



## Research Article

### A CLINICAL STUDY ON PANDU ROGA WITH SPECIAL REFERENCE TO IRON DEFICIENCY ANAEMIA WITH DHATRAVALEHA

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#### ABSTRACT

My present study is with Pandu roga with special reference to Iron Deficiency anemia. Pandu is a disease which is highly predominant from the ancient age to still now. The classical medicine Dhatriyavaleha is chosen for this study. In this study 20 patients are involved, there is 21.6% improvement in Hemoglobin percentage and the result on the pradhan rupa of Pandu is highly significant.

**KEY WORDS:** Pandu roga, Anemia, Dhatriyavaleha, IDA, Hemoglobin

#### INTRODUCTION

Pandu is a symptom as well as a disease characterized by pallor. It mostly resembles with Anemia of modern science. <sup>1</sup>Anaemia usually defined as a decreased in the total amount of red blood cells (RBCs) or hemoglobin in the blood. It can also be defined as a lowered ability of the blood to carry oxygen. The most important element for blood production is iron which is stored in our body as hemoglobin in bloodstream and myoglobin in muscle tissue. Iron is a mineral found in the bloodstream that is essential for growth, enzyme development and function, a healthy immune system, energy levels, and muscle strength. The commonest type of Anemia that is met with in practice is Iron Deficiency Anemia. Children, Adult, Male and Females suffer the most form of this malady. Asia has the highest rates of Anemia in the world. About half of the world's anemic women live in the Indian subcontinent, and 88% of them develop anemia during pregnancy. The situation in Asia has not improved in recent years. Around 2 billion people – over 30 per cent of the world's population suffer from iron deficiency anemia (IDA). In India, IDA affects an estimated 50 percent of the population<sup>2</sup>.

Though there is a common line of treatment in Pandu stated by our classics but in present study work classical formulization Dhatriyavaleha has been chosen for the treatment of Pandu roga especially Iron deficiency anemia.

#### MATERIALS AND METHOD

**Study Design:** In present work total 20 patients of established cases of Pandu (Iron Deficiency anemia) attended IPGAE&R at SVSP have been selected for the present study irrespective of their sex, religion, occupation etc through some specific inclusion criteria.

#### Inclusive Criteria

Patients with classical symptoms of Pandu roga like Panduta (Paleness), Dourvalya (Weakness), Hridspandanam (Palpitation), Bhrama (Vertigo), Ruksata (Roughness), Svasa (Breathing Difficulty), Aruchi (Anorexia), Pindikodwestanam (Prominent calf muscle) etc.

Hb %-

Female- <12gm%

Male- <13gm%

#### Exclusion Criteria

**The following exclusion criteria have been strictly followed during selection of the patients**

- Patients suffering with grievous diseases like Tuberculosis, AIDS, Cancer, Cardiac disorders, DM, Gastric Ulcer, ARF, CRF, Chronic & acute liver disorder etc
- Patients with congenital anemia eg. Thalassemia, Aplastic anaemia, Sickle cell Disease etc
- Pregnant and lactating lady
- Age below 15 years and more than 50 years

#### Selection of Drug

**Background of Drug Selection:** In Pandu, drugs which have properties of Agni Deepana (carminative), Pachana (digestive), Balya (nutritive), Jwaraghna (pyrogenic) etc. play effective role in control and cure of Pandu. So Dhatriyavaleha is chosen for trial.

**Drug:** Dhatriyavaleha<sup>3</sup>

**Reference:** Ca.Ci. 16/100-101

#### Ingredients

- Vamsalochan- 2 pala
- Nagar-2 pala
- Madhuyasti – 2pala
- Pippali-1prastha
- Draksa-1prastha
- Sarkara-1/2 Tula

7. Dhatriphala Swarasa-1Drona
8. Madhu-1prastha

The drug is prepared in the Institutional pharmacy. The powder of two palas of Vamsalochana, Sunthi and Madhuyasthi; one prastha of each of Pippali & Draksa & half a tula of Sarkara were added with one drona of the juice of Amlaki fruit & cooked till the whole thing became a linctus. After cooking, one prastha of Madhu was added.

**Schedule of treatment**

Drug: Dhatravaleha  
 Dose: 12gm OD (as mentioned in Caraka Samhita)<sup>4</sup>  
 Time: After Light breakfast  
 Duration: 8weeks  
 Anupan: Warm water

**Approval of institutional ethical committee:** Institutional ethical committee’s approval was taken for this prospective, randomized study

**Parameters have been studied**

During the clinical study the following parameters have been under consideration

1. Response on Clinical sign & symptoms before and after treatment through the scoring system
2. Change of Hematological findings like **Hb%** at BT&AT

**Criteria for assessment**

The assessments of the result were made on the basis of improvement in clinical findings as well as laboratory investigations, which have been repeated after the completion of treatment also. The following scoring system have been follows over the sign & symptoms as noticed before & after treatment

**Panduta & Ruksata**

In Twak, Nakha, Netravartma, Jihva, Hastapadatala,

Absent	0
In Any 2 of these	1
In Any 3 of these	2
In Any 4 of these	3
In All	4

**Dourvalyata, Hridspandanam, Bhrama & Svasa**

Not Present	0
After Heavy Work, relieved soon & tolerate	1
After Moderate Work , relieved later & tolerate	2
After Little Work, relieved later & tolerate	3
After Little Work, relieved later but beyond tolerate	4
Even in Resting Condition	5

**Aruchi**

Normal Instinct of Taking Food	0
Person even dislikes the touch or smell of food	1
Though the Person is Hungry he had dislikes food due to fear, angry etc	2
Person doesn’t like to take food due to Sarir Manas dosa	3

**Pindikodwestana**

Absent	0
After Heavy Work	1
After Moderate Work	2
Only At Night, but Beyond Tolerate	3
Whole Day, Severe, Require Medicine	4

**OBSERVATION**

Considering the overall improvement shown by the patients in signs and symptoms, the total effect of therapy was assessed in terms of poor, moderate, good and excellent as follows:

**Excellent:** - Patients showing improvement more than 75 %

**Good:** - Patients showing improvement up to 51-75 %

**Moderate:** - Patients showing improvement up to 26-50 %

**Poor:** - Below 25 % relief in signs and symptoms of Pandu

**Statistical analysis**

The information gathered on the basis of classical symptomatology was subjected to statistical analysis in term of mean (X), standard deviation (SD) and Standard Error (SE).

Paired‘t’ test was carried out at P>0.05, P<0.05, P<0.01, P<0.001 significance level.

The obtained results were interpreted as –

Non-significant: P< 0.1

Significant: p<0.05 & <0.02

Highly significant: p<0.01 & p<0.001

Total 20 patients of Pandu Roga were registered in the clinical study but out of 20 patients 15 patients have completed clinical trial while 5 patients dropped out due to irregular follow up.

**Table 1: Main symptoms wise distribution of 20 patients of pandu roga**

Symptoms	No of Patients	Percentage
Panduta	15	100
Dourvalya	15	100
Hridspandanam	10	50
Bhrama	15	100
Ruksata	9	60
Swasa	12	80
Aruchi	10	50
Pindikodwestana	11	73

Table shows that out of 15 patients, Panduta, Daurbalyata and Bhrama were found in all the patients i.e. 100%. 80% patients were having complained of Swasha, Pindikodwestana were present in 73% and Hridspandanam present in 50 %. Whereas Aruchi was present in 50% patients. Rukshata were noticed in 60%

**Table 2: Dosika dominance wise distribution of 15 patients of pandu roga**

	No of Patients	Percentage
Vataja Pandu	7	46.6
Pittaja Pandu	3	20
Kaphaja Pandu	5	33.3

This table shows that, in this study, out of 15 patients 46.6% were found with Vataja Pandu, 33.3% were having kaphaja Pandu, and 20% were of Pittaja Pandu

**RESULTS**

**Table 3: Effects of dhatravaleha on the pradhan laksanas of pandu**

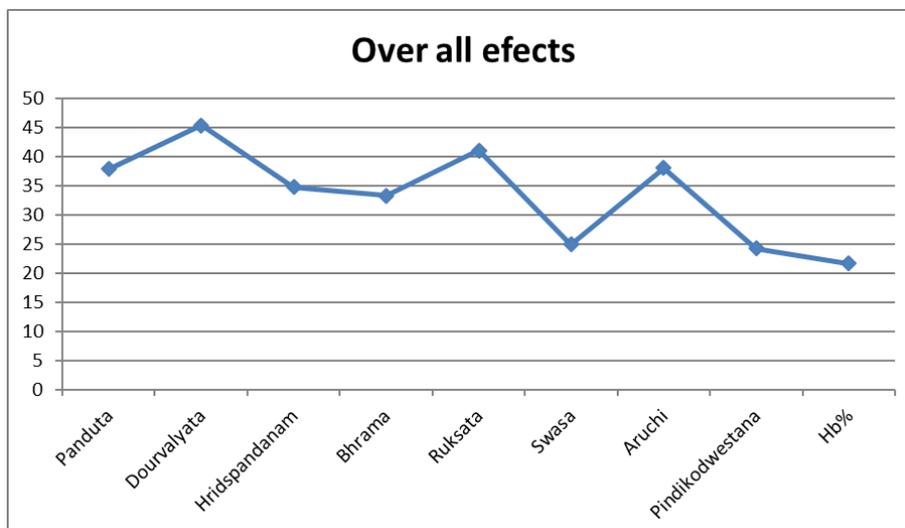
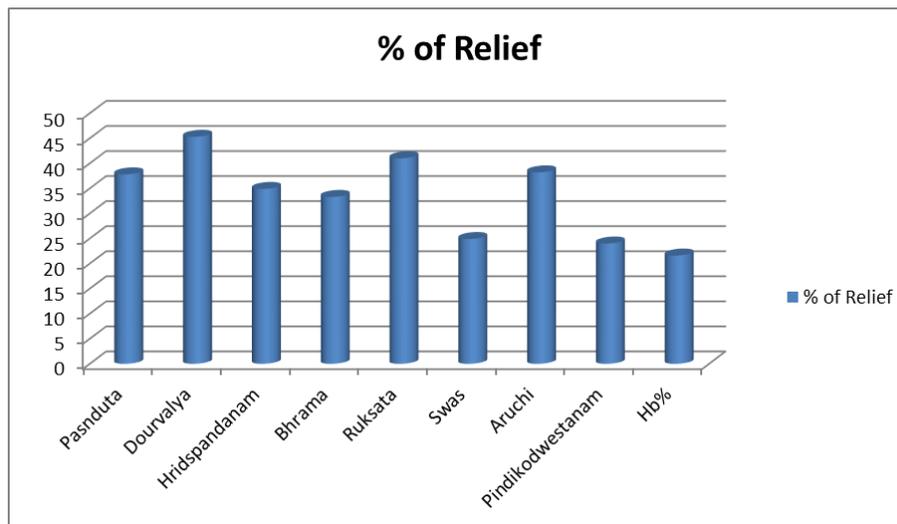
Symptoms	Mean		%Relief	SD	SE	T	P value
	BT	AT					
Panduta	2.41	1.5	37.8	1.08	0.33	3.03	<0.01
Dourvalya	2.58	1.41	45.3	1.38	0.39	3	<0.01
Hridspandanam	1.92	1.25	34.9	0.91	0.26	2.57	<0.02
Bhrama	3	2	33.3	1.22	0.35	2.83	<0.02
Ruksata	1.83	1.08	41	1.11	0.32	2.34	<0.05
Swas	2.33	1.75	24.9	1.03	0.29	2	<0.05
Aruchi	1.75	1.08	38.2	0.91	0.26	2.54	<0.02
Pindikodwestana	2.41	1.83	24	0.76	0.22	2.63	<0.02

Panduta, Dourvalya, Hridspandanam, Bhrama, Ruksata, Swasa, Aruchi, Pindikodwestana have been relieved after treatment in complain to before treatment is 37.8%, 45.3%, 34.9%, 33.3%, 41%, 24.9%, 38.2% & 24% respectively where the 'p' value is <0.01 (Highly Significant), <0.01 (Highly Significant), <0.02 (significant), <0.02 (significant), <0.05 (significant), <0.05 (significant), <0.02 (significant), <0.02 (significant) respectively.

**Table 4: Effects of dhatravaleha on Hb%**

Symptoms	Mean		%Relief	SD	SE	t	P value
	BT	AT					
Hb%	9.95	11.25	21.6	1.47	0.42	3.09	<0.01

Hb % improved after treatment in respect to before treatment is 21.6 % where the 'p' value is <0.01 (Highly Significant)



## DISCUSSION

In context of sex in this study sample, it is observed that most of the patients were female (67.9). As we know that this disease is more prevalent in females. Miserable fact is that one among five women are Iron deficient all over world and IDA is the 8th leading cause of diseases in Girls and Women in developing country. Reason behind this may be firstly of dietetic, as ladies are mostly found inclined towards spicy, sour, and bitter ahara rather than a balanced diet. Secondly, regular loss of blood due to menstruation makes them more prone to develop Anemia. Moreover following menarche, females often do not consume sufficient iron to offset menstrual losses. As a result, a peak in the prevalence of iron deficiency frequently occurs among females.

About age, 43.3% belonged to age group of 36-50 years; followed by 26.4 % patients to 15-25 years, 24.5% patients belonged to 26-35 years of age group. As the working persons are Maximum in the age Group 36-50 & they couldn't take food in time & in proper quantity. In case of females, mostly mothers are found in this age group & they share their own food with family.

It was found that maximum i.e. 52.8% were housewives and 18.8% were both Service and Businessman and 13.2 % were Student. The reason might be excessive labor and improper diet as well as inadequate diet. Also most of housewives take divaswapna which causes agnimandya subsequently dhatwagnimandya and ultimately rasa rakta dhatu dusti.

As Panduta is the most important sign as well as symptoms of Pandu. Rakta dhatu, Pitta dosha and Oja are responsible for the Varna and Prabha. So when rakta and pitta dusti occurs, oja also gets affected simultaneously and the Varna (complexion) and Prabha (lusture) get affected. Panduta occurs.

Daurbalyata is most prominent in Pandu rogi. The reason for this is Raktalpta and Ojakshaya which causes the debility to do anything. In modern point of view, as blood cells are responsible for the oxygen supply to the all body tissues, so in anemia the metabolic activities hamper & when this condition persists for a long period, debility appears.

Hridspandanama or Palpitation in Pandu Roga is due to lack of proper nourishment and Raktalpata due to which Heart has to pump quickly so as to provide rapid blood flow to body tissues and that is the reason of Palpitation.

Maximum no of patients of Pandu have dourvalyata due to specific reason, and bhrama happens in Pandu mainly due to Dourvalyata.

Pitta Dosha, Rakta dhatu and Oja are responsible for varna and prabha. In Pandu all get disturbed so patient become Hataprabha (lusterless) and Ruksata appears

Dyspnea on exertion or Swasha in Pandu is due to lack of proper nourishment and Raktalpata due to which Respiratory organs have to work quickly so as to provide rapid blood flow to body tissues and that is the reason of Swasha.

Due to decrease Ranjak Pitta & increase Drava guna of Pitta, Aruchi occurs. In other words, Due to Aruchi, Malnutrition happen consecutively and then Panduta.

Vaigunya prapta pitta goes to the mamsa dhatu, which causes Pindikodwestana. In Modern point of view, due to decrease oxygen delivery to the muscle cramps is seen in anemia.

Panduta, Dourvalyata, Hridspandanam, Bhrama, Ruksata, Swasa, Aruchi, Pindikodwestana have been relieved after treatment in complain to before treatment is 37.8%, 45.3%, 34.9%, 33.3%, 41%, 24.9%, 38.2% & 24% respectively where the 'p' value is <0.01 (Highly Significant), <0.01 (Highly Significant), <0.02 (significant), <0.02 (significant), <0.05 (significant), <0.05 (significant), <0.02 (significant), <0.02 (significant) respectively. Hb % improved after treatment in respect to before treatment is 21.6 % where the 'p' value is <0.01 (Highly Significant).

Patients who are treated with Dhatriyavaleha shows 'Moderate' effect probably due to the presence of Dhatri, Pippali, Nagar etc which stimulates the gastric mucosa & produces maximum level of pachakagni which supports the intrinsic factor & as a result absorption became enhanced.

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## CONCLUSION

The present work entitled "A Clinical Study on Pandu Roga with special reference to Iron Deficiency Anemia with Dhatriyavaleha" could be concluded into the following points.

Pandu roga, where the colour of the patient is like the flower "Ketaki raj" which is similar to the combination colour of white and yellow in a particular proportion, is more similar to the anemia with special reference to Iron Deficiency Anemia (IDA) of modern medicine on the basis of etiological factors & clinical correlation

The eight striking features of Pandu or IDA are Panduta, Dourvalyata, Hrid Spandanam, Bhrama, Ruksata, Swasa, Aruchi, Pindikodwestanam. Dhatriyavaleha itself in a dose of 12gm OD may reduce the symptoms Panduta, Dourvalyata, Hridspandanam, Bhrama, Ruksata, Swasa, Aruchi, Pindikodwestana have been relieved after treatment in complain to before treatment is 26.3%, 45.1%, 37%, 31.2%, 30.6%, 33.5%, 40.1% & 44.1% respectively where the 'p' value is <0.01 (Highly Significant), <0.001 (Highly Significant), <0.02 (significant), <0.01 (Highly significant), <0.05 (significant), <0.02 (significant), <0.02 (significant), <0.01 (Highly Significant), respectively & could enhance the level of Hb % 21.6 % where the 'p' value is <0.01 (Highly Significant) On the basis of no of patient's average relief results is 33.4% Nothing adverse effect have been observed

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