



"A CLINICAL STUDY IN THE MANAGEMENT OF PANDU (IRON DEFICIENCY ANAEMIA) WITH AN INDIGENOUS COMPOUND."

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ABSTRACT

Nutritional deficiency anaemia is very common in India and iron deficiency is the commonest nutritional deficiency all over the world. Most of the people in the world are suffering from Iron Deficiency Anaemia and India is one among the nations with high Prevalence of Iron Deficiency Anaemia. *Pandu* is described in almost all authentic Ayurvedic literatures. Here is a novel approach to manage *Pandu* (Iron Deficiency Anaemia) without using iron as a direct supplement. Selected compound consisting of ingredients *Nimba*, *Daruharidra*, *Punarnava*, *Triphala*, *Trikatu*, *Hareetaki*, *Shilajith*, *Badara* does not contain iron. 20 patients of iron deficiency anemia (*Pandu*) age group 20- 60 yrs having Hb% within the range of 7-12gm/dl in males and 7-11gm/dl in females were treated with cap Indigenous compound 500mg twice daily after food with anupan ushna jal for 8 weeks, follow up after 4 weeks.

KEYWORDS : Iron deficiency Anaemia, *Pandu*, Indigenous compound.

INTRODUCTION:

Nutritional deficiency anaemia is very common in India and iron deficiency is the commonest nutritional deficiency all over the world. Most of the people in the world are suffering from Iron Deficiency Anaemia and India is one among the nations with high Prevalence of Iron Deficiency Anaemia. *Pandu* is described in almost all authentic Ayurvedic literatures. As the name denotes the main feature of *Pandu Roga* is *Pandutva*. According to *Charaka*, it is one among the *Rasavaha Srotodushiti*. *Susruta* has mentioned it as *Raktavaha Srotodushiti*. *Pitta Dosh* vitiation is the main causative factor which in turn vitiates *Vata* and *Kapha Dosh* too. *Rakta*, *Mamsa* and *Twak* are also vitiating. *Alpa Rakta*, *Alpa Meda*, *Ojokshaya*, *Shihtilendriya* and *Vaivarnyata* of *Sareera* are the *Pratyatma Lakshana* of *Pandu Roga*.

The causes of Iron Deficiency Anaemia are insufficient dietary intake and improper absorption of iron which causes symptoms such as feeling of weakness, tiredness, shortness of breath, palpitations, koilonychia, glossitis, dysphagia and altered sensation of taste. The modern management of Iron Deficiency Anaemia is to find out and treat the underlying cause and to give iron to correct the anaemia.

Pandu being a *Santarpanajanya Vikara*, requires *Teekshna Oushadies* like *Loha* to break the *Samprapthi*. Contemporary science also accepts the facts that disturbed absorption along with dietary insufficiency is the root cause for Iron Deficiency Anaemia. Even though *Ayurveda* and modern science utilizes iron in *Pandu* (Iron Deficiency Anaemia) but intentions are grossly different.

Here is a novel approach to manage *Pandu* (Iron Deficiency Anaemia) without using iron as a direct supplement. Selected compound consisting of ingredients *Nimba*, *Daruharidra*, *Punarnava*, *Triphala*, *Trikatu*, *Hareetaki*, *Shilajith*, *Badara* does not contain iron as direct ingredient thus averting the adverse effect of oral iron therapy such as constipation, fatigue, loss of appetite, weakness etc.

Aims and objectives:

- To evaluate the efficacy of Indigenous Compound in the management of *Pandu Roga* (Iron Deficiency Anaemia).

MATERIALS AND METHODS

Clinical source:

Patient of either sex attending the OPD & IPD of A.L.N. Rao Memorial Ayurvedic Medical College & Hospital Koppa along with its associated hospitals and MSDM Government hospital, Koppa were selected for the study. The study was conducted from December 2014 to August 2015. Subjects diagnosed with *Pandu* were incidentally selected and randomly categorized into two groups, each consisting of at least 20 subjects using simple randomization based on incidence.

Pharmaceutical source:

TABLE NO: Ingredients of the Trial drug:

Sl. No	Ingredients	Part used	Quantity
1	Nimba	Bark	50mg
2	Daruharidra	Stem	75mg
3	Punarnava	Wholeplant	75mg
4	Shilajith-		50mg
5	Harithaki	Fruit	100mg
6	Trikatu	Rhizome, fruit	50gm
7	Triphala	Fruit	50gm
8	Badara	Fruit	50gm

Study design:

Randomized controlled clinical trial.

Criteria For Selection of Patients:

A. Inclusion Criteria

Patients diagnosed with *Pandu* (Iron deficiency Anaemia) from either sex within the age group of 20 –60 years and Hb% within the range of 7-12gm/dl in males and 7-11gm/dl in females was selected.

B. Exclusion Criteria

Patients with history of systemic diseases like diabetes mellitus and hypertension, pregnant and lactating women, subjects with abnormal haemopoiesis like megaloblastic anaemia, unusual haemolysis due to red cell membrane defects, hereditary spherocytosis, hereditary elliptocytosis, and malaria, auto immune haemolytic anaemia, unusual blood loss like gastro intestinal bleeding, physical trauma, haemoglobinopathies like sickle cell anemia, leukemia, thalassaemia and patients with infectious diseases were excluded.

Laboratory investigations:

Following laboratory blood investigations was used in the

study Hb%, MCH, MCV, PCV, MCHC, Serum ferritin and TIBC (in selected cases) for diagnosis and assessment of Iron Deficiency Anaemia.

Observation and Results

In the clinical study, it is observed maximum numbers of the patients were obtained in the age group of 20-30 years, i.e., 45% in trial group. Majority of patients were females with an incidence of 95% in trial group.

In the clinical study majority of patients belong to poor class 50% in trial group. In the clinical study 75% of patients in trial group were having *Mandagni*. 25% of patients in trial group were having *Vishmagani*.

RESULT:

Effect of therapy in subjective parameters of assessment of *Pandu Roga*:

Parameters	BT (Mean)	AT (Mean)	Change in %	SD	SE	t	P	Remarks
Daurbalyam	2.25	0.75	66.6	0.163	0.045	6.380	<0.001	Highly significant
Srama	2.15	0.9	58.1	0.247	0.055	5.922	<0.001	Highly significant
Arohana aayasa	2.1	1.1	47.6	0.138	0.03	5.766	<0.001	Highly significant
Pandutwa	2.45	1.05	57.1	0.489	0.109	12.337	<0.001	Highly significant
Bhrama:	2.4	0.85	64.5	0.202	0.045	5.665	<0.001	Highly significant
Hrudrava	1.95	0.75	61.5	0.276	0.062	5.724	<0.001	Highly significant
Karnakshweda	0.95	0.45	52	0.109	0.0239	3.851	<0.001	Highly significant
Aruchi	1.75	0.1	94	0.652	0.1437	7.065	<0.001	Highly significant
Agnimandya	2.3	0.65	71	0.109	0.025	10.126	<0.001	Highly significant
Shunakshikuta Shotha	1.65	0.3	81	0.019	0.004	8.897	<0.001	Highly significant
Simalomata	2.3	0.65	71.7	0.064	0.015	7.755	<0.001	Highly significant
Pindikodweshtanam	2.4	0.4	83.3	0.308	0.069	8.779	<0.001	Highly significant
Tama-Darshanam	0.95	0	100	0	0	12.728	<0.001	Highly significant
Hrudaya Spandanadhikya	2.4	1.2	50	0.382	0.0857	6.201	<0.001	Highly significant
Gaurava	1.65	0.9	45.5	0.366	0.0819	10.376	<0.001	Highly significant
Hb	9.38	12.050	26.5	0.894	0.199	9.449	<0.001	Highly significant

PCV	33.050	38.200	16	2.308	0.42	8.733	<0.001	Highly significant
MCV	71.80	80.44	12	2.401	0.567	11.147	<0.001	Highly significant
MCH	20.41	25.39	24.3	1.61	0.724	9.702	<0.001	Highly significant
MCHC	28.44	31.06	21.3	2.618	0.585	3.137	<0.001	Highly significant

Improvement:

SN	Parameters	%
1	Daurbalyam	66.6
2	Srama	58.1
3	Arohana aayasa	47.6
4	Pandutwa	57.1
5	Bhrama:	64.5
6	Hrudrava	61.5
7	Karnakshweda	52
8	Aruchi	94
9	Agnimandya	71
10	Shunakshikuta Shotha	81
11	Simalomata	71.7
12	Pindikodweshtanam	83.3
13	Tama- Darshanam	100
14	Hrudaya Spandanadhikya	50
15	Gaurava	45.5
16	Hb	26.5
17	PCV	16
18	MCV	12
19	MCH	24.3
20	MCHC	21.3

Total : Overall result: 55.2 %

Mode of Action:

Indigenous Compound Drug on basis of *Rasa*, predominance of *Tiktha*, *Kashaya* and *MadhuraRasa* which is followed by *Katu Rasa*. *Tikta* and *Kashaya Rasa* combination might have helped to pacify the *Pitta*¹⁴. *Kashaya*, *Tiktha* and *Katu Rasa* predominance might have helped to remove the *Srotorodha*. These *Rasas* might have helped to pacify the *Kapha Pradhana Lakshanas* of *Pandu Roga* and *Agni Mandhya*.

Most of the ingredients of Indigenous Compound Drug are having *Laghu Rooksha Guna* which might have helped to reduce *Srotorodha* and *Pitta Samana*. *Rooksha Guna* might have reduced the *Drava Guna* of *Pitta* thereby increasing the *Jataagni*. Few drugs have *Guru Guna* which might have helped to pacify *Pitta*.

Most of the ingredients present in Indigenous Compound Drug are having *Usna Veerya* which probably have pacified *Kapha*, *Vata* predominant *Lakshnas* of *Pandu* and also cleared *Srotorodha*. If we analyze the *Vipaka* of the drugs present in Indigenous Compound Drug most of them are having *Madhura Vipaka* so it might be helpful in pacifying the *Pitta* and *Vata Lakshnas*. Most of the drugs in Indigenous Compound Drug are having *Kapha Pitta Hara* properties which are responsible mainly for the symptoms of *Pandu Roga*. Few drugs are having *Vata Hara* property which might have pacified deranged *Vata*. If we analyze the overall effect of the drug it is found to be having *Tridosha Hara* properties. The drug is having more *Tikta*, *Kashaya* and *Madhura Rasa*, *Laghu Rooksha Guna*, *Ushna Veerya* and *Kapha Vata Samana* properties which might have pacified *Agnimandhya*, *Srotorodha*, *Kapha Vata Samana*, and restoring *Prakruta Gunas* of *Pitta*.

CONCLUSION:

Indigenous compound is effective in the management of Pandu (iron deficiency anaemia).

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