compare to the male. The reason behind this can be the less nourishing and less amount of diet during the menstruating age, that the female consume as compared to male.

A good and healthy nourishing diet helps in the production of good rasa and raktadhatu, which in turn shows the signs of raktasarata in that individual. In the lakshnas of vishuddha rakta purusha good digestive capacity is the main characteristic explained. And hence a good digestive capacity had got direct relation with the production of excellent dhatu.<sup>10</sup> Hence when the agni is in healthy state, along with dhatwagnis, it digests the aahar properly and this aaharrasa helps in production of vishudhatara rakta dhatu and this vishudhatara rakta dhatu shows the signs of raktasarata.

The average Hb percentage found in male volunteers were 13.47% and in female were 12.16%.

It is because, according to modern science, average man has about 700,000 more red blood cells per cubic millimeter than the average woman. However, this difference may be due to testorone, which increases metabolic rate, rather than direct effect on red blood cell production.<sup>11</sup>

In this study group most of these female volunteers were staying in hostels, hence they might not get nutritionally rich diet.

According type of diet, in both male and female those consuming vegetarian diet and non vegetarian diet no marked difference in their Hb% was noted.

This might be because the veg diet which is consumed is usually green leafy vegetables, milk, cereals etc. This diet is quite rich in nutritional value. Among those consuming the non vegetarian diet is usually rich in nutritional value and heavy to digest. It is not only the iron rich diet which you consume is responsible for good Hb% but it is the digestive fire that is immensely important for the digestion of whatever diet consume.

#### CONCLUSION -

- There is a positive correlation between Hb% and raktasarata.
- Percentage of uttam raktasarata in female is very low compared to male.
- According to definition of gradation of sara given in Ayurvedic texts, most volunteers fall in group of Madhyam Sara.
- Average Hb% in Uttam raktasara in female is lower, than uttam raktasara male. And it may be stated that, all females have low Hb%.

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