

SURVEY STUDY ON RAKTA KSHAYA LAKSHANAS (AMLA SHISHIR PREETI) WITH THE PHYSIOLOGICAL ANEMIA IN FIRST TRIMESTER OF PREGNANCY

Suman Kadian¹, Shaveta Sawhney²

PG Scholar¹ Assistant Professor²

Department of Kriya Sharir, Patanjali Ayurvedic Evam Anusandhan Sanstha, Haridwar, Uttarakhand, India

Email: sumanmd1981@gmail.com

ABSTRACT

Pregnancy is a joyful experience in every woman's life; which is associated with many physiological changes. Anemia is one among them. There is an apparent fall in haemoglobin concentration because of hemodilution. If this condition is not diagnosed in time and treated it becomes the major cause of maternal mortality.

Ayurvedic Samhitas give prime importance to *Rakta Dhatu* for life. Whenever this *Rakta Dhatu* gets vitiated then functions also altered and *Dhatu-Vaishmyata* occurs. One of the most significant stage of *Rakta Kshaya* is also seen in *Garbhini*. In this research study an attempt is made to get a correlation between *Amal Shishir Preeti Lakshanas* with the vitiation in physiological anemia that occur due to hemodilution. The whole research was framed in a questionnaire format with grading scale and a comparison is observed on the basis of blood profile changes. After statistical analysis (**Correlation and Chi-Square Test**); **p value** was found significant that favours the hypothetical model and come to the conclusion that there is a relationship between *Amla-Shishir-Preeti* in *Rakta Kshaya* with that of variations in blood indices during pregnancy or we can infer that symptoms of *Amla* and *Shishir Preeti* can be helpful in predicting anemia at early stage to prevent further complications.

Keywords: *Amla Shishir Preeti, Rakta Kshaya, Dhatu-Vashmyata, Garbhini, Lakshanas.*

INTRODUCTION

Since the evolution of the life in the universe, women have been placed on extreme worship because of her power of "*Janani*". God has blessed the female with most valuable gift of motherhood. As women are the origin of human progeny so she should be protected in every aspect to protect the progeny from the time of '*Garbha Utpatti*'. In developing countries, condition of females is not much satisfactory regarding their nutrition. Women are less concerned about their diet and suffer by nutritional deficiencies, especially iron defi-

ciency because of more iron loss (menstruation) and fewer intakes (in diet). So, it is an important concept to be taken seriously to improve health of pregnant women to prevent mortality rate by making early diagnosis of anemia. *Rakta Dhatu* is life for all living being. This '*Rakta Dhatu*' is bound to undergo '*Kshaya*' and '*Vridhhi*' as per the physiological and pathological condition of the body. *Rakta Dhatu* in mother as well as in foetus undergoes considerable changes in quantity as well as quality. '*Amlaab-*

*hilasha*⁴, '*Amlakamta*'¹ or '*Amlapreeti*'³ is seen in Vyaktagarbha¹. So this study is about correlation between '*Amla Shishir Preeti*' and physiological hemodilution. Prevalence in developing countries is about 40-80%. The aetiology is associated with the physiological hemodilution along with increased demand for iron and folates. In a normal singleton pregnancy, the maternal need for iron is about 1000mg. About 350mg for foetal growth, 60mg for placenta, 450mg for maternal haemoglobin and about 240mg for the restore of physiological iron loss which is not sufficient from normal routine diet. A low Hb level is associated with 2-3 fold increased risk of preterm labour, low birth weight and perinatal mortality. Risk factors are like - young maternal age, history of menorrhagia, multiparity, low BMI (Body Mass Index), malabsorption, insufficient diet, low socio-economic status etc. According to WHO, Diagnostic Criteria for ANEMIA is: Hb<11.5 gm/dl in 1st and 3rd trimester and less than 10.5gm/dl in 2nd trimester and Ht< 0.33. Pale skin and mucosa, generalized fatigue, stress induced dyspnoea, headache are the common symptoms seen in anemia. A diet rich in iron should be recommended and dose of 0.4mg per day of folic acid till 3 months of pregnancy. Folic acid is needed for growth and maturation of RBCs and also prevents neural tube defects.

DISCUSSION

Concept of Amla Shishir Preeti: *Panchbhoutik* composition of *Amla Rasa* and *Rakta Dhatu* is: **AMLA – Preeti + TEJ; RAKTA – AAP + TEJ.** *Amla Rasa* is dominant of *Prithvi* and *Agni Mahabhuta*. During *Garbhawastha*, *Mandagni* condition prevails in the body which is exhibited by the tendency of *Amla Preeti*. It is very clear from composition that the dominance of *Tej Mahabhuta* corrects the condition of *Agni Mandyata* and brings condition of normalcy in the body. Hence, the person desires for *Amla Rasa*. *Amla Rasa* helps in *Deepana* and *Panchan* function and it improves the appetite and digestion of the effected human being. *Rakta* is also composed of *Jala*, so during *Rakta Kshaya* "*Sheeta Preeti*" is also seen. Desire for *Sheeta* things signifies the diminishing of *Aap* content in the body resulting in more desire for

Sheeta Dravyas that ultimately cures the decreased level of *Aap Mahabhuta*.

Hemodilution: Hemodilution during pregnancy and increased fibrinogen: albumin ratio is the provoking factor for *Rouleaux* formation. So, *Rouleaux* formation becomes fast in pregnancy that elevates ESR and elevated fibrinogen in anemic condition also leads to increase in erythrocyte sedimentation rate. In ANEMIA, the haematocrit reduces velocity of upward flow and plasma gets altered as a result RBCs aggregates faster. Hence, during physiological ANEMIA in pregnancy, increased ESR is seen usually. ESR depends on downward gravitational force acting on the red cells due to their mass (weight) and an upward force due to viscosity of plasma and surface area of red cells, where viscous retardation occurs. Thus, the rate of settling of red cells will depend on a balance between these two opposing forces.

Importance of Garbhini Paricharya. Under all favorable circumstances when *Samyoga* of *Sukra-Shonita* and *Atama* occurs then *Awakraman* of *Garbha* happens and then *Stri* is termed as *Grabhini*. From this stage onward the diet and regime of a lady decides the growth of fetus in her womb. Our *Acharyas* have been given utmost importance to *Garbhini Aahar* and *Vihara*. As this *Aahar* and *Vihara* is going to decide growth and development of *Garbha* and time of delivery. The significance of '*Aahar*' is very well established and appreciated by *Acharya s* during intra-uterine life. It is the *Aahar* only which is responsible for the growth of foetus as well as for vitals of mother. A lot of schemes are launched by the Government for the prevention of foetus and mother like Janani Suraksha Yojana (JSY), Janani Shishu Suraksha Kayakaram (JSSK), Vande Matram etc. With the progression in pregnancy the need of nutrients increases day by day due to increased demand by growing foetus inside the mother's womb. These needs have to be fulfilled with proper nutrition and diet. This diet schedule has been mentioned by *Samhitas* for every month to accomplish the proper foetal growth and to support the placenta further helping in easy delivery.

Acharya Charak gives a very scientific approach for the nourishment of foetus in first trimester by *Upshe-nan* process by the *Aahar Rasa* of mother, so he stressed on milk (rich source of calcium lactose, butter

and proteins). Because of poor nourishment to *Rasa Dhatu* depletion of *Rakta Dhatu* also occurs and the vitalated *Pitta Doshas* causes *Alprakt*, *Alpmeda*, diminished of *Ojas*, *Sithilendriya* & *Varna* abnormality.

Table 1: Maternal changes and demand during pregnancy

1.	Weight Gain	11-15kg; Depending on the height and pre-pregnant weight of the woman.
2.	Body fluid	Increase in total body water, water retention increases and exceeds sodium retention resulting in a small drop in plasma osmolality.
3.	Cardiovascular system	Cardiac output increases about 30-40% by 27 th week of pregnancy and then begins to fall a little near term.
4.	Respiratory System	Total volume and minute ventilation occurs. Total lung capacity and residual volume decreases because the diaphragm is moved up due to the developing fetus.
5.	Hematologica Changes	Red cell mass increases but due to greater plasma volume expansion there is hemodilution resulting in physiological ANEMIA in pregnancy.
6.	Renal Changes	Renal blood flow and GFR increases ureteral and renal pelvis dilation (because of the mechanical compression of the uterus)
7.	Gastro intestinal Changes	Changes in appetite- ' <i>Pica</i> ' <ul style="list-style-type: none"> ➤ Nausea and vomiting in early pregnancy with morning sickness. ➤ Reduced GI motility sometime leading to constipation. ➤ Gastro- esophageal reflux due to increases intra abdominal pressure.
8.	Endocrine changes	Glucocorticoids, thyroxin, aldosterone and parathormone all increases.
9.	Muscle-skeletal changes	<ul style="list-style-type: none"> ➤ Relaxing (later pregnancy results in relaxation of public symphasis and sacroiliac joints) ➤ Lordosis (increased curving of the lumbar spine to compensate for the shift in center of gravity brought on by the enlarging uterus)

Grabhini Pandu and Anemia: Pandu Roga is a disease described in *Ayurveda* and bears a great resemblance with the clinical picture of anemia. It develops due to depletion of *Rasa Dhatu* which in is turn becomes ineffective to produce a healthy *Rakta Dhatu*. In *Ayurvedic* classic description of *Pandu* is available in three forms. *Rasa Dhatu* increases quantitatively in pregnancy for the nourishment of *Garbhini*, *Garbha* and *Stana*. Normal physiological dilution of *Rasa Dhatu* due to ***Dhatwagni Mandyata*** takes place. This leads to a condition called as *Pandu* in the *Garbhini* and generally termed as '***Garbhini Pandu***'. According to *Kahsyap Samhita* all *Rasa Vaha Nadi* are around

the *Nabhi* and get pressed due to growth and development of the fetus. So this causes obstruction to the *Rasa Vahi Nadi* and flow of *Rasa Dhatu* is hampered. Hence a pregnant woman shows symptoms of *Pandu* during *Garbha Avastha*. This can be the probable etiology of *Pandu* (*Kashyapa Samhita Khilla Sthana- 9*).

Statistical Observation:

After all observations and statistical analysis applied on different variables, the 'p' value lies below 0.05 which is an indicative of significant correlation between the attributes.

Table 2: Association of *Amla Preeti* with HB (Haemoglobin)

		<i>Amla Preeti</i>				Total	
		5 to 10	10 to 15	15 to 20	20 to 25		
HB	5 to 7	Count	3	7	12	3	25
		%	75.0%	16.3%	27.9%	30.0%	25.0%
	7 to 9	Count	1	33	29	6	69

		%	25.0%	76.7%	67.4%	60.0%	69.0%
	9 to 10	Count	0	3	2	1	6
		%	.0%	7.0%	4.7%	10.0%	6.0%
Total		Count	4	43	43	10	100
		%	100.0%	100.0%	100.0%	100.0%	100.0%
			Value	df	P-Value		
Pearson Chi-Square			14.487	6	0.025		
Likelihood Ratio			7.216	6	0.301		
Linear-by-Linear Association			.003	1	0.956		
N of Valid Cases			100				

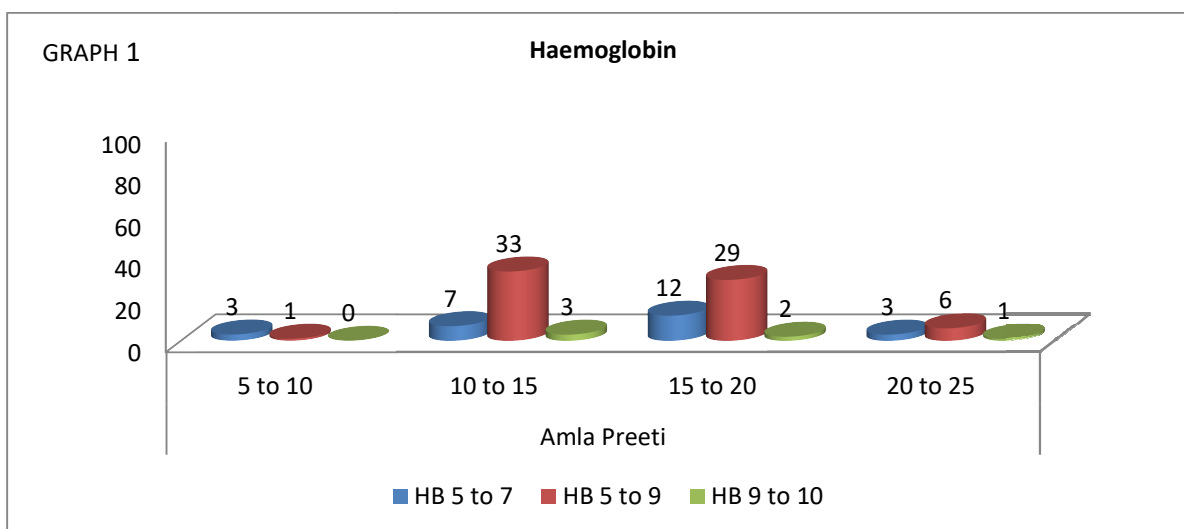
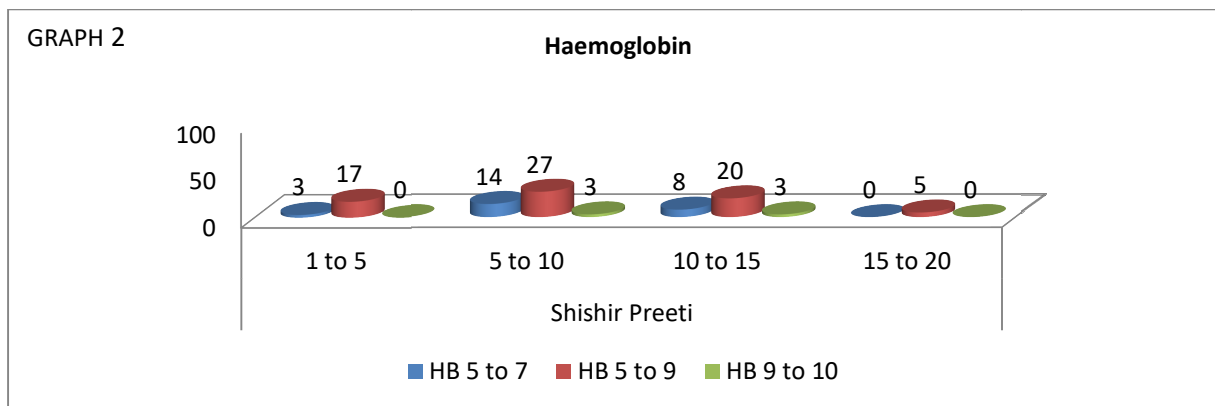


Table 3: Association of *Shishir Preeti* with HB (Haemoglobin)

		<i>Shishir Preeti</i>				Total	
		1 to 5	5 to 10	10 to 15	15 to 20		
HB	5 to 7	Count	3	14	8	0	25
		%	15.0%	31.8%	25.8%	.0%	25.0%
	7 to 9	Count	17	27	20	5	69
		%	85.0%	61.4%	64.5%	100.0%	69.0%
	9 to 10	Count	0	3	3	0	6
		%	.0%	6.8%	9.7%	.0%	6.0%
Total		Count	20	44	31	5	100
		%	100.0%	100.0%	100.0%	100.0%	100.0%



Since one variable is qualitative, Chi-Square test is applied to test association (Correlation) and p value is

observed < 0.05 . So there is a significant association between *Amla Shishir Preeti* and *Blood Indices*.

Table 4	Value	Df	P-Value
Pearson Chi-Square	13.808	6	0.032
Likelihood Ratio	9.611	6	0.142
Linear-by-Linear Association	.215	1	0.643
No. of Valid Cases	100		

Table 5: Showing Association between Different Attributes

Sr No	Attributes/ Variables	P Value
1	Association of <i>Amla Preeti</i> with HB	0.025
2	Association of <i>Amla Preeti</i> with MCV-	0.014
3	Association of <i>Amla Preeti</i> with MCH-	0.036
4	Association of <i>Amla Preeti</i> with MCHC	0.040
5	Association of <i>Amla Preeti</i> with ESR	0.038
6	Association of <i>Shishir Preeti</i> with HB	0.032
7	Association of <i>Shishir Preeti</i> with MCV	0.041
8	Association of <i>Shishir Preeti</i> with MCH	0.035
9	Association of <i>Shishir Preeti</i> with MCHC	0.035
10	Association of <i>Shishir Preeti</i> with ESR	0.022

CONCLUSION

By all observational findings value of (p) lies below 0.05, this is an indicative for significance of correlation. This also infers the nature of relationship, in case of low readings of haemoglobin the score of *Amla Preeti* is high and the same behaviour is observed for *Shishir Preeti*; which shows an inverse bonding between dependent and independent variables. So it proved a linear negative correlation between the attributes.

Hence, the research work infers a strong bonding between ancient concept of *Rakta Kshaya* and physiological anemia in first trimester of pregnancy. So this principle would be helpful in predicting early anemic symptoms to reduce fetal and maternal mortality by minimising the complications.

REFERENCES

1. *Agnivesha. Charaka Samhita. Pt. Yadavji Trikamji Acharya*, editor. Reprint ed. Varanasi: *Chaukhambha Surbharati Prakashan*; 2011, p.390. Park K. Preventive and Social medicine, 18th ed. Jabalpur: M/s Banarasidas Bhanot Publishers; 2005, p.265,322
2. *Sushruta. Sushruta Samhita, Pt. Yadavji Trikamji Acharya*, editor, Reprint ed. Varanasi: *Chaukhambha Surbharati Prakashan*; 2008.p69, 295.
3. *Vridhdhajivaka Kashyapa Samhita, Pt. Hemraj Sharma*, editor, Reprint ed. Varanasi: *Choukhambha Sanskrit Sansthan*; 2008.p.249.
4. *Vagbhata Astanga Hridayam, Pt. Harisadashiv Shastri Paradakara*, editor, Varanasi: *Chaukhambha Surabharati Prakashan*; 2007.p.185, 327.
5. *Agnivesh, Charaka Samhita. Pt. Yadavji Trikamji Acharya*, editor, Reprint ed. Varanasi: *Chaukhambha Surbharati Prakashan*; 2011.p.344.
6. *Vridhdhajivaka. Kashyapa Samhita, Pt Hemraj Sharma*, editor, Reprint ed. Varanasi: *Choukhambha Sanskrit Sansthan*; 2008.p.4.
7. *Vagbhata. Astanga Hridyam, Pt. Harisadashiv Shastri Paradakara*, editor; Varanasi: *Chaukhambha Surabharati Prakashan*; 2007.p.370.
8. *Agnivesha Charaka Samhita. Pt. Yadavji Trikamji Acharya*, editor. Reprint edition Varanasi: *Chaukhambha Surbharati Prakashan*; 2011.p.346.
9. *Agnivesha. Charaka Samhita. Pt. Yadavji Trikamji Acharya*, editor. Reprint ed. Varanasi: *Chaukhambha Surbharati Prakashan*; 2011.p.334.
10. Dutta D.C, A Text Book of Obstetrics. 6th ed. Calcutta: Central Book Agency; 2001.p.51.
11. Park K. Preventive and Social medicine, 18th ed. Jabalpur: M/s Banarasidas Bhanot Publishers; 2005.p.461.
12. Robinson H. Normal and Therapeutic Nutrition, 14th edition, New York: McMillan Publishers; 1972.p.295.
13. Gopalan C, Ramasastri BV, Balasubramaniam, editors. Nutritive Value of Indian Food, 1st ed. Hyderabad: National Institute of Nutrition; 1989.p.47.
14. *Agnivesha. Charaka Samhita. Pt. Yadavji Trikamji Acharya*, editor. Reprint edition, Varanasi: *Chaukhambha Surbharati Prakashan*; 2011.p.35.
15. Park K. Preventive and Social medicine, 18th ed. Jabalpur: M/s Banarasidas Bhanot Publishers; 2005.p.455.
16. *Agnivesha. Charaka Samhita. Pt. Yadavji Trikamji Acharya*, editor. Reprint edition Varanasi: *Chaukhambha Surbharati Prakashan*; 2011.p.167, 233.
17. Gopalan C, Ramasastri BV, Balasubramaniam, editors. Nutritive Value of Indian Food, 1st ed. Hyderabad: National Institute of Nutrition; 1989.p.63, 64, 71.
18. *Yogratanakara*. 1st ed. Varanasi: Krishnadas Academy; 1998.p.835.
19. Robinson H, Normal and Therapeutic Nutrition, 14th ed. New York: McMillan Publishers; 1972.p.299.
20. Kaychikitasa- Vd. Yashvant Govind Joshi, new, edition april 2010; 6-116.
21. *Sushruta Samhita, Sutrasthana* chapter 1/44, Dr. Anant Ram Sharma, Chaukhambha Surabharati Prakashan, Varanasi Reprint Edition 2006, Sanskrit Sansthan, Varanasi.

Source of Support: Nil

Conflict Of Interest: None Declared

How to cite this URL: Suman Kadian & Shaveta Sawhney: Survey Study On Rakta Kshaya Lakshanas (Amla Shishir Preeti) With The Physiological Anemia In First Trimester Of Pregnancy. International Ayurvedic Medical Journal {online} 2019 {cited October, 2019} Available from: http://www.iamj.in/posts/images/upload/1824_1829.pdf