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A COMPARATIVE CLINICAL STUDY OF SHATAVARI-MANDUR & MADHUKADI –LAUHAM IN GARBHINI-PANDU

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ABSTRACT

Iron deficiency anaemia (IDA) has been universally identified as one of the commonest form of medical disorder during pregnancy. Anaemia during pregnancy is a major public health problem throughout the world, particularly in the developing countries. According to WHO, prevalence of anaemia in developed and developing countries in pregnant women is estimated. It is about 14% in developed and 51% in developing countries. In India prevalence is 65-75%. As compared to other developing countries, prevalence of anaemia in all the age groups is higher in India. In South Asian countries and India contributes approximately 80% of the maternal deaths due to anaemia. The Indian subcontinent alone contains nearly half the world's anaemic women. Despite the fact that most of the anaemia's seen in pregnancy is largely preventable and easily treatable if detected in time, anaemia still continues to be a common cause of mortality & morbidity in India. Anaemia is directly responsible for 20% maternal death and is an associated cause in another 20%. Margaret Balfour was credited as the first to draw the attention of anaemia in pregnancy in India. The Indian Council of Medical Research estimated the prevalence of anaemia among pregnant women to be 88%. These affect approximately 2 billion people, 80% of whom live in the developing countries.

KEYWORDS:- Pandu, Garbhini, Pregnancy, Anaemia.

INTRODUCTION

In *Ayurveda Samhitas* various formulations are rectified from time to time according to the need of the woeful. This pliability has ensured its implicitness until today. The limitations of other healing sciences have often prompted their pronouncers to search for the remedies of newly discovered diseases in our *Ayurvedic* science. Iron deficiency anaemia (IDA) is one of such diseases.

Iron deficiency anaemia (IDA) has been universally identified as one of the commonest form of medical disorder during pregnancy. Anaemia during pregnancy is a major public health problem throughout the world, particularly in the developing countries. According to WHO, prevalence of anaemia in developed and developing countries in pregnant women is estimated. It is about 14% in developed and 51% in developing countries. In India prevalence is 65-75%. As compared to other developing countries, prevalence of anaemia in all the age groups is higher in India.[1] In South Asian countries and India contributes approximately 80% of the maternal deaths due to anaemia.[2] The Indian subcontinent alone contains nearly half the world's anaemic women.[3] Despite the fact that most of the anaemia's seen in pregnancy is largely preventable and easily treatable if detected in time, anaemia still continues to be a common cause of mortality & morbidity in India. Anaemia is directly responsible for 20% maternal death and is an associated cause in another 20%.[4] Margaret Balfour was credited as the first to draw the attention of anaemia in pregnancy in India.[5] The Indian Council of Medical Research estimated the prevalence of anaemia among pregnant women to be 88%.[6] These affect approximately 2 billion people, 80% of whom live in the developing countries.[7]

World Health Organization (WHO) defines anaemia as presence of haemoglobin of less than 11g/dl and haemtocrit of less than 0.33g/dl. The Centre for Disease Control and Prevention (CDC,1998) have defined anaemia in iron supplemented pregnant women using a cut off of the 5th percentile - 11g/dl in 1st trimester & 3rd trimester or less than 10.5g/dl in 2nd trimester in peripheral blood, the condition is called anaemia.

AIMS AND OBJECTIVES

1) To assess the efficacy of *Shatavari-Mandur* in the management of *Garbhini Pandu*.
2) To assess the efficacy of *Madhukadi Lauham* in the management of *Garbhini Pandu*.

3) To compare the relative efficacy of *Shatavari-Mandur* and *Madhukadi Lauham*.

Inclusion criteria

a. A pregnant woman willing to participate in the trial.
b. A pregnant woman aged between 18-35 years of life.
c. A pregnant woman having anemia in second trimester.

Exclusion criteria

a. Anemia other than Iron deficiency anemia.
b. Patients having Hb% less than 8.0gm/dl.
c. Patients suffering from systemic diseases.
d. 1st trimester of Pregnancy.
e. Patients suffering from pregnancy related complications such as- pregnancy induced hypertension (PIH), pre-eclampsia, hyperemesis gravidarum.

Division in groups

Group a

Shatavari-Mandur was in *Ghrit*-formorally empty stomach with *Sahpana Madhu.*

S.N.	Group Name	Dose	Duration
1.	Group-A	500mg.	3times/day

Group b

Madhukadi-Lauham was in *Churna* form orally empty stomach with *Sahpana Madhu* & *Ghrita.*

S.N.	Group Name	Dose	Duration
1.	Group-b	500mg.	3times/day

Assessment criteria

For the purpose of diagnosis of a disease its assessment, severity and clinical improvement, certain routine and specific investigations were performed in every patients viz.

- Haemoglobin (Hb)
- Total red blood cell counts (TRBC)
- Packed Cell Volume (PCV)
- Mean Corpuscular Volume (MCV)
- Mean Corpuscular Hemoglobin (MCH)
- Mean Corpuscular hemoglobin Concentration (MCHC)

- Peripheral Blood Smear (PBS)
- Serum Iron.
- Total Iron Binding Capacity (TIBC).
- Serum ferritin.

Assessment criteria of overall effect of therapy

No change	< 25% changes in the signs and symptoms
Mild improvement	26-50% changes in the signs and symptoms
Moderate improvement	51-75% relief in the signs and symptoms
Marked improvement	76-99% relief in the signs and symptoms
Complete cure	100% relief in the signs and symptoms

Effect of treatment on objective parameters of *Garbhini-Pandu*

S.no	Parameters	Gradation improvement		
1.	Hb(mg/dL)	A	>	B
2.	RBC count ($10e^6$/µl)	B	>	A
3.	PCV (%)	B	>	A
4.	MCV (fl)	A	>	B
5.	MCH (pg)	A	>	B
6.	MCHC (g/dL)	B	>	A
7.	Serum Iron	B	>	A
8.	TIBC*	B	>	A
9.	Serum Ferritin	A	>	B

Comparative effect on objective parameters in the *Garbhini-Pandu*

Objective Symptoms	Group A	Group B	'p' value	Level of Significance
Hb(mg/dL)	0.46	0.45	0.176	IS
RBC count ($10e^6$/µl)	0.05	0.18	0.39	IS
PCV (%)	1.82	1.98	0.04	**S**
MCV (fl)	4.86	1.83	0.108	IS
MCH (pg)	5.31	0.11	0.406	IS
MCHC (g/dL)	0.06	0.50	0.971	IS
Serum Iron	7.569	1.73	<0.001	**HS**
TIBC	0.13	0.06	0.07	IS
Serum Ferritin	20.67	6.51	0.692	IS

Overall effect of therapy

Assessment Parameters	Group A		Group B	
	No. of patient	%	No. of patient	%
Cured (100% relief)	0	0	0	0
Marked (76-99% relief)	0	0	2	16.66
Moderate (51-75% relief)	7	57.15	1	0%
Mild (26-50% relief)	6	28.57	11	83.34
Unchanged (<25% relief)	2	14.28	1	0

DISCUSSION

Contents of *Madhukadi Lauham* are *Rasayana, Ruchi-Kara, Agni-Dipaka, Pachana, Panduhara, Rakta-Dhatuvardhka, Dhatu-Poshaka, Srotoshodhaka* and *Balya* effect which promote improvement in metabolism, iron absorption and improved blood formation. *Lauh Bhasma* possesses significant haematinic and cyto-protective activity.[8] Recent study on *Amalki* shows its antioxidant activity,[9] immune-modulating activity,[10] hepato-protective activity.[11] Ascorbic acid is highly present in *Amalaki*, an essential ingredient which helps in the absorption of iron.[12] Iron is absorbed more easily in its ferrous form and ferrous ions are formed in the acid conditions of gastric contents.[13] So *Amalaki* may increase the bioavailability of iron absorption from *Lauh Bhasma.*

Madhukadi Lauham was administered with honey and *Ghrit* as *Sahpana.* Honey is mixture of glucose and fructose and iron may form complex with these sugars for absorption. It may be mentioned here that allopathic system also uses iron polymaltose complex and ferrous gluconate for therapy with good result.

Herbo-mineral formulations can be used to reduce various side effects as the processing of various herbal juices with already processed and micro-fined minerals lead to the formation of herbo-mineral complexes. These complexes upon interaction with digestive juices adopt a colloidal form, for faster absorption. Sometimes they play a catalytic role facilitating absorption of other nutrients and correcting a disease process.

Thus both drugs as a whole result in overcoming *Pandu Roga.* So *Madhukadi Lauham* and *Shatavari Mandur* are taken for the treatment of *Garbhini Pandu.*

- *Shatavari-Mandur* collectively has *Madhura, Tikta* and *Kashaya Rasa, Guru Snigdha, Mrudu* and *Saumya Guna, Madhura Vipaka* and *Sheeta Veerya. Dosha-Karma Vata-Pitta Shamaka* specially *Pitta- Shamaka* property.

Madhura, Tikta and *Kashaya Rasa* are *Saumya Rasa*[14] having *Sheeta* property and *Pitta-Shamaka* effect. *Madhura Rasa* is *Rasa Dhatuvardhaka, Vruhana, Garbha-Sthapaka, Anulomana, Stanya-jananaMadhura Rasa* is best in all *Rasas.*[15] *Tikta Rasa* has *Deepana, Pachana, Krimighana* and *Stanya-Shodhana* effect.[16] *Madhura Rasa* is *Vata- Pitta Shamaka*while *Tikta* and *Kashaya Rasa*is *Pitta- Kapha Shamaka*[17] effect. *Guru Guna* has the *Brihana* effect on body[18] while *Snigdha Guna* has property of *Bala-Varna Kara.*[19] *Mridu Guna* has the property of *Vata – Pitta Shamaka&Kapha-Vardhaka.*[20] *Acharya Sushruta* has described the *Madhura*

Vipaka as *Guru-Vipaka*. *Madhura Vipaka* is *Vata-Pittahara.*[21] *Sheeta Virya* has the property of *Prahaladana,Vishyandana, Sthirikarana, Rakta-Pitta Prasadana, Jivanani.*[22]

Pandu Roga is *Pitta Pradhana Tridoshaja Vyadhi*. These *Rasa, Guna, Veerya* and *Vipaka* are favourable for *Garbhini* also.

Recent work on *Shatavari Mandur* also supports its haematinic effect in *Garbhini- Pandu*. In a comparative study of *Shatavari Mandur* and iron folic acid tablets *Shatavari Mandur*was found to be twice as more effective than iron folic acid tablets in the management of *Garbhini Pandu* (anemia during pregnancy). There were no side effects found of the drug in this study.[23] *Shatavari Mandur* showed protective effect in cold restraint stress-induced gastric ulcer in rats. Further, gastric juice studies showed that, it significantly increased the mucosal defensive factors like mucus secretion.[24]

CONCLUSIONS

This study is overall concluded that *Shatavari Mandur* and *Madhukadi Lauham*, both drugs are effective but *Shatavari Mandur* is comparatively better to cure the Objective parameter of *Garbhini Pandu.*

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