



## Research Article

**A STUDY ON THE ROLE OF RASA-VAHA SROTAS IN PANDU ROGA**Sharma Giriraj<sup>1</sup>, Sharma Pooja<sup>2\*</sup><sup>1</sup>Associate Professor of Rachna Sharira, Seth JP Govt Ayurvedic College, Bhavnagar, Gujarat, India<sup>2\*</sup>Assistant Professor of Kriya Sharira, Shiva Ayurvedic Medical College & Hospital, Himachal Pradesh, India.**KEYWORDS:** *Ahara Rasa, Rasavaha Srotas, Pandu, Lymphatic circulation, Sahli's test, Anemia.***ABSTRACT**

This research work is survey study where female patients are randomly selected. The main objective of this research is to observe the *Rasavaha Srotas Dusti* symptoms as mentioned in *Ayurveda* as *Rasavaha Srotas Vikara* and related to *Pandu Vikara* as one of them using these as subjective criteria's and to prove this clinically Sahli's method is used in laboratory as reference. A study was done on 100 female volunteers of different age group to rule out the symptoms of *Rasavaha Srotas* as explained by the scholars. One cannot see blood getting destructed from naked eyes. It can be seen by signs and symptoms that feel by individual. It happens slowly over many years without our knowledge until pathology occurs. This is an attempt to provide *Rasavaha Srotas Dusti Vikara* as starting symptoms of *Pandu* as explained in *Ayurveda* using modern parameter to access anemia in starting stages.

Anemia was seen maximum of 52 % were from the interval of 21-30 age group, and 22 % in age group 31-40 age group, 26 % fall in the age group of 41-50. This shows that incidence of the disease is more among in 21-30 age group.

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**INTRODUCTION**

*Ayurveda* is one of the potent systems amongst the alternative medicine therapies which can provide the required aid. The principles of *Ayurveda* of any disease –even the new emerging ones, have depend on main principles of *Ayurveda* that is *Dosha, Dhatu, Mala, Srotas Dusti Karana* and raising of that symptoms to lead such diseases. But the benefit of *Ayurveda* is that everything mentioned in one science. The only requirement is that we scientifically and logically apply the *Ayurvedic* pods or theories and investigation principles like *Pariksha's* mentioned and treatment principles to the particular basis<sup>[1]</sup> With the modern science we understand the *Ayurvedic* concepts logically and easily because we need a scientific, rationale and logical approach towards our science. *Acharyas* have described the concept of *Ahara* as balanced diet which helps in attainment of physical and mental wellbeing<sup>[2]</sup>. *Ahara Rasa* is the pure and minutest essence of well digested food<sup>[3]</sup>. *Rasa Dhatu* is the first formed *Dhatu* from the *Ahara Rasa*<sup>[4]</sup>. *Rasa Dhatu* is formed in *Rasa-vaha Srotases* where *Dhatvagni* of *Rasa Dhatu* plays a vital role in

it<sup>[5]</sup>. *Rasa Dhatu* main function is *Preenana* (gratification) and *Rakta Poshana* (nourishment of corresponding *Rakta Dhatu*)<sup>[6]</sup>. The tissue mainly Plasma i.e. *Rasa* is circulating type nutrients and the function mainly is giving nutrition by the *Rasavaha Srotas*. And blood i.e. *Rakta* is haemoglobin portion of blood and giving oxygen supply by *Rasavaha Srotas* and *Raktavaha Srotas* too.

Unobstructed *Srotases* allow manufacture of new tissues and proper flow of nutrients and waste materials. Impaired functions of *Srotas* lead to stagnation of *Doshas, Dhatus* and *Malas* in the *Srotases* of the respective *Dhatus*. Hence, improper *Ahara* leads to the *Rasa-vaha Sroto Dhusti* and this result in the formation of '*Panduroga*'<sup>[7]</sup>. This paper is concerning in two portions. (1) To clinically evaluate subjective features of *Rasavaha Srotas Dusti*. (2) To evaluate the features of *Rasavaha Srotas Dusti Roga* i.e. *Pandu* with Anemia as taking Sahli's Hemetin test in laboratory.

**Conceptual Part**

*Rasa-vaha Srotas* is considered as systemic capillary circulation by *Acharya Ghanekar*

(commentator on Susruta). *Pandu Roga* is a *Rasavaha Srotas Dusti Vyadhi* in which *Rasa* and *Rakta* are mainly affected. Based on *Samprapti* of *Pandu Roga*, these *Dhatu*s are not going to nourish due to excess intake of *Rasdashja Ahara, Viahara*<sup>[8]</sup>. The vitiated *Doshas* assumes *Sthanasamshraya* in between *Twaka* and *Mamsa* resulting in *Pandu, Haritaand Haridra Varna* to the skin. Hence, the disease is named as *Panduroga*<sup>[9]</sup>.

*Pandu* mean a yellowish white discoloration of the skin, and discoloration includes- *Harita* (greenish), *Haridra* (yellowish), *Krishna* (blackish) etc. in this all *Pandutva* is more predominant feature therefore the disease is called as *Pandu* coming as *Vaivarnyabhava*<sup>[10]</sup>. In this disease alteration *Vaivaarnayata* occurs<sup>[11]</sup>.

**Aims and Objective**

To study the Patho-physiology of *Rasavaha Srotas* that leads to *Panduta* and using Sahli's Haemoglobinometer according to age as objective parameter to test anemia. Haemoglobinometer

**Plan of Work**

A random observational survey study. 100 female volunteers were chosen randomly to rule out the symptoms of *Rasavaha Srotas Dusti*. Sahli's hematin method was done in laboratory of the volunteers to rule out the *Pandu* (anemia) as objective.

**Criteria of assessment**

**Inclusion criteria**

1. Patients are females of different ages.
2. Patients of age group 20- 50 years.
3. Patients with classical signs of *Rasavaha Srotas Dusti*.

**Exclusion Criteria**

1. Lactating and pregnant mothers.
2. Age below- 20 and above 50 years.
3. Patients having Hb% less than 6 gm.

**Objective Criteria**

The objective parameter taken is Sahli's acid hematin method.

Reading of	Normal	Low	Anemic
Sahli's method	+11,10	9,8	7,6

**Statistical Analyses**

For attaining final conclusion, the data that is made during the research was subjected to statistical making and then result are gained. And the findings are shown in the form of graphs and tables.

**Observations & Results**

**Table 1- Showing no. of volunteers according to Age-**

Age Group /In Years	No. of Volunteers	%
21-30	52	52
31-40	22	22
41-50	26	26
Grand Total	100	100

4. Patients who has undergone chemotherapy and radiotherapy.
5. Patient having endocrine disorder like hypogonadism, hyperthyroidism.
6. Bleeding disorders, Malignancy, Autoimmune disease, metabolic disorders.
7. Hb% 6-11.

**Subjective Criteria**

Division of age group:-

Group I - 20 -30

Group II - 31-40

Group III - 41-50.

The subjective criteria for features of *Rasavaha Srotas Dusti* taken are:-

1. *Bhojana Aruchi* (anorexia)
2. *Gorava* (heaviness)
3. *Tandra* (drowsiness)
4. *Palitya* (gray hairs)
5. *Mukhvairasya* (tastelessness)
6. *Angmaarda* (fever with body ache)

Most of the clinical features of *Rasavaha Srotas Dusthi Vikara*, described in *Ayurveda*, are subjective in nature and to give results objectively and for statically analysis, multidimensional scoring system was adopted. Score was given according to the severity of symptoms.

- Absence of symptoms- 0
- Mild degree of symptoms -1
- Moderate degree of symptoms -2
- Severe degree of symptoms -3

To assess *Rasavaha Srotas Vikara* described in *Ayurveda* and according to the scoring adopted, the volunteers with 0-1 were found to have no *Rasavaha Srotas Vikara*, 2-6 score were found to have Mild *Rasavaha Srotas Vikara*, 7-12 score were found to have Moderate *Rasavaha Srotas Vikara* and 13-18 score were found to have Severe *Rasavaha Srotas Vikara*.

**Table 2 - Showing no. of volunteers according to diet**

Nature of diet	No. of volunteer	%
Mixed	30	30
Vegetarian	70	70
Grand Total	100	100

**Table 3- Showing no. of volunteers according to Prakriti**

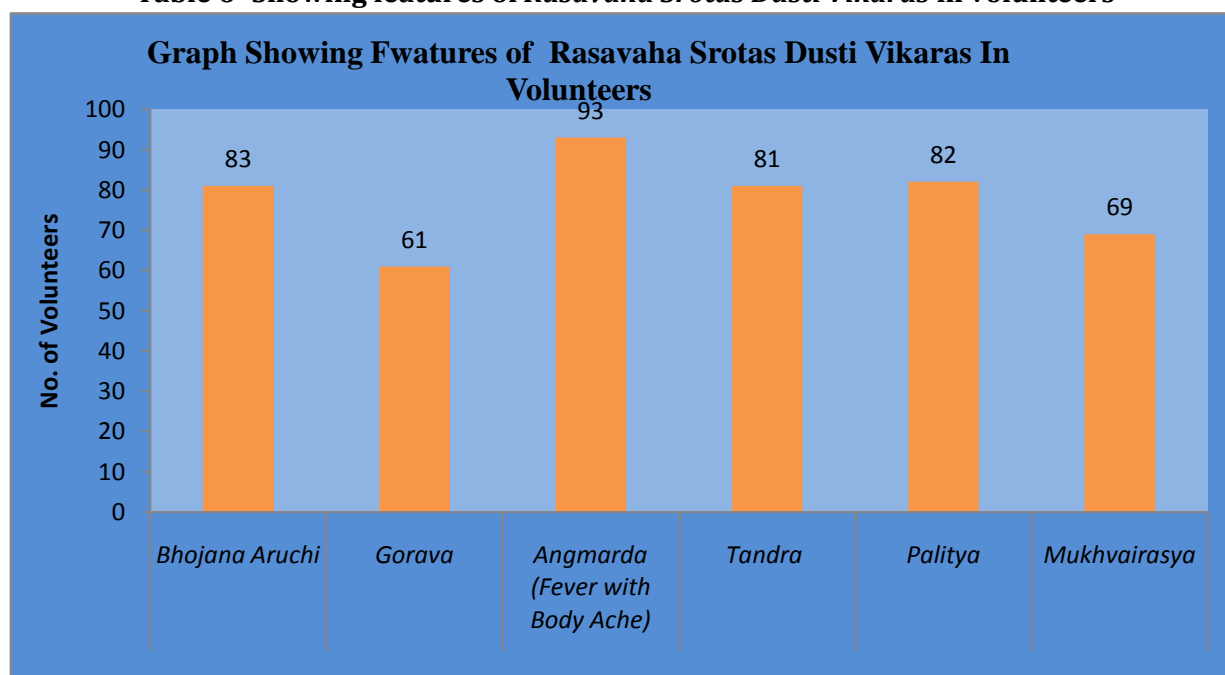
Prakriti	No. of volunteers	%
Kapha-Pitta	22	22
Kapha- Vitta	7	7
Pita-Kapha	23	23
Pitta- Vata	27	27
Vata- Kapha	4	4
Vata-Pitta	17	17
Grand Total	100	100%

**Table 4- Showing no. of volunteers according to Education**

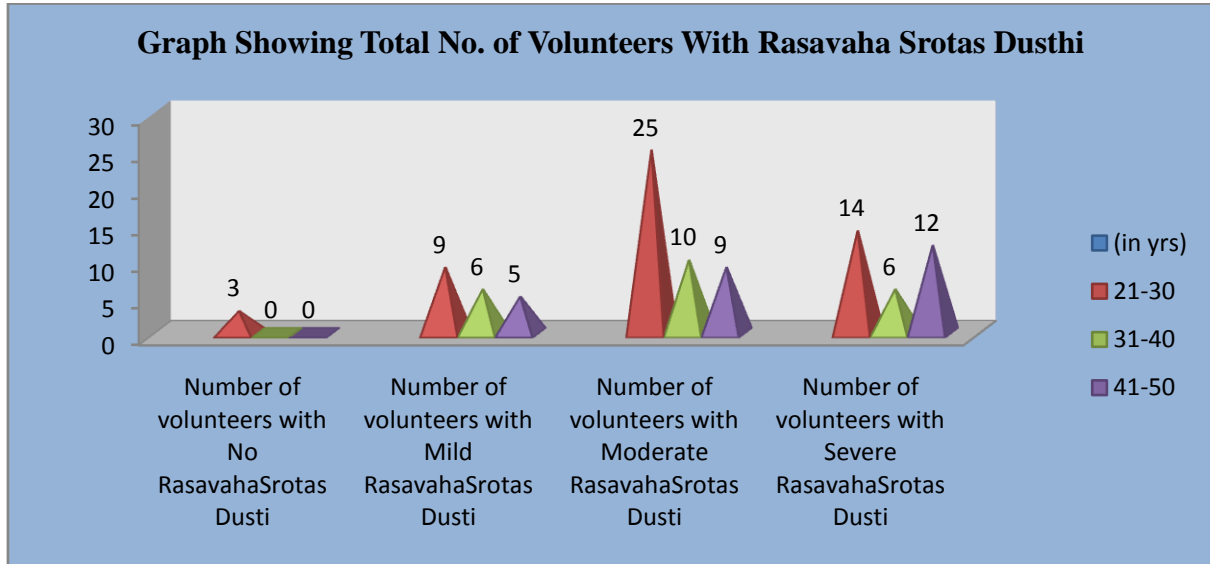
Education	No.of volunteers	%
Graduation	36	36
HSSC	24	24
Illiterate	2	2
Post Graduation	36	36
Primary	3	3
Secondary	8	8
SSC	11	11
Grand Total	100	100%

**Table 5- Showing no. of volunteers according to occupation**

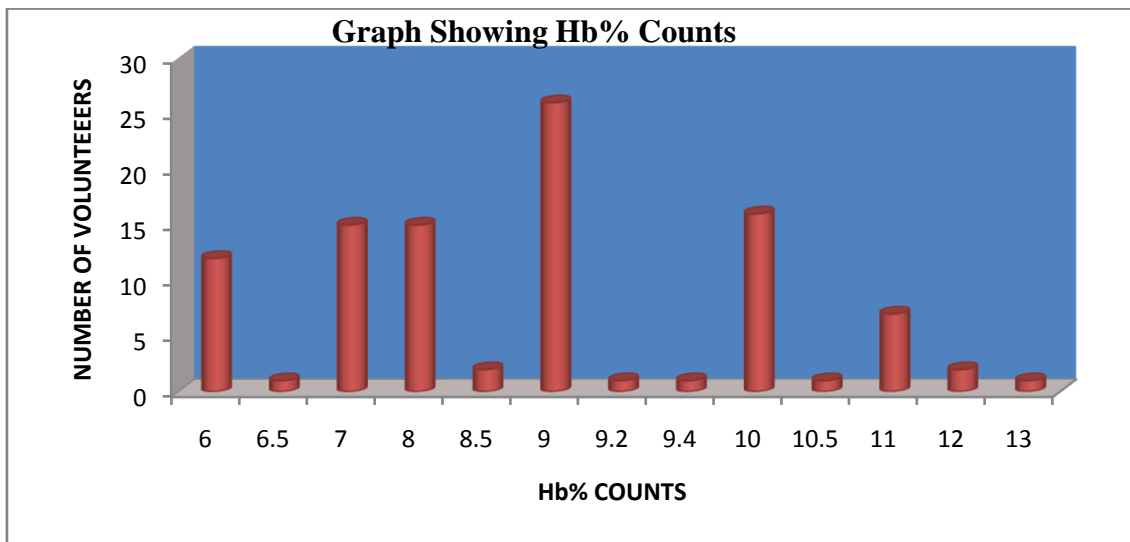
Occupation	No.of volunteers	%
Business	11	11
House-wife	21	21
Self-employed	23	23
Service	22	22
Student	24	24
GRANDDD TOTAL	100	100 %

**Table 6- Showing features of Rasavaha Srotas Dusti Vikaras in volunteers**

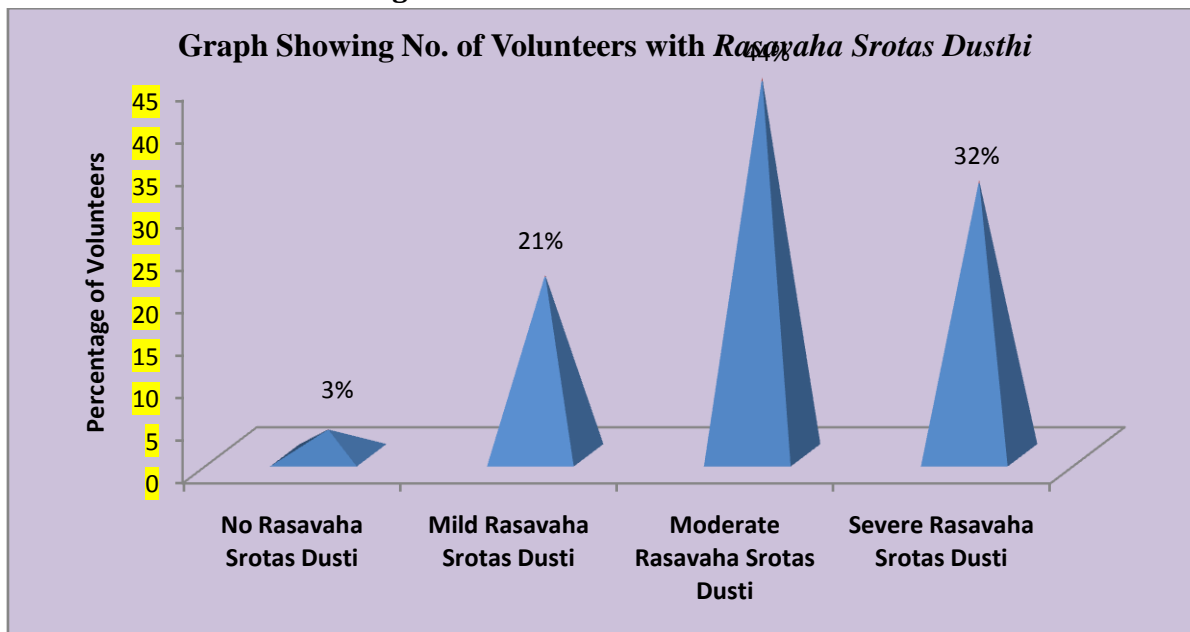
**Table 7- Showing features of *Rasavaha Srotas Dusti* in volunteers with age group**



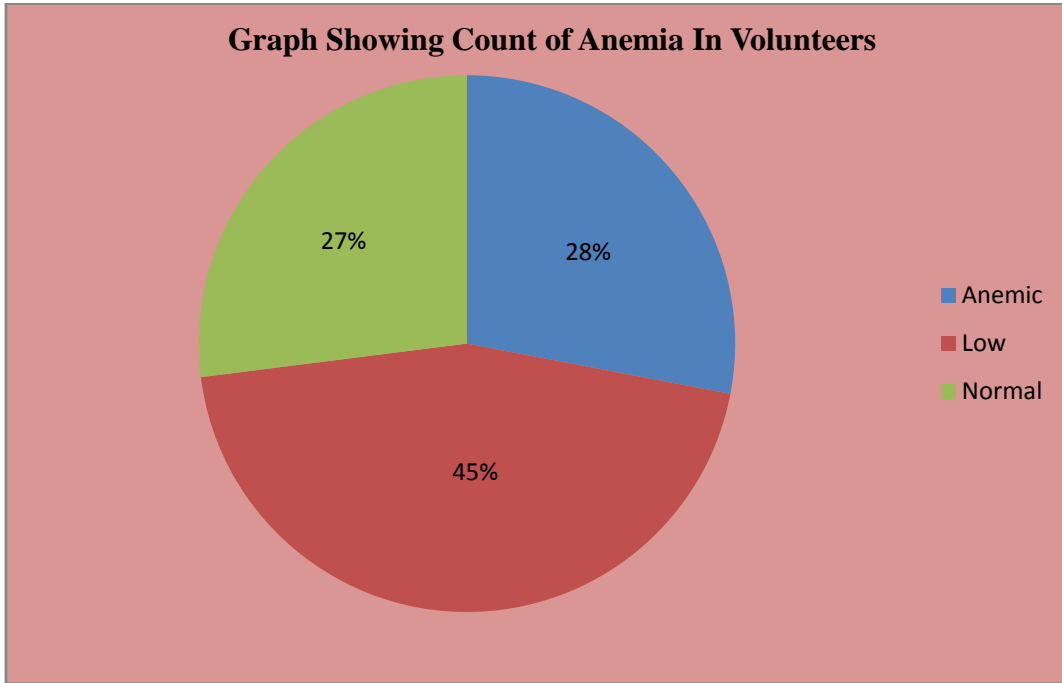
**Table 8- Showing Hb% counts in volunteers**



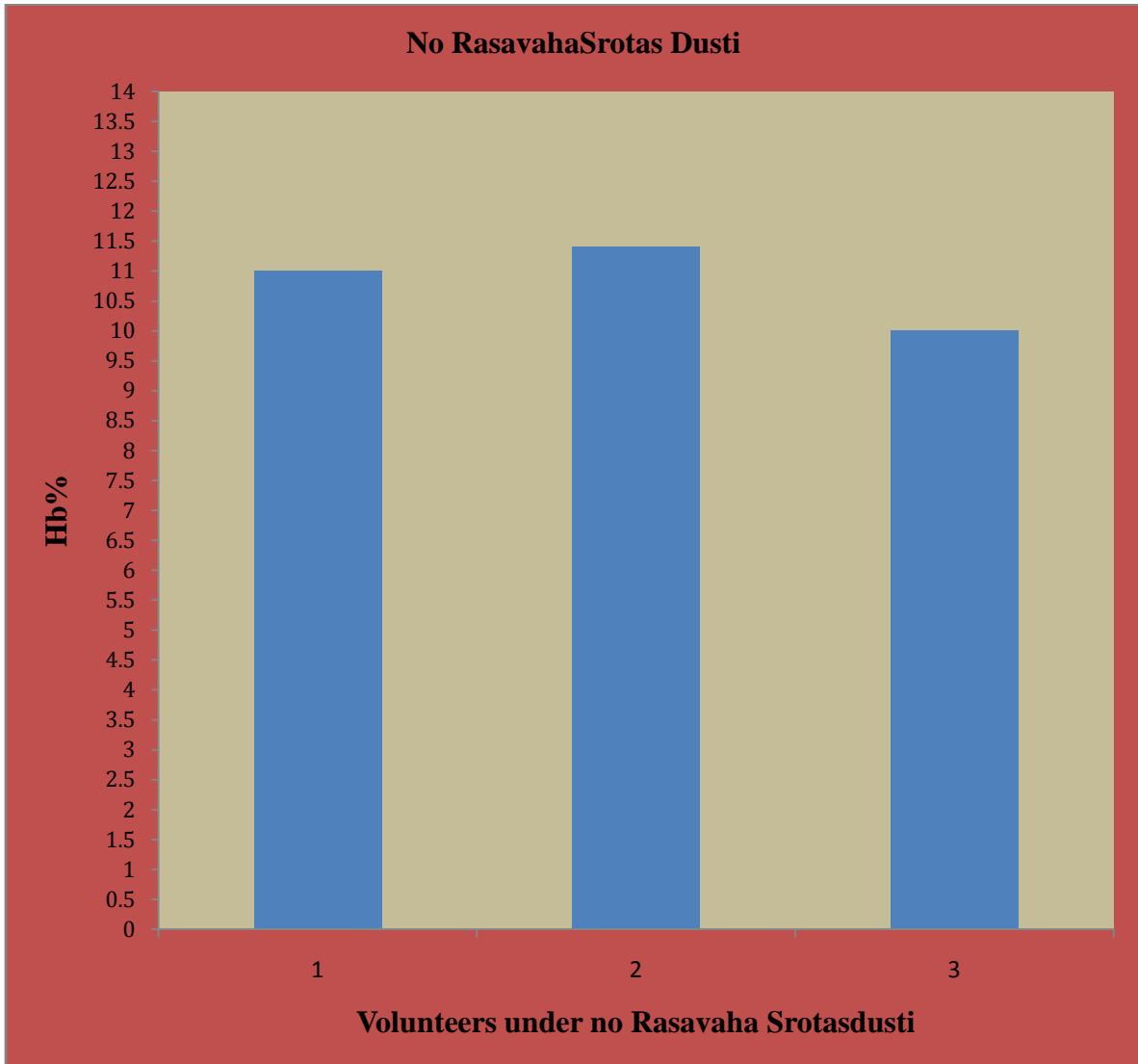
**Table 9- Showing no. of volunteers with *Rasavaha Srotas Dusti***



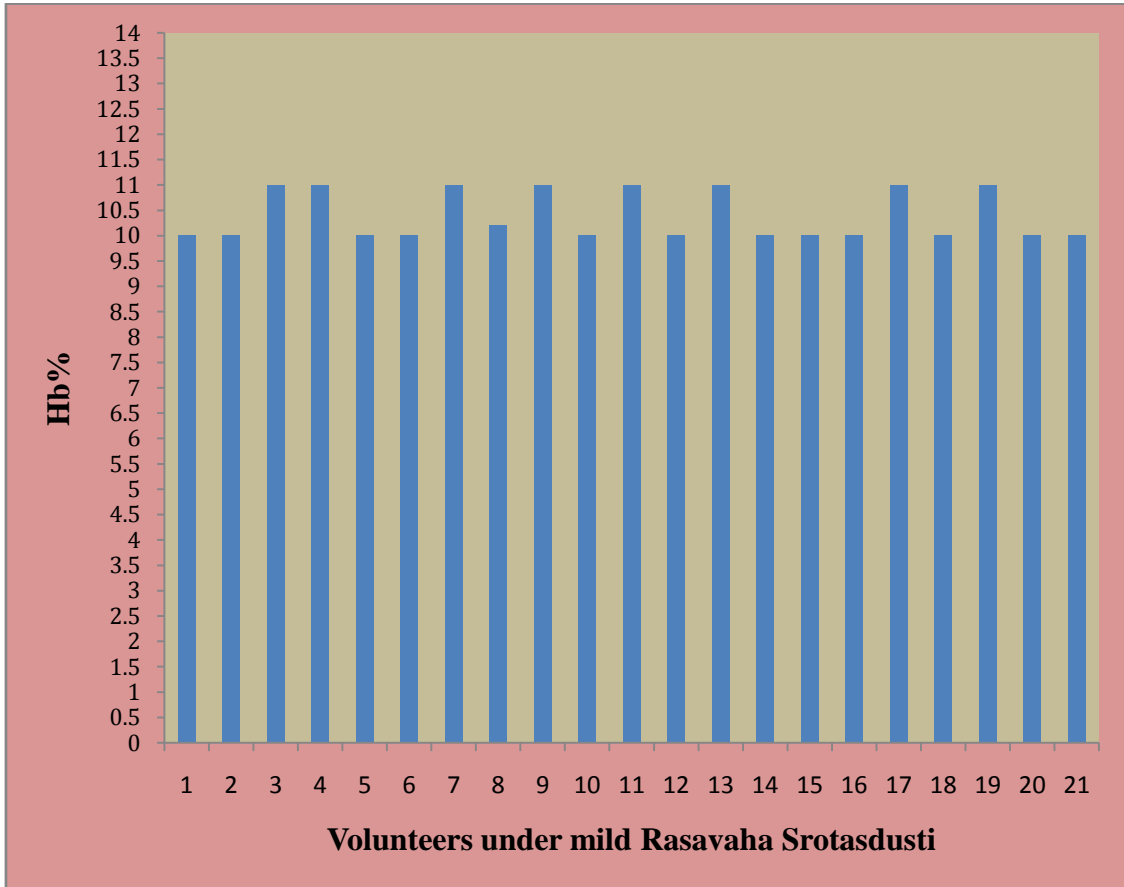
**Table 10- Showing counts of Anemia of no. of volunteers**



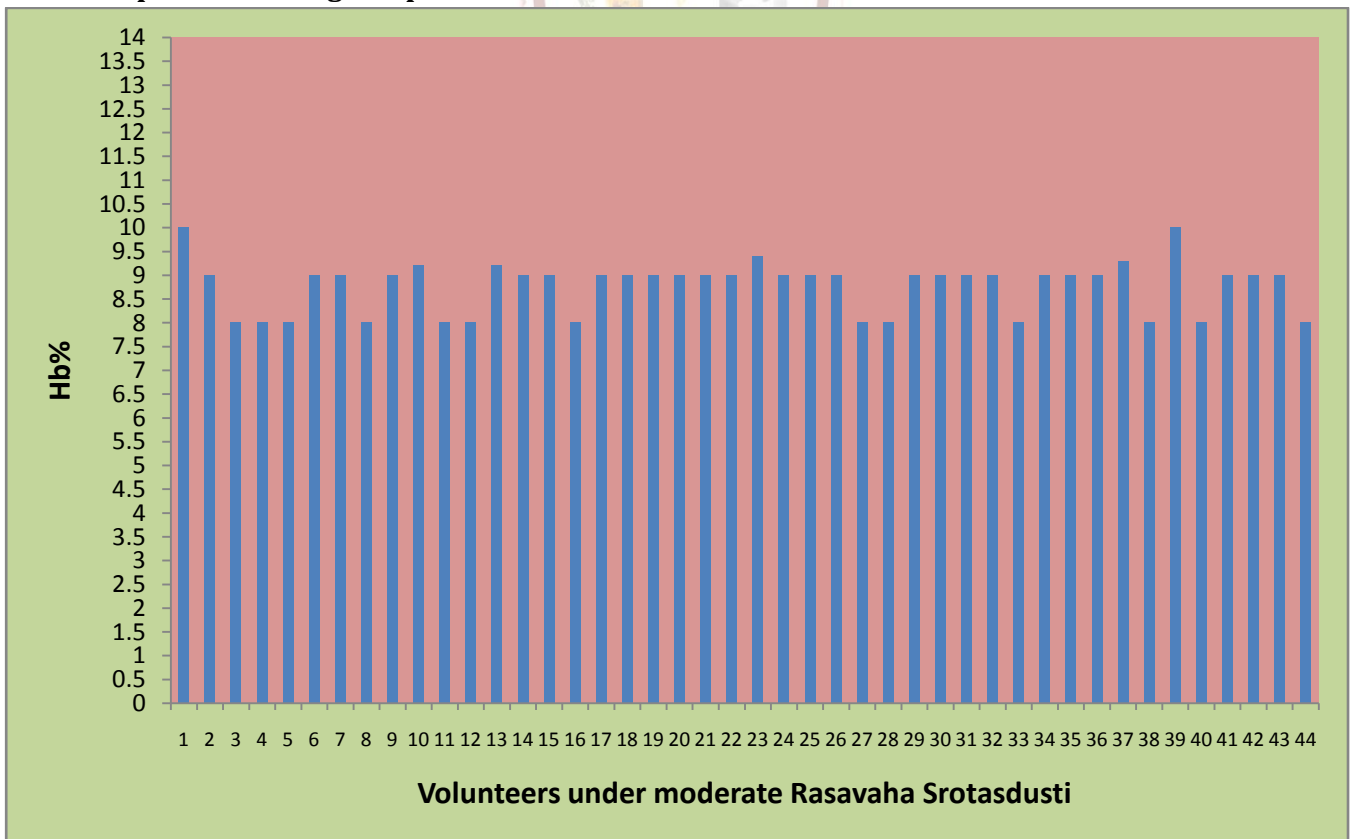
**Table 11- Showing comparison of no *Rasavaha Sroto Dusti* & Hb % in volunteers**

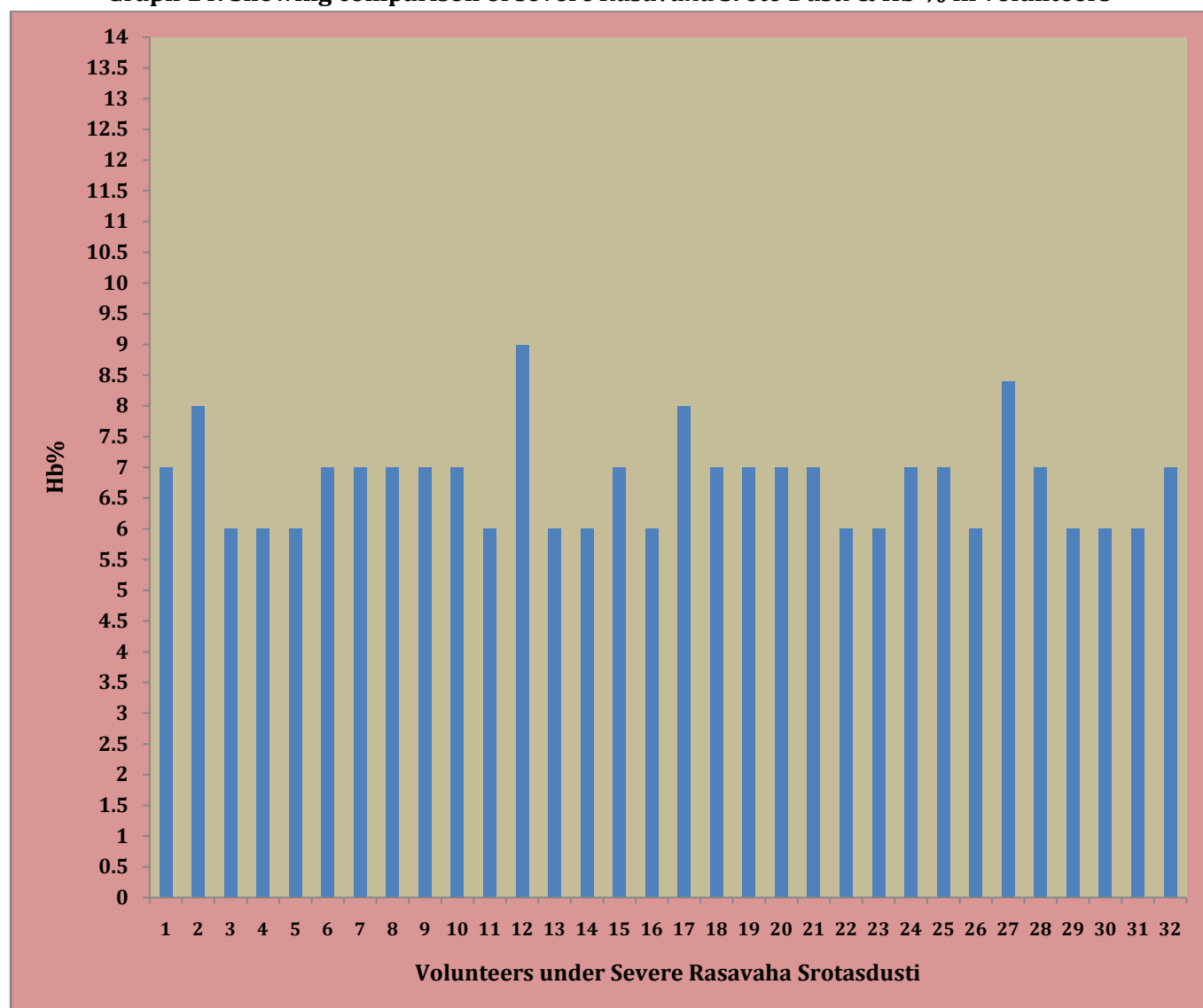


**Graph 12: Showing comparison of Mild *Rasavaha SrotoDusti* and Hb % in volunteers**



**Graph 13: Showing comparison of Modderate *Rasavaha Sroto Dusti*& Hb % in volunteers**



**Graph 14: Showing comparison of severe *Rasavaha Sroto Dusti* & Hb % in volunteers**

## DISCUSSION

*Rasavaha Srotas* picks up importance and attraction today because of microcirculation of fluids. *Acharya Charaka* mentioned *Pandu* under *Rasapradoshaja Vikara*, *Pandu* is the disease caused by *Dusti* in *Rasavaha Srotas* (channels of circulation) in body. Anemia which occurs due to metabolic defects. So *Ayurveda* can provide better management of this. In the present clinical study 100 female volunteers were randomly selected chosen in JIAR college and Hospital and out of them 28 were found to be Anemic but maximum 45 female volunteers were found to be in low range of Hb % i.e. they may fall anemic in future and rest 27 were found to have normal Hb% in volunteers with the following symptoms mentioned in classics for *Rasavaha Srotas Dusti* were taken- *Bhojana Aruchi* (anorixa), *Goravta* (heaviness), *Angmarda* (fever with body ache), *Tandra* (drowsiness), *Palitya* (gray hairs), *Mukhvairasya* (tastelessness).

**Age:** Here the age group was divided into three groups, and it was observed that a maximum of 52 % were from the interval of 21-30 age group, and 22 % in age group 31-40 age group, 26 % fall in the age group of 41-50. This shows that incidence of the disease is more among in 21-30 age group. In this age, the *Pitta* predominated. It is well said in the *Samhita* that growing age is *Pitta Pradhan* and if the diet of unwholesome to body that distracts *Pitta Dosha* from their normal functioning. And *Rasavaha Srotas* probable cause of *Dusti* is might be prone to mental stress, excessive exercises, irregularity in diet and improper *Viharas* leads to *Panduta*. *Pandu Roga* in this age group mostly develops due to *Asatmya Ahara*, *Vihara*, so in this age, mostly we find Iron Deficiency Anemia. Hence, the maximum number of volunteers in the age group between 21-30 can be justified. So, if *Rasa Dhatu* gets imbalance that leads to pathology in *Rasavaha Srotas* and *Rasa Pradoshaja Vikara* arises. And other *Dhatu*s are also



affected. So, symptoms arises like- *Durbalta, Palitya, Aruchi, Ojo-Kshaya, Angmarda* etc that leads ultimately to *Pandu Roga*.

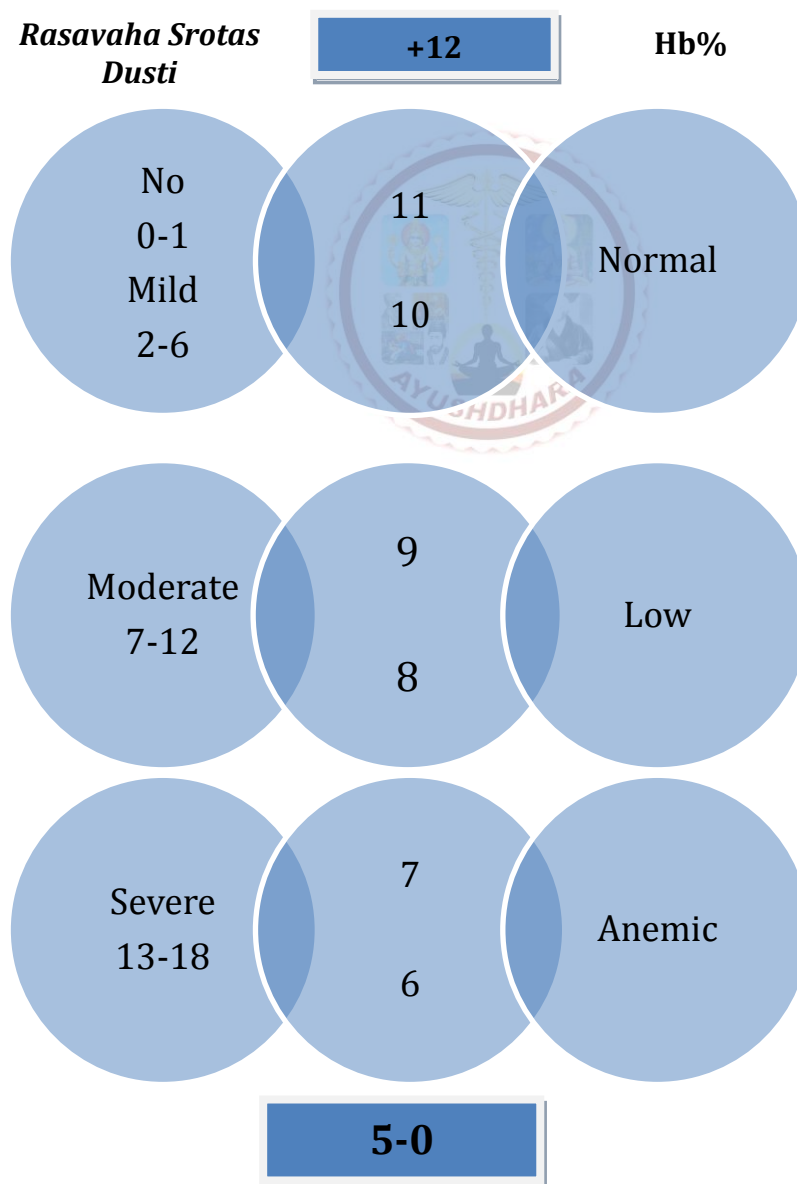
**Diet:** Maximum number 70% of patients were having vegetarian diet, while 30% were having mixed diet. Vegetarians are more vulnerable to this disease as they can't get enough Iron from vegetarian's food.

**CONCLUSION**

Based upon the clinical survey to assess *Rasavaha Srotas Dusti* described in *Ayurveda* and according to the scoring adopted, volunteers with the score 0-1 (no) and 2-6 (mild) have normal Hb %, volunteers with score 7-12 (moderate) have low Hb % and volunteers with score more than 12 (severe) have critically low Hb % i.e. Anemia.

Therefore, we can say that the symptoms described for *Rasavaha Srotas Dusti* in *Ayurveda* were clearly visible in the volunteers and were diagnosed with low Hemoglobin and Anemia. Hence, my study clearly shows that the symptoms mentioned in *Ayurveda* to access the *Rasavaha Srotas Dusti* are well in accordance with modern parameter i.e. Hb % in Anemia. The survey concluded in the study shows a direct relationship between *Rasavaha Srotas Dusti* & Hb% i.e. *Rasavaha Srotas Dusti* is inversely proportional to Hb %, which means > *Rasavaha Srotas Dusti* – less the Hb %. So, anemia can be prevented at its early stages by monitoring these symptoms of *Rasavaha Srotas Dusti*.

**Survey Based Scoring Pattern**



Diagrammatic representation of *Rasavaha Srotasdusti Lakshana* in *Ayurveda* with Hb %.



### Further Scope

The study should be conducted on larger sample size to prove its efficacy. Other tests of Haemoglobin related should be done along with Sahli's acid heamtin method. Other causes of *Pandu* should be found out taking subjective parameter as *Rasavaha Srotas*.

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