

**“TO STUDY THE EFFICACY OF TINTIDIMANDOORAM IN  
MANAGEMENT OF GARBHINI PANDU W.S.R. TO IRON  
DEFICIENCY ANAEMIA”.**

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**ABSTRACT**

Anaemia is defined as reduction in circulating haemoglobin mass below the critical level and it is the most prevalent haematological disorder that may occur in pregnancy<sup>5</sup>. Anaemia is an indirect cause of death. About 50% of pregnant women worldwide suffer from anaemia. Anaemia is commonly due to dietary deficiency (nutrition, iron, folic acid, iodine and other micro nutrients) or infections<sup>8</sup>. Anaemia is a global health issue that has significant consequences for the individual health and socio-economic development. The most common cause of anaemia in developing nation is “Iron Deficiency”<sup>9</sup>. In addition, there is marked demand of extra iron during pregnancy specially in the second half. Even an adequate diet can not provide the extra iron thus result in iron deficiency anaemia in pregnancy. In modern medicine,

ferrous gluconate, ferrous fumarate or ferrous succinate is used to correct anaemia. Drawbacks of ferrous gluconate, ferrous fumarate or ferrous succinate are intolerance, epigastric pain, nausea, vomiting, diarrhoea or constipation, unpredictable absorption rate. For avoiding these drawbacks I selected “Tintidimandooram” for Garbhini pandu<sup>15</sup>.

तिन्तिडीपिप्िलीयुक्तिं मण्डूरत् योजयेत्।

हरि योगराजोऽयं शोफाण्डुक्षयादिकान्तः॥ ७४४

-व.रा.,वै.चि.,णिण्डुरोगे (रसयोगसागरः)

Tintidimandooram contains Mandoor bhasma, Tintidi churna, Pimpali churna<sup>16</sup>.

Effectiveness of Tintidimandooram to overcome above said complications

Mandoor bhasma

मण्डुरं सुमृत्तिं वृष्यं शशशशरं रुचिरं रिमत।

पित्तिं पित्तिमन रक्किवृन्दिकरं रिमत॥

कामलाकुड्यकुशलश मण्डुरं पु पवशेषिः। -र.ि. २०/१३२-१३३

Uttam mandoor bhasma is vrusha, sheeta, ruchivardhaka, agnideepak, pittashamaka and uttam raktavrudhikar<sup>17</sup>.

Pippali

पिप्पली पित्तिनी वृष्या स्वादुिका रसायनी।

अनुष्णा कटुका न्स्नग्धा वाश्लेष्महरी लघुः॥ -भा.प्र.

Pippali is katu, anushna, madhur, laghu, snigdha, tikshna in guna<sup>18</sup>.

Tintidi

वाहिं तिन्तिडीकमाम् पित्तिबलासकृति।

ग्राह्युष्णं पित्तिं रुच्यं सक्किवं कफवातिनुति॥ -सु.सू.४६/१५८

Tintidi is amla, ushna, laghu, ruksha in guna<sup>19</sup>.

Agnimandya is one of the purvaroop of panduroga. Pippali, Tintidi having deepana guna which reduces Agnimandya. Pippali reduces constipation in Garbhini and Tintidi helps in absorption of Mandoor bhasma. Tintidimandooram has higher absorption rate than other drugs and also cheaper than modern drugs.

Pregnancy is very delicate stage, to avoid iron deficiency anaemia in pregnancy and to decrease mortality rate I selected this topic “To Study The Efficacy Of Tintidimandooram In The Management Of Garbhini Pandu w.s.r. To Iron Deficiency Anaemia”.

## INTRODUCTION

The prevalence of Anaemia in Pregnancy is of daily occurrence. Anaemia results from number of causes out of which Iron Deficiency is most common in developing countries like India, due to inadequate & less nutritious diet, low socio-economic status, poor sanitation & lack of health knowledge. Anaemia is defined as reduction in circulating haemoglobin mass below

the critical level and it is most prevalent haematological disorder that may occur in Pregnancy. There are many side effects due to oral administration of Iron preparations. Thus it is important to search for more safe, easily available, palatable & cost effective therapy having least side effects. "Ayurveda has stated various types of Garbhaopdrava which explains The disorders which occur in Garbhini due to presence of garbha are called as Garbhaopdrava." In respect of Garbhaopdrava, Acharya Harita has described 8 Garbhaopdrava –Shosha, Hrullas, Chhardi, Shopha, Jwara, Aruchi, AtiSaar, Vivarnatva<sup>11</sup>. Here Vivarnatva (pallor) can be taken as pandu because Vivarnatva means change in colour. According to acharya charak, pandu is rasa-pradoshaj vyadhi during pregnancy foetus is nourished by rasa dhatu.

### AIMS AND OBJECTIVE

- To study the efficacy of Tintidimandooram in the management of Garbhini Pandu w.s.r. to Iron deficiency Anaemia in pregnancy.
- To study the effect of Tintidimandooram in Garbhini Pandu.
- Changes in haemoglobin percentage due to Tintidimandooram will be assessed.
- Changes in MCV, MCH, MCHC due to Tintidimandooram will be assessed.

### MATERIALS AND METHODS

#### 1. MATERIALS

- Patients of Garbhini Pandu from OPD were selected.
- Drug- Tintidimandooram contains

#### CONTENTS OF TINTIDIMANDOORAM AND DOSE:-

तिन्तिडीपिप्पिलीयुक्तंमण्डूरतंयोजयेत् ।

हरियोगराजोऽयंशोफिण्डुक्षयादिकानत ॥ ७४४ व.रा.,वै.चि., िण्डुरोगे(रसयोगसागरः)

#### TINTIDIMANDOORAM

- The dose of Mandoora Bhasma: 1/4 to 2 Ratti i.e. 30mg to 250mg.

आरभ्यगुञ्जांशाल्लोहमात्रापवधानपवित ।

गुञ्जादपविययतिमण्डूरतंपवतनयोजयेत् ॥ - र.ि.२०/१३५

- Madoora Bhasma +Tintidi Churna + Pippali Churna = Tintidimandooram (250mg) (250mg) (250mg) (750mg)

- So dose of Tintidimandooram is 750 mg. It will be given in 2 divided doses after meal, orally. Tintidimandooram will be given by using empty gelatine capsule. Each capsule contains 375 mg Tintidimandooram.
- - Tab. Ferrous Fumarate with Folic Acid.

## 2. METHODS

**A. PLACE OF WORK:** Ayurved Mahavadyalaya and hospital, Streerog Prasutitantra OPD.

**B. SELECTION OF PATIENT:** Random selection of 60 diagnosed patients of Garbhini Pandu from OPD and IPD of StreerogPrasutitantra Department of our Ayurved Rugnalaya.

**C. PERIOD:** 60 days for trial group and 60 days for control group individual. Follow up after every 15 days.

### PLAN OF STUDY

	<b>Group A (Trial Group)</b>	<b>Group B (Control Group)</b>
<b>Drug name</b>	Tintidimandooram	Ferrous Fumarate with folic acid
<b>Time of administration</b>	After meals in 2 divided doses.	In between meals in 2 divided doses.
<b>Duration</b>	60 days.	60 days.
<b>Follow up</b>	Every 15 days.	Every 15 days.

**MATERIALS AND METHODS:-** The study was conducted on 30 Garbhini & were randomly divided into 2 groups.

### INCLUSION CRITERIA

- *Patients between the ages of 18 years to 35 years.*
- *Patients with predominant signs and symptoms of panduroga, Irrespective of, religion, geographical area and socioeconomic status.*
- *Patients having iron deficiency anaemia.*
- *Patients having Haemoglobin percentage in between the range 7 to 10.*

### EXECLUSION CRITERIA

- *Patients having Haemoglobin percentage less than 7.*
- *Age below 18 years and above 35 years.*
- *Patients suffering from major systemic disorders.*
- *Any patient requiring surgical intervention.*
- *All types of anaemia other than Iron deficiency anaemia.*

**Gradation Of Symptoms**

Sr. no	Symptoms	Grade o	I (+)	II (++)	III (+++)
1	Vivarnatva	Absent	Nakha, Netra, Panduta	Nakha, Netra, Tawk, panduta	Nakha, Netra, Tawk, Jivha, Panduta
2	Shrama Shwasa	Absent	While walking	While Performing daily routine work	While, Performing light work
3	Akshikutashoth	Absent	Only morning after rising up from bed	Persistent whole day	Disturbance while opening eyes
4	Agnimandya	Normal appetite	Takes mild diet two times	Takes soft diet forcefully (once a day)	Not feeling to eat in a whole day (24 hours)
5	Bhrama	Absent	While walking	While Performing daily routine work	While Performing light work

**INVESTIGATIONS**

- Haemoglobin percentage.
- MCV, MCH, MCHC.
- Peripheral blood smear for RBCs.

**OVERALL ASSESSMENT OF THE RESULTS**

Sr no	GRADATION	TOTAL ASSISSMENT
1	Grade IV (Cured)	Haemoglobin increased by $\geq 2$ gm% $\geq 75\%$ relief in signs and symptoms.
2	Grade III (Remarkable Improved)	Haemoglobin increased by 1 to 2 gm% 50 to 75% relief in signs and symptoms.
3	Grade II (Improved)	Haemoglobin increased by 0.5 to 1 gm% 25 to 50% relief in signs and symptoms.
4	Grade I (Unchanged)	Haemoglobin increased by 0 to 0.5 gm% < 25% relief in signs and symptoms.

**OBSERVATIONS AND RESULT**

- OBSERVATIONS AND RESULTS: In this study, 60 patients were randomly selected and divided into two groups:

**Total Patients registered for Study – 60**

- Group A – 30 Patients
- Completed- 30
- Group B – 30 Patients
- Completed- 30

- **Age Incidence:** Maximum number of patient are found in age group 25 to 30yrs. Women are mainly reproductive in this age group. That's why age incidence is high in this age group.
- **Religion Incidence:** In this study, large no of patients were Hindu.
- **Education Status:** Majority of patients had completed graduation. Government is taking several steps for women-empowerment. But still Illiteracy in patients was also remarkable.
- **Occupation:** Majority of patients were House wife followed by patients having service. Also it was observed that House wife patients were more anaemic. The reason can be lack of awareness in them about rich iron contain diet.
- **Socio-economic status:** In this study, patients belonging to poor family were more affected by Garbhini pandu.
- **Habitat Incidence:** It was observed that majority of patients were from Urban area.
- **Diet:** It is observed that majority of patients were taking veg diet.
- **Weight:** Maximum patients were found in 51-60 weigh group.
- **Prakruti:** Maximum patients were having kapha-vata prakruti and followed by vata- pitta prakruti.
- **Satva:** Maximum patients were having Madhyama satva.
- **Saar:** Maximum patients were having Madhyama saar.
- **Satmya:** Maximum patients were having Madhyama satmya.
- **Samhanan:** Maximum patients were having Madhyama samhanan and followed by Avara samhanan.
- **Koshtha:** Maximum patients were having Mrudu koshtha.
- **Nidra:** Maximum patients were having Prakruta nidra followed by Alpa nidra.
- **Abhyavaranshakti:** Maximum patients were having Madhyama Abhyavaranshakti.
- **Jaranasakti:** Maximum patients were having Madhyama Jaranshakti

• **Effect of Treatment on Clinical Features of Pandu: Group A**

Signs and Symptoms	N	Mean Score		Mean diff.	P value
		B.T.	A.T.		
Vivarnatva	30	0.96	0.17	1.13	<0.001
Shrama Shwasa	30	1.93	0.77	1.16	<0.001
Akshikutashoth	30	1.0	0.20	0.80	<0.001
Agnimandya	30	1.3	0.07	1.23	<0.001
Bhrama	30	1.5	0.43	1.07	<0.001

**Effect of Treatment on Haematological Investigations of Pandu: Group A**

Haematological values	N	Mean Score		Mean diff.	S.D.	S.E.	t value	p value
		B.T.	A.T.					
Hb%	30	8.62	9.25	0.64	0.17	0.03	21.13	<0.001
RBC	30	3.98	4.07	0.09	0.07	0.01	7.06	<0.001
PCV	30	27.76	29.1	1.31	0.85	0.16	8.44	<0.001
MCV	30	68.48	72.9	4.4	1.92	0.35	12.55	<0.001
MCH	30	22.02	23.4	1.35	0.62	0.11	11.77	<0.001
MCHC	30	30.83	32.1	1.24	0.91	0.17	7.47	<0.001

**Table Showing overall Effect of Tintidimandooram On Clinical Features of Pandu: A**

Result	Assessment	No. Of Patients	% of patient
<b>Cured</b>	Haemoglobin increased by $\geq 2$ gm% $\geq 75\%$ relief in signs and symptoms.	0	0
<b>Remarkable Improved</b>	Haemoglobin increased by 1 to 2 gm% 50 to 75% relief in signs and symptoms.	1	3.33
<b>Improved</b>	Haemoglobin increased by 0.5 to 1 gm% 25 to 50% relief in signs and symptoms.	26	86.67
<b>Unchanged</b>	Haemoglobin increased by 0 to 0.5 gm% < 25% relief in signs and symptoms.	3	10

**Effect of Treatment on Clinical Features of Pandu: Group B**

Signs & Symptoms	N	Mean Score		Mean diff.	p value
		B.T.	A.T.		
<b>Vivarnatva</b>	30	1.37	0.53	0.84	<0.001
<b>Shrama Shwasa</b>	30	2.10	1.23	0.87	<0.001
<b>Akshikutashoth</b>	30	1.13	0.5	0.63	<0.001
<b>Agnimandya</b>	30	1.30	0.63	0.67	<0.001
<b>Bhrama</b>	30	1.87	1.17	0.70	<0.001

**Effect of Treatment on Haematological Investigations of Pandu: Group B**

Haematological values	N	Mean Score		Mean diff.	S.D.	S.E.	t value	p value
		B.T.	A.T.					
<b>Hb%</b>	30	8.50	9.18	0.69	0.21	0.04	18.08	<0.001
<b>RBC</b>	30	3.97	4.05	0.08	0.08	0.02	5.23	<0.001
<b>PCV</b>	30	27.26	28.46	1.21	0.85	0.15	7.79	<0.001
<b>MCV</b>	30	67.74	71.96	4.22	1.62	0.30	14.26	<0.001
<b>MCH</b>	30	21.66	23.23	1.57	0.64	0.12	13.34	<0.001
<b>MCHC</b>	30	30.78	32.47	1.68	0.76	0.14	12.19	<0.001

**Table Showing overall Effect of Ferrous Fumarate On Clinical Features of Pandu:  
Group B**

Result	Assessment	No. Of Patients	% patient
<b>Cured</b>	Haemoglobin increased by $\geq 2$ gm% $\geq 75\%$ relief in signs and symptoms.	0	0
<b>Remarkable Improved</b>	Haemoglobin increased by 1 to 2 gm% 50 to 75% relief in signs and symptoms.	2	6.67
<b>Improved</b>	Haemoglobin increased by 0.5 to 1 gm% 25 to 50% relief in signs and symptoms.	26	86.67
<b>Unchanged</b>	Haemoglobin increased by 0 to 0.5 gm% $< 25\%$ relief in signs and symptoms.	2	6.67

### COMPARATIVE ANALYSIS

Symptom	Mean of diff. Gr. A	Mean of diff. Gr. B	Diff. of Diff. Of Mean	p value	Conclusion
Vivarnatva	1.13	0.84	0.29	0.02	Significant
Shrama Shwasa	1.16	0.87	0.29	0.01	Significant
Akshikutashoth	0.8	0.63	0.17	0.83	Insignificant
Agnimandya	1.23	0.67	0.56	0.0001	Significant
Bhrama	1.07	0.7	0.37	0.04	Significant

### SYMPTOMATOLOGICAL CONSIDERATION & EFFECT OF THERAPIES:

#### Vayvarnatva

- In both groups result was highly significant ( $p < 0.001$ ) due to raktavardhaka properties were present in both groups.

#### Shrama shwas

- Statistically result was found highly significant ( $p < 0.001$ ) in both the groups.
- Akshikutashotha: The relief was good in both the groups, in both the groups statistically highly significant ( $p < 0.001$ ) result was obtained.

#### Agnimandya:

- Statistically highly significant result was obtained in both the groups.

#### Bhrama

The relief was good in both the groups, in both the groups statistically highly significant ( $p < 0.001$ ) result was obtained.



### Comparision of treatments

#### • Group A

Patients in this group were treated with **Tintidimandooram**. Highly significant relief was obtained in symptoms of Vayvarnatva, Shrama Shwasa, Akshikuthashoth, Agnimandya, Bhrama. Also regarding haematological result significant result was obtained in Hb%, RBC, PCV, MCV, MCH & MCHC.

#### • Group B

Patients in this group were treated with **Ferrous Fumarate** highly significant but less than group A relief was obtained in symptoms of Vayvarnatva, Shrama Shwasa, Akshikuthashoth, Agnimandya, Bhrama. Also regarding haematological result significant result was obtained in Hb%, RBC, PCV, MCV, MCH & MCHC.

### Dicussion On Probable Action Of Tintidimandooram

Name Of Drug	Tintidi	Pippali	Mandoora Bhasma
Latin Name	Tamarindusindica Linn.	Piper longum	Ferri peroxidum rubrume (Fe <sub>2</sub> O <sub>3</sub> )
Rasa	Amla	Katu	Kashaya
Virya	Ushna	Anushna	Sheet
Vipaka	Amla	Madhur	Katu
Guna	Laghu, Ruksha	Laghu, Snigdha, Tikshna	Sheet

### Dicussion On Probable Action Of Tintidimandooram

- **Uttam Mandoor bhasma** is vrushya, sheeta, ruchivardhak, agnideepak, pittashyamak and uttam raktavrudhikar.
- Mandoor Bhasma is already in Ferric form that's why it get absorbed directly in to the body.
- **Pippali** is rasayana, katu, anushna, madhur, laghu, snigdha, tikshna in guna
- Pippali is katu rasatmaka, madhurvipaki and Raktagami it directly acts on Raktavaha Strotasa and increases Rakta dhatu. Pippali is also Yogavahi and Rasayana, Rasayana regulates metabolism and increases immunity and strength. When Pippali is mixed with other drugs, efficiency of those get increased.
- **Tintidi** is amla, ushna, ruksha in guna. Tintidi helps in absorption of Mandoor Bhasma. Tintidi is Ruchikar Depaniya and grahi which acts on Aruchi, trushna, chardi and Agnimandya. Tintidimandooram has higher absorption rate than other drugs and also chiper than modern drugs.

**CONCLUSION**

- The treatment of Tintidimandooram in Garbhini Pandu was very effective.
- Due to samprapti bhanga, Tintidimandooram was significant for observed symptoms such as Vayvarnatva, Shrama Shwasa, Akshikuta Shotha, Agnimandya and Bhrama.
- The effect of Tintidimandooram on Agnimandhya & Shrama shwas was better than Ferrous Fumarate.
- Haematological results were nearly same for both the groups.
- In present study, mostly peripheral smear for all patients was Microcytic Hypochromic it shows "Iron Deficiency Anaemia".
- In IDA, commonly found that there is improper iron absorption in GIT.
- Tintidimandooram improved metabolism and absorption rate of Mandoora Bhasma in Garbhini pandu.
- Ferrous iron can absorb better than Inorganic ferrous and ferric salts.
- No side effect on Garbhini Pandu was observed after treatment.
- Tintidimandooram shown no adverse effects on foetus and mother it can be continued upto delivery and after delivery.

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