

“A Comparative Clinical Study To Evaluate Efficacy Of Dhatri Lauha Vati And Darvyadi Lauha Vati In Pandu Roga W.S.R. Iron Deficiency Anaemia.”

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ABSTRACT : *Ayurveda* describes *pandu roga* as an illness which occurs due to lack of haemoglobin.It occurs mainly due to deficiency in iron intake through dietary sources. *Pandu* is a *VARNOPALAKSHITA Roga* which means there occurs a change in colour. Symptomatically,*pandu* is characterized by pallor, weakness, palpitations, loss of appetite, skin dryness etc.In *ayurveda*,*pandu* is well correlated with anemia. Iron deficiency is the most common cause of anemia in india. As the disease is very prevalent in society and the side effects of allopathic oral iron medicines are mostly seen,therefore to get a better alternative,ayurvedic herbomineral medicines can be administered. This study is a comparative study between *dhatri lauha vati* and *darvyadi loha vati*.

KEYWORDS – AYURVEDA,PANDU,ANEMIA,HERBOMINERAL MEDICINE,DATRI LAUHA VATI,DARVYADI LOHA VATI

INTRODUCTION

The present human health condition around the globe is far away from satisfaction. The day-to-day advancement in every living aspect has made the life extremely fast,hectic and full of tension. In such an outfit, in order to adjust themselves every person is compelled to make his life fast and mechanical. This is the reason why people have no time for themselves, even shifted their food habits to fast food, having very less nutritional value. Pandu Roga is predominantly pitta vitiated tridoshaja vyadhi. *Pandu*, is an illness which is manifested by pallor of body that resembles with modern disease :‘Anemia’. Iron deficiency anemia is the most common type of anemia throughout the world. Anemia is “silent”, in milder form but without management,it can get worsened and turned out to be reason for many other illness.According to *Acharya Charaka Pandu Roga* (Anemia) is disease of *Rasavaha Srotas* (1)and according to *Sushruta* it is disease of *Raktavaha Srotas*. In adult males,the lower limit of the normal haemoglobin is taken as 13.0 g/dl and in adult females,it should be 11.5 g/dl (2). The most common symptoms of anemia are Fatigue, Shortness of breath, Palpitation, Dizziness, Pale ,skin, Leg cramps, Insomnia etc.In *Ayurveda samhitas* many formulations are used to treat Pandu Roga (Anemia). In this study, we selected Dhatri Lauha Vati and

Darvyadi Lauha Vati. The clinical study on the drug *Dhatri Lauha Vati (3)* and *Darvyadi Lauha Vati(4)* is very cost effective and easily available

AIM

- 1)To evaluate the comparative effect of *Dhatri Lauha Vati* and *Darvyadi Lauha Vati* in the management of *Pandu Roga*.
2. To access the Hb% before and after treatment.

MATERIALS AND METHODS:-

SOURCE OF DATA

The patients who attended the OPD and IPD of Dr.D.Y.Patil college of Ayurveda And Research Center, Pimpri Pune having the symptoms of *pandu* were screened. Among them,60 patients fulfilling the inclusion criteria of present study were taken. A detailed history taking and clinical examination were carried out in these patients. Relevant data along with the associated symptoms was recorded in the designed case performa.

INVESTIGATION – CBC (Hb % before and after treatment)

DESIGN

It is a randomised controlled clinical trial which was carried out with 60 patients who were diagnosed to have *pandu* fulfilling the criteria for the study and had been placed in two groups A &B.

INTERVENTION

The patients of Group A were treated with oral administration of *Dhatri loha vati*,250 mg BD after food and group B were treated with *Darvyadi loha vati* 250 mg BD for a duration of 30 days

ASSESSMENT CRITERIA

Initially assessment was done before intervention of medicine and then, after 15 days up to 30 days .In the follow up period of 30 days ,the patients were assessed once in 15 days.

TABLE NO:1 -SCORING METHOD

No.	Lakshana (Symptoms)		Grades
1.	Panduta (Pallor) <i>Panduta</i> present in	1) Absent	0

	<i>Twak</i> (Skin), <i>Nakha</i> (nail), <i>Netravatma</i> (conjunctiva), <i>Jihva</i> (tongue) and <i>Hast pad tala</i> , (palmar and foot surface)	2) In any two of these	1
		3) In any three of these	2
		4) In any five of these	3
2.	<i>Daurbalya</i> (general weakness)	1) No <i>Daurbalya</i>	0
		2) Not able to perform mild activity.	1
		3) Not able to perform moderate activity.	2
		4) Activities cannot be performed.	3
3.	<i>Rukshata</i> (dryness)	1) No line on scrubbing with nail.	0
		2) Faint line on scrubbing by nail	1
		3) Excessive <i>Rukshata</i> leading to <i>Kandu</i>	2
		4) Dryness/roughness and crisscross visible cracking of skin.	3

4.	<i>Aayasen Shwasa</i> (dyspnoea)	1)Dyspnoea after heavy work but relieved soon and up to tolerance	0
		2)Dyspnoea after moderate work but relieved late and up to tolerance	1
		3)Dyspnoea after little work but relieved soon and beyond tolerance	2
		4) Dyspnoea in resting condition.	3
5.	<i>Pindiko Dweshtana</i> (leg cramps)	1) Absent	0
		2) <i>Pindiko Dweshtana</i> only during heavy-works like exercise, running, climbing, upstairs, lifting heavy objects etc.	1
		3) <i>Pindiko Dweshtana</i> during normal routine light works like walking etc.	2
		4) <i>Pindiko Dwestana</i> continuously Throughout day even during resting condition	3
6.	<i>Nidra Adhikya</i> (excessive sleep)	1) Normal sleep 6-7 hrs. per day	0

		2)Sleep up to 8 hrs./day with <i>Anga Gaurava</i> and <i>Jrimbha</i>	1
		3)Sleep up to 10 hrs./day with <i>Tandra</i>	2
		4)Sleep more than 10 hrs./day with <i>Tandra</i> and <i>Klama</i>	3
7.	<i>Gaurav</i> (heaviness)	1)No heaviness	0
		2) Occasionally feeling of heaviness for sometimes in hands and feet	1
		3) Most part of the body for long duration	2
		4) Full body for almost entire day	3
8.	<i>Aasya Vairasya</i> (anorexia)	1)Normal taste of mouth	0
		2)Continuous sensation of unpleasant taste but vanishes after eating something	1
		3)Continuous moderate sensation of unpleasant taste which persists even after eating	2

		4) Severe unpleasant taste throughout the day	3
9.	<i>Krodh (Anger)</i>	1) No anger even for reasonable cause	0
		2) Gets angry only for reasonable cause	1
		3) Gets angry even for unreasonable cause	2
		4) Highly irritable for no, cause uncontrollable anger with body gestures	3
10.	<i>Bhrama (giddiness)</i>	1) No Reeling of head/ <i>Bhrama</i>	0
		2) Feeling of reeling head/ <i>Bhrama</i> < 3 times a day	1
		3) Feeling of reeling head/ <i>Bhrama</i> > 3 times a day	2
		4) Frequently feeling of reeling head change of posture causes the severe problem	3
11.	<i>Angasadan (fatigue)</i>	1) No fatigue	0
		2) Little fatigue in doing hard work	1

		3) Moderate fatigue in doing routine work	2
		4) Excessive fatigue even in doing little work	3
12.	<i>Akshikutshotha</i> (pre orbital oedema)	1) No Pre orbital oedema	0
		2) Mild Pre orbital oedema	1
		3) Moderate Pre orbital oedema	2
		4) Severe Pre orbital oedema	3
13.	<i>Hridayaspandan</i> (palpitation)	1) No palpitation	0
		2) Mild palpitation	1
		3) Moderate palpitation	2
		4) Severe palpitation	3

OBJECTIVE ASSESSMENT

Criteria	Mild	Moderate	Severe
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Hb %	Above 9 gm/dl but below normal	7 gm/dl to 9 gm/dl	Below 7 gm/dl
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SAMPRAPTI GHATAKA (Etiological factor)

Dosha (substance) – pitta pradoshaja tridosha

Dusya – Rasa, Rakta, Oja

Srotas (circulating channels) Rasavaha, Raktavaha, Medovaha

Srotodushti – Sanga

Udbhava sthan (origin) – Hridaya

Vyakti sthan - Twak

Roga Marga – Madhyam

Vyadhi Swabhav – Chirkari

DRUG REVIEW

DHATRI LOHA VATI(Mentioned in bhaisajya ratnavali)

1.AMALAKI CHURNA – 8 PARTS

2.LAUHA BHASMA – 4 PART

3.YASHTIMADHU CHURNA -2 PART

4.GUDUCHI KWATH -500 ML

METHOD OF PREPARATION

Taken *Dhatri, Lauha Bhasma* and *yashtimadhu* in the form of fine powder and add *Guduchi Kwath* then grind it with *guduchi* decoction for seven days.then dry this mixture and paste formed is kept in new earthen pot. Finally, it is converted in to tablet form.Later pills were rolled of 250 mg weight each and then dried.

DARVYADI LOHA VATI(Mentioned in *chakradutta*)

INGREDIENTS ;

DARUHARIDRA CHURNA -1 PARTS

<i>HARITAKI CHURNA</i>	- 1 PARTS
<i>VIBHITAK CHURNA</i>	-1 PARTS
<i>AMALAKI CHURNA</i>	- 1 PARTS
<i>SHUNTHI CHURNA</i>	-1 PARTS
<i>MARICHA CHURNA</i>	-1 PARTS
<i>PIPPALI CHURNA</i>	- 1PARTS
<i>VIDANG CHURNA</i>	-1 PARTS
<i>LAUHA BHASMA</i>	-1 PARTS

METHOD OF PREPARATION

Prepare fine powder of drugs viz. *Daruharidra, Haritaki, Vibhitak, Amalaki, Shunthi, Maricha, Pippali, Vidang, Lahua Bhasma* in prescribed quantity. All ingredients are mixed well to form a homogenous mixture, to this mixture *Go Ghrita* and honey is added unequal part& triturate well. Later pills were rolled of 250 mg weight each and then dried.

Table no:2:showing drugs in *dhatri loha vati, darvyadi loha vati and rasa panchaka*

DRAVYA	RASA	GUNA	VIRYA	VIPAKA	KARMA
<i>DHATRYADI LOHA VATI</i>					
<i>AMALAKI</i>	<i>Lavana varjit pancha rasa</i>	<i>Laghu,ruksha,sheeta</i>	<i>sheeta</i>	<i>madhur</i>	<i>Tridosahara</i>
<i>LAUHA BHASMA</i>	<i>Tikta,kashaya</i>	<i>Ruksha,guru</i>	<i>sheeta</i>	<i>madhura</i>	<i>Kapha pitta shamak</i>
<i>YASHTI MADHU</i>	<i>madhura</i>	<i>Guru,snigdha</i>	<i>sheeta</i>	<i>madhura</i>	<i>Vatapitta shamak</i>
<i>GUDUCHI</i>	<i>Tikta,kashaya</i>	<i>Guru,snigdha</i>	<i>ushna</i>	<i>madhura</i>	<i>Tridosha shamak</i>
<i>DARVYADI LOHA VATI</i>					
<i>Daru haridra</i>	<i>Tikta,kashaya</i>	<i>Laghu,ruksha</i>	<i>ushna</i>	<i>katu</i>	<i>Kapha pittahara</i>
<i>haritaki</i>	<i>Kashaya tikta</i>	<i>Laghu ruksha</i>	<i>ushna</i>	<i>madhura</i>	<i>Tridosha shamak</i>
<i>vibhitaki</i>	<i>kashaya</i>	<i>Laghu ruksha</i>	<i>ushna</i>	<i>madhura</i>	<i>Kapha vata samak</i>
<i>amalaki</i>	<i>Lavana varjit pancharasa</i>	<i>Laghu ruksha</i>	<i>sheeta</i>	<i>madhura</i>	<i>Tridosha hara</i>

<i>Shunti</i>	<i>katu</i>	<i>Rukshna,tikshna</i>	<i>ushna</i>	<i>madhura</i>	<i>Kapha shamak</i>
<i>maricha</i>	<i>katu</i>	<i>Laghu tikshna</i>	<i>ushna</i>	<i>katu</i>	<i>Vatahara</i>
<i>pippali</i>	<i>katu</i>	<i>Laghu snigdha</i>	<i>ushna</i>	<i>madhura</i>	<i>Vatakaphahara</i>
<i>vidanga</i>	<i>Katu kashaya</i>	<i>Laghu ruksha</i>	<i>ushna</i>	<i>katu</i>	<i>Kaphavata shamak</i>
<i>Lauha bhasma</i>	<i>Tikta kashaya</i>	<i>Ruksha guru</i>	<i>sheeta</i>	<i>madhura</i>	<i>Kapha pitta shamak</i>

STUDY CRITERIA

a) INCLUSION CRITERIA: -

- 1) *Pandu Roga* diagnosed according to subjective & objective parameters.
- 2) Age group between 19 to 60 year irrespective of gender, religion, socio- economic status, marital status is selected.
- 3) Blood sample showing haemoglobin percentage in range 7gm/dl to 11gm/dl.

b) EXCLUSION CRITERIA: -

- 1) *Pandu Roga* in age group below 19 years and above 60 years.
- 2) *Mridabhakshanjanya Pandu*.
- 3) Anemia due to internal bleeding, external bleeding, gastric and duodenal ulcer, haemorrhoids, pregnancy induced Anemia.
- 4) Haemoglobin less than 7gm/dl.
- 5) Leukaemia, Major Kidney diseases like ARF, CRF.

OBSERVATIONS

Out of 60 patients enrolled in the study,38%were in the age group 18 to 28 years. Female patients show more prevalence in this study.The patients were mostly from urban habitat and who belongs to lower- middle class socio economic status.The incidence of *pandu roga* is more in *pitta vata prakruthi* persons.In this study,patients with *madhyama koshta* with *manda agni* who take mixed diet shows more inclination to *pandu roga*

Results of Group A and Group B

According to % Relief in Symptoms

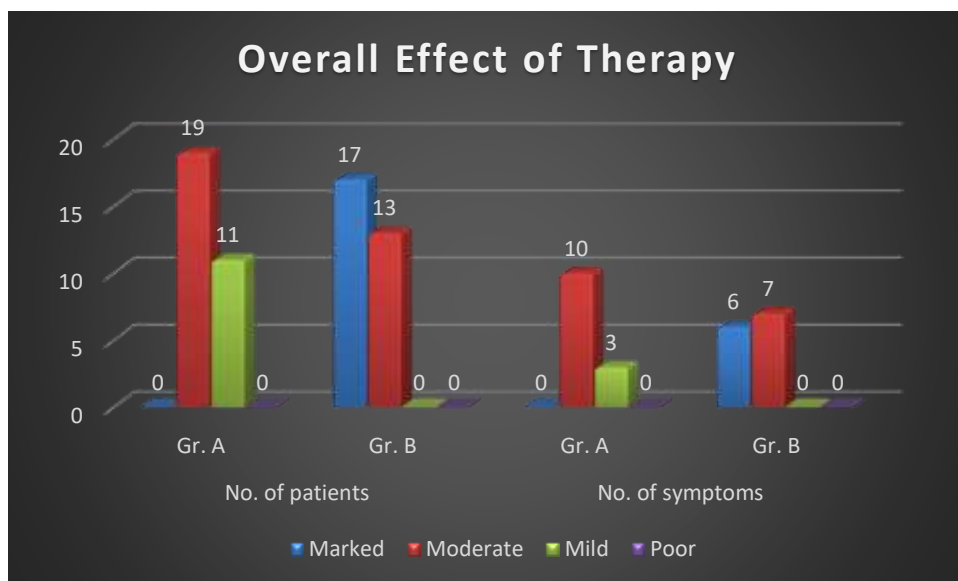
Table no:3- % Relief in Symptoms of Group A & Group B

Sr. No.	Symptoms	% Relief	
		Group A	Group B
1	<i>Panduta</i>	41.56	74.63
2	<i>Daurbalya</i>	44.74	80
3	<i>Rukshata</i>	56.45	73.77
4	<i>Ayasen shwasa</i>	41.56	74.63
5	<i>Pindikodweshtan</i>	58.62	77.19
6	<i>Nidradhikya</i>	57.35	75.76
7	<i>Gaurava</i>	59.38	74.24
8	<i>Asya vairasya</i>	63.49	79.69
9	<i>Krodha</i>	55.88	75.38
10	<i>Bhrama</i>	50.77	69.84
11	<i>Angasadan</i>	61.19	75.36
12	<i>Akshikut shotha</i>	54.29	72.06
13	<i>Hridspandan</i>	54.29	72.06
	Avg. % Relief	53.81	74.97

Table no:4 Overall Effect of Therapy according % Relief

Sr. No.	Criteria	Improvement Grade	No. of patients		No. of symptoms	
			Gr. A	Gr. B	Gr. A	Gr. B
1	75% to 100%	Marked	00	17	00	06
2	50% to 74%	Moderate	19	13	10	07
3	25% to 50%	Mild	11	00	03	00
4	00% to 24%	Poor	00	00	00	00

Figure: Overall Effect of Therapy according % Relief



DISCUSSION

Effect of therapy observed in Group A and Group B on the basis of subjective and objective criteria.

Effect of therapy on symptoms of *Panduta* was evaluated with the help of score system, which has been mentioned in the criteria of assessment. The study entitled “A Comparative Clinical Study to Evaluate efficacy of *Dhatri Lauha Vati* and *Darvyadi Lauha Vati* in *Pandu Roga* w.s.r. Iron Deficiency Anaemia.” Aim of this study is to evaluate the comparative effect of *Dhatri Lauha Vati* and *Darvyadi Lauha Vati* in *Pandu*.

The patient was assessed on different parameters for obtaining the effect of Therapy. All the clinical sign and symptom were assessed on the basis of scoring given to them before and after treatment. The most important presenting sign of *Pandu Roga* is *Panduta* (paleness). This is the most conclusive sign of the disease because whenever any patient comes across, the first things observe is the Appearance. This are the properties of *Raktadhatu* and *PittaDosha*, particularly the *Bhrajak* and *Ranjak Pitta*.

Regarding the effect of therapy significant result obtained in both groups. *Panduta* is decreased as treatment proceeds.

Group A: Mean Gradation for *Panduta* before treatment was 2.56 and after treatment it was 1.50, this reduction of 41.56% was Significant ($P < 0.0001$). Group B: The initial mean for *Panduta* was 2.23 and after treatment it was 0.56, this reduction of 74.63% was highly significant ($P < 0.0001$). In *Dhatri Lauha* most of drugs are having *Tridoshahara* property, so it becomes helpful in treating *Tridoshaja Vyadhi Pandu*. In *Pandu*, *Pitta* is predominant *Dosha* and most of drugs of *Dhatri lauha* are *Sheeta Virya* and having *Kashaya, Tikta and Madhura Rasa* which help to decrease vitiated *Pitta*. In *Dhatri lauha*, the drugs improves *Jatharagni* as well as *Dhatwagni*. After this quality and quantity of *Rasa* and *Rakta Dhatu* improves. Due to *Srotovishodhana* property *Srotosanga* is decreased and *Dhatu* again Nourish all parts of body. In short, *darvyadi loha vati* is found to be more effective than *datri lauha vati*

CONCLUSION

After analysing all the data and the observation we conclude that *Darvyadi Lauha Vati* is more effective than *Dhatri Lauha Vati* in *Pandu Roga*. *Darvyadi Lauha Vati* is more effective than *Dhatri Lauha Vati* and it reliving symptoms of *Pandu Roga*. In this study maximum female patients were observed. Hence females are more prone to this disease. May be because of heavy menstrual bleeding and child bearing. The patients from lower and middle class were more prone to *Pandu Roga* because of worries, wrong food habits, shift duty, and strenuous work. Lower class people unable to afford the proper nutritious diet hence suffer from this disease. *Pandu* is a pitta predominant disease; so in this *vyadhi*, there is a loss of complexion due to *pitta* vitiation as this *dosha* is responsible for the normal colour of the body.

Drug having the properties like *Deepan, Pachan and PittaShaman, Rasa, Rakta Dhatu vardhan* are useful in *Pandu Roga*. In *Pandu Roga* Psychological Factor like *Krodh* (anger) plays a major role as an etiological factor. No adverse event recorded during clinical trial hence we may conclude that *Darvyadi Lauha Vati* is highly significant in reducing the severity of symptom of *Pandu Roga* like *Panduta, Daurbalya, Rukshata, Aayasen Shwasa, Pindiko Dweshтана, Nidra Adhikya, Gaurav, Aasya Vairyasya, Krodh, Bhrama, Angasadan an, Akshikutshota, Hridspandan etc.* Though this study was carried out in limited patient, the mass study programming is needed for huge database for statistical study.

Trial drug shows symptomatic results and also increase haemoglobin percentage.

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