



### To study clinical efficacy of *Dadimadi Ghrita* in *Pandu*

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#### Abstract:

Ayurveda is a branch of science which deals with maintaining health and treating the diseased condition of the body. Nourishment is point of concern in today's modern era. It has drastic issue in the most developing and undeveloped countries. There are many number of disorders, which arises due to deficiency of nutrition like vitamin, minerals etc. Anaemia or *Pandu* is one of the nutritional deficiency disorder. There is prevalence of 25% in adult men, 57 % in adult women, 31.1 % in adolescent boys, 59.1 % in adolescent girls, 52.2 % in pregnant women and 67.1 % in children. These figure have been extracted from fifth national family health survey conducted during 2019-2021. Mostly females are affected in this disorder. *Pandu vyadhi* affects health seriously and it has effect on the working ability of the individual also. WHO has given its more prevalence and effect in under developed and developing countries. It causes due to sedentary

lifestyle, low socio economic status, illiteracy, modern lifestyle. Modern medicine as well as Ayurveda has given vast line of treatment of this disorder. *Dadimadi Ghrita* is one drug mentioned in *Charaksamhita*, which is cost effective, easily available and effective medicine. Present study is an attempt to study clinical efficacy of *Dadimadi Ghrita* in *Pandu vyadhi*.

#### Keywords:

*Pandu, Ayurveda, Nutrition, Loha.*

#### Introduction:

Ayurveda is a system of Indigenous medicine that systematizes and applies the knowledge about health and disease. Health is the supreme foundation of virtue, wealth, enjoyment and salvation. The basic and applied knowledge of Ayurveda has survived to the present times through its various branches like *Kaychikitsa, Shalya tantra, Shalakya tantra, Dravya Guna, Bhaishajya Kalpana, Rasashastra, Rachana*

*Sharir* and *Kriya Sharir* etc. The branch *Kayachikitsa* deals with various diseases afflicting the human body, its causative factors, course of progress, symptomology, prognosis later getting concluded with medication and the wholesome diets. Medication is guided in the form of *shodhana* and *shamana*. The *Ayurvedic* classics further stress upon the shaman *Chikitsa* to be the best option in weak and fatigued persons. These *shamana* variety includes herbal preparations and also comprises of herb mineral preparations.

The problem of nourishment is existing worldwide. It has assumed gigantic proportion in the most underdeveloped and developing countries. Most of the countries in Asia are either underdeveloped or developing countries. India is one of them and per capita income in India is very low. In average an individual lives below the poverty line. Among different disorders of nutritional origin, anaemia is one such disorder which is due to a large number of causes, including nutritional deficiencies i.e. lack of essential minerals, vitamins in the diet. The commonest occurring disease is *pandu* means anemia. It has been resulted in the mortality and morbidity in most of the developing countries like Asian countries. According to the World Health Report -2002 of WHO, iron deficiency anaemia is one of the disease among the top 10 selected risk to the health.<sup>1</sup>

The prevalence of anemia among six groups as per the national family Health Survey 5(2019-21) is 25% in men (15-49 years), 57 % in women (15-49 years), 31.1 % in adolescent boys (15-19 Years) 59.1 % in adolescent girls, 52.2 % in pregnant

women (15-49 Years) and 67.1 % in children (6-59 months).<sup>2</sup> Majority of which are due to low socio economic status, illiteracy and malnutrition. The National Nutritional Anaemic Control Programme launched by Government of India is an important step in this direction. Therefore such study gains importance. *Dadimadi Ghrita* is the most familiar compound preparations in the treatment of *Pandu Roga* and it is mentioned in *Panduchikitsiya adhyaya of Charak Samhita*.<sup>3</sup> So in this study, clinical efficacy of *Dadimadi Ghrita* in the *Pandu* was studied and it was found effective.

#### **Aim**

- A clinical trial study of evaluation of efficacy of *Dadimadi Ghrita* in *pandu*

#### **Objectives:**

1. To study *Pandu Vyadhi*.
2. To study *Dadimadi Ghrita*.
3. To study efficacy of *Dadimadi Ghrita* in *Pandu*.

#### **Methodology:**

##### • **Materials –**

Patient was selected from the Outpatient department of *Kayachikitsa* Department of Matoshri Asrabai Darade Ayurved Medical College, Babhulgaon, Dist- Nashik . It was diagnosed for only *Pandu* Patient with symptoms like *Panduta*, *Dourbalya*, *Ayasen shwasa*, and *Pindikodweshtan* were included in the study.

## Review of literature:

### ▪ Pandu

The formation of *rakta*, and its physiological role has attracted scientific attention since earliest times. Ayurvedic treatises of antiquity give a concise account of the formation of *rakta*.

The *rakta* is basically derived from *rasa*. This *rasa* is the essence of the *shadrasayukta anna* in the form of *sara*. The *rakta sadharmya amsha* present in the *prasadhamsha* of *rasa* is acted upon by the *raktagni* and the *rakta* is produced, with the help of the *ranjaka pitta*, *rakta* gets its colour after 5 days in the *yakrit* and *pleeha* according to *Sushruta*. According to *Hareeta* he explains the stages of the genesis of *rakta* in a nearly similar manner. He says the process of *rakta* formation will be continued for 7 days. With the help of the *ranjaka pitta* it attains different colours in different stages. The *rasa* attains *raktatwa* with the help of *pittoshma* & *raktha dhatvagni*. Gradually the *varnas* will change day by day. First day *swetha varna*, second day *kapota varna*. on the third day *harita varna*, on the fourth day *haridra varna*, on the fifth day *pandura varna*, on the sixth day *kimshuka varna* at last on the seventh day it attains *alktaka varna*.

The nourishment of *rakta* by the nutrients derived from *rasa dhatu* can be favorably correlated to the modern description of the role of external factors which comprise Iron, Vit-C, Vit-K, Vit-B<sub>12</sub>, Folic acid etc., derived from food. The internal factors like Castle's Intrinsic factor can be compared to the *ranjaka pitta* present in the *amashaya* as per *Asthanga*

*Sangrahaakara*. This intrinsic factor is responsible for the absorption of Vit-B<sub>12</sub> from the gut which in turn is needed for the maturation of the RBC, the absence of which leads to pernicious *anaemia*. In conditions of atrophy of the gastric mucosa there is a failure of gastric secretions. The parietal cells of the gastric glands secrete this glycoprotein which combines with vitamin B<sub>12</sub> of the food and makes it available for absorption by the gut. It does this in the following way:- The Intrinsic factor binds tightly with the Vit B<sub>12</sub> and in the bound state Vit- B<sub>12</sub> is protected from digestion by the GIT enzymes. Vit-B<sub>12</sub> is transported into the blood during the next few hours by the process of phagocytosis. Which carries along with it the intrinsic factors and the vitamin together through the membrane. Lack of intrinsic factors, therefore, causes loss of much of the vitamin because of both enzyme action in the gut and failure of its absorption. The absorbed Vit B<sub>12</sub> is stored in large quantities in the liver and is released slowly as and when needed to the bone marrow and other tissues of the body.

*Pandu* has various etiologies like *asatmya bhojana*, *atimadyapana*, *kshara*, *nishpava*, *pinyaka*, *krodha*, *bhaya* that increase *Vata* and *Pitta*. These are *apatarpanakaraka*. This *apatarpana* may be grossly taken as, the inadequate dietary intake which can cause Anaemia. The *Pandu* affects *indriya*, *mana* and *twacha*. In IDA there is involvement of various systems like central nervous system, G. I. system and circulatory system. The similarities are even seen in the approach of treating the disease, both according to the modern as well as the Ayurvedic line in *Pandu chikitsa krama*.

Both the systems stress upon supplementing the patient with the Iron and its derivatives.

### Nidana

The word *Nidana* refers to *Vyadhi bodhaka* and *vyadhi utpadaka hetus* and in this context, they are the factors responsible for the manifestation of *Pandu*. After doing a proper analysis of *Pandu Roga*, stated by different authors the *nidana* can be explained under the following headings.

- *Ahara nidana*
- *Viharaj nidana*
- *Chikitsa apacharaj nidana*
- *Nidanarthakara Roga*

### *Aharaj nidana* :<sup>4</sup>

*Pandu Roga* is one of the *pitta pradhan vyadhi* and in general all the *pittakara Ahara* leads to *Pandu* and if one wants to highlight it into different categories, it can be tabulated as follows :

- **Rasa** – *Amla, Lavana, Katu*
- **Guna-** *Ruksha, ushan, tikshna*
- **Veerya-** *Ushna*
- **Dravya-** *Vidagdha Anna, nishpava, pinyaka, matsya, Amisha, pista, paya, tila taila, madya.*

### *Viharaj nidana* :<sup>5</sup>

- *Maithuna*
- *Vegavidharana*
- *Rutu vaishamya*
- *Diwaswapna*
- *Vyayama*

***Manasika karana* :**<sup>6</sup> *Kama, krodha, chinta, bhaya, shoka.*

### • ***Samanya Lakshana***

**1) *Panduta*:** *Pandu* is expressed as the *pratyatma lakshana* of *Pandu vyadhi*. *Pandu* is named on the discoloration of the body parts. This is due to *rasa pradasha*.

**2) *Alpa raktata* :** Includes both qualitative and quantitative disease. Quantitatively *rakta* is eight *anjalis* in the body. *Prakruta rakta* is produced by *Pachaka Pitta*, which helps in proper production of *rakta poshaka Sara* part from *rasadhatu*. *Ranjak pitta* effectively converts this to *rakta*. *Alpa rakta* causes *shareera vaivarnya, twacha rukshata*.

**3) *Dourbalya* :** Reduction in the normal strength (*bala*) and the *Prakrut bala* is measured by *Vyayama shakti*. In *pandu*, it is reduced due to *dhatu kshaya*.

**4) *Karshya*:** Reduction of various *dhatu*s in body leads to affliction of *samhanan* leading to emaciation of *spik, udara, greeva* and prominence of *dhamanee jala*.

**5) *Kama kshweda* :** Due to debility of sense organs, aggravated *vata* produces this symptoms and is one of the *vataj Nanatmaja vyadhi*.

**6) *Gatra peeda*:** Various type of pain is felt in different parts of the body due to *Vata vridhhi*, which in turn is due to *dhatu kshaya*.

7) **shoonakshi koota Shotha and shtivana**: They are the continuation sign from *poorvarupa* stage. *Kapha vridhhi* causes *srotorodha* and further becomes responsible for *shoonakshi koota Shotha*.

8) **Sheerna lomata** : it causes due to *asthi dhatu kshaya*.

9) **Hridrava** : *Vyana vayu, Sadhaka Pitta* and *Avalambaka Kapha* are residents of *hrudya* and along with *raktavaha srotas* are responsible for increased *gati of hrudya*.

10) **Shwasa (arohana)** : Due to *dhatu kshaya* and *Dourbalya*, exertional dyspnea is produced. Even debility in the *hrudya* or *pranavayu prakop* can also develop *shwasa*.

11) **Bhrama** : *Vata-pitta-rajogunadhikya* leading to various *dhatu kshaya* like *majja* and *rakta* will produce *bhrama*.

12) **Annadwasha** : *Charaka* mentioned that *Annadwasha* and *Aruchi* in *samanya lakshana*. *Acharya Sushruta* mentions this in *upadrava* stage and is caused due to *Kapha vridhhi* and *agnimandya*.

13) **Gourav** : Heaviness of body indicates *Kapha* and *annavridhhi* and one of *kaphaj Nanatmaja vikara*.

14) **Jwara** : indicates *pitta prakopa*.

15) **Harita Varna** : Indicates *pitta vridhhi*.

16) **Hata prabhatwa** : *pitta prakopa* , *oja kshaya* cause *prabha hani*.

17) **Shwasa** : In *samanya lakshanas* also, *shwasa* is mentioned. It refers to *arohana ayasa* (exertional dyspnea ) i.e. *kshidra shwasa*. But in *upadrava* stage, it is severe state of *kshudra shwasa* or any other severe variety of *shwasa*.

#### Material and Methods :

##### ■ Inclusion criteria:

1. Gender - Patients of any sex has been included.
2. Age - 16 yrs to 60 yrs
3. Patients those having *Lakshanas of Pandu*.
4. Hb% ranges above 7gm/dL to 10gm/dL.
5. Patient who shows *Panduta, Rukshata, Daurbalya, Bhrama, Ayasen Shvasa (Arohan), Aruchi, Pindikodveshtan* will be included for study.

##### ■ Exclusion criteria:

1. Pregnant women, Lactating mothers.
2. associated with other known history of diseases like Nephrotic Syndrome, Liver Cirrhosis, Ascites, Congestive Cardiac Failure, Acute Coronary Syndromes, AIDS, Tuberculosis, Leprosy, Malignancy, Auto- Immune Disorders, Genetic Disorders, Helminthic infection etc.
3. Patients having known history of Chronic Blood loss conditions such as *Malena, Haemetemesis, Haemorrhagic Piles, Menorrhagia, Metrorrhagia*, etc.

#### 4. Preparation of drug:

##### *Dadimadi Ghrita*

- *Dadima* : 1 *Kudava* (192gms)
- *Dhanyaka* : 1/2 *Kudava* (96gms)
- *Chitraka mula*:  
1 *Pala* (48gms)
- *Shunti* : 1 *Pala* (48gms)
- *Pippali* : 2 *Karsha* (24gms)
- *Goghrita* : 20 *Pala* (960ml)

- *Jala* : 1 *Adaka* (3072ml)

##### • Method of Preparation:

Kalka was made from *Dadima*, *Dhanyaka*, *Chitraka mula*, *Shunti Pippali*. This kalka was cooked on *Mandagni* along with *Gogritha* & *Jala* till it gets *Gritha Siddhi Lakshana*. The *dravyas* have properties as follows<sup>7</sup>

Sl. No.	Dravya	Rasa	Guna	Veerya	Vipaka	Doshaghnata	Karma
1	<i>Dadima</i>	<i>Madhura</i> , <i>Amla</i> , <i>Kashaya</i>	<i>Laghu</i> , <i>Snigdha</i>	<i>Anushna</i>	<i>Madhura</i> , <i>Amla</i>	<i>Tridoshashamaka</i>	<i>Shothahara</i> , <i>Ropana</i> , <i>Jantughna</i>
2	<i>Dhanyaka</i>	<i>Tikta</i> , <i>kasa</i> <i>ya</i> , <i>katu</i> , <i>Madhura</i>	<i>Laghu</i> , <i>Snigdha</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Tridosha hara</i>	<i>Deepan</i> , <i>Pachan</i> , <i>Grahi</i> , <i>Mutral</i>
3	<i>Shunti</i>	<i>Katu</i>	<i>Laghu</i> , <i>Snigdha</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Kapha-vata</i> <i>shamaka</i>	<i>Svarya</i> , <i>Rocana</i> , <i>Hridya</i> , <i>Vrshya</i>
4	<i>Pippali</i>	<i>Katu</i>	<i>Laghu</i> , <i>Teekshna</i> , <i>Singdha</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Kapha-vata</i> <i>shamaka</i>	<i>Deepana</i> , <i>Vrishya</i> , <i>Rasayana</i>
5	<i>Chitraka</i>	<i>Katu</i>	<i>Laghu</i> , <i>Ruksha</i> , <i>Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Vatakaphashama</i> <i>ka</i> , <i>Pittavardhaka</i>	<i>Deepan</i> , <i>Pachan</i> , <i>Grahi</i> ,
6	<i>Goghrita</i>	<i>Madhura</i>	<i>Guru</i> , <i>Snigdha</i> , <i>Madhura</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Vata-</i> <i>pittaghna</i>	<i>Balya</i> , <i>Rasayani</i>

### • Investigations:

All routine investigations of blood and urine were done for all the cases. Along with this, few specific investigations were also performed.

#### A. Blood examinations

0	Absent
1	In any of these 2
2	In any of these 3
3	In any of these 4
4	In all of these

CBC with ESR

BSL (R)

B. Urine examination : routine and Microscopic

C. Some specific Investigations

IgG for tuberculosis

Montoux test

Biopsy for fistulous tract on suspected case of tubercular fistula.

HIV for AIDS

D. Radiological investigations

X ray chest PA view

### 5. Methods:

Total 10 patients were selected and treated.

### 6. Treatment:

**Dadimadi Ghrita**

- Dose: 10 ml twice a day
- Kal : Paschyat bhakta
- Route of Administration: Orally

- Anupan: Luke warm water
- Duration: 90 Days
- Follow Up: 30<sup>th</sup> , 60<sup>th</sup> & 90<sup>th</sup> days

### 7. Statistical Analysis:

By Paired 't' test.

### 8. Assessment Criteria :

Gradations and scoring have been done as follows:

1) *Panduta* : In *Twak, Nakha, Netravartma, Jivha, Hastpadtala.*

2) *Daurbalya* :

0	Absent
1	After heavy work, relieved soon and tolerate
2	After moderate work, relieved later and tolerate
3	After little work, relieved later and tolerate
4	After little work, relieved later and but beyond tolerance.
5	Even in resting condition

3) *Ayassen Shvasa (Arohan)* :

0	Absent
1	After heavy work, relieved soon and tolerate
2	After moderate work, relieved later and tolerate

3	After little work, relieved later and tolerate
4	After little work, relieved later and but beyond tolerance.
5	Even in resting condition

2	
3	Only at Night but beyond tolerance
4	Whole day, severe, require medicine.

4) *Pindikodveshtan* :

0	Absent
1	After heavy work
	After Moderate work

❖ **Observation and Results:**

The response of treatment was observed and recorded on a case paper and data collection by clinical study.

Sr. No.	Assessment criteria	<i>Panduta</i>	<i>Dourbalya</i>	<i>Ayasena Shwasa</i>	<i>Pindikodveshtan</i>
1.	Case 1	BT	2	2	2
		AT	0	1	0
2.	Case 2	BT	2	3	2
		AT	1	2	0
3.	Case 3	BT	2	1	0
		AT	1	0	0
4.	Case 4	BT	0	1	2
		AT	0	0	1
5.	Case 5	BT	1	1	2
		AT	0	1	1
6.	Case 6	BT	0	2	3
		AT	0	0	1
7.	Case 7	BT	2	3	2
		AT	0	1	1
8.	Case 8	BT	2	2	3

		AT	1	1	2	1
9.	Case 9	BT	3	2	2	2
		AT	1	1	1	1
10.	Case 10	BT	0	2	0	2
		AT	0	0	0	0

(BT- Before Treatment, AT- After Treatment)

### Results:

Effect of *Dadimadi Ghrita Churna* on cardinal symptoms of Pandu is as follows:

Cardinal Symptoms	N	Mean BT	Mean AT	S.D.	S.E.	't'	P value	Result
Per rectal bleeding	10	1.4	0.4	0.667	0.211	4.7393	P<0.001	H.S.
Pain	10	1.9	0.6	0.455	0.143	9.09	P<0.001	H.S.
Burning Sensation	10	1.8	0.9	0.322	0.101	8.91	P<0.001	H.S.
Constipation	10	1.8	0.5	0.455	0.143	9.09	P<0.001	H.S.

(BT- Before treatment, AT- After treatment, S.D- Standard Deviation, S.E.- Standard Error of mean).

### ❖ Discussion and Conclusion

The knowledge of any disease can be attained by knowing the detailed pathophysiology of it. If this pathophysiology is broken, the disease can be healed early and easily. It is the best plan to cure the disease and prevent the reoccurrence of the disease. *Pandu* is due to *Tridosha dushti* and among them it's the *Pitta dosha* taking lead in the manifestation

of the disease. All *dhatu*s (predominantly *rasa* and *Rakta dhatu*) and *ojas* are affected. *Pandu vyadhi* has symptoms like *Panduta*, *alpa raktata*, *Dourbalya*, *akshay*, *Pindikodveshtan* etc. *Pandu Vyadhi* is mainly classified into *Vataj*, *Pittaj*, *Kaphaj*, *tridoshaj* and *mridbhakshanjanya Pandu*.

Generally, sedentary life style, Full stress working, irregularity in diet, improper *vihara* containing *ratrijagarana*, *Atapasevana* are responsible for formation of *vyadhi pandu*. Majority of the females are more prone to *pandu vyadhi*. It has symptoms like *panduta*, *Dourbalya*, *aruchi*,

*Ayasena shwasa, Bhrama, Pindikodveshtana etc. Analysis of the pharmacodynamic properties of the Dadimadi Ghrita, the Rasa present in the individual drug reveals that maximum drug have Katu and Tikta Rasa being predominant in Akasha Mahabhuta and Laghu Guna. Its Agnideepana function increases the metabolism and reduces the formation of Ama by virtue of Tikta and Katu rasa. Vipaka of most of the ingredients of both the drug is Katu Vipaka and Madhura Vipaka. Madhura Vipaka is said to be increases all the Dhatus, nourishes Mana and Indriyas, so alleviate Vata Dosha and increases the vital strength. Katu Vipaka increases the overall metabolism. Pippali and Shunti which are present, by their Dipana-Pachana properties increases the Agnibala there by increases the bio-availability of various micronutrient from the food ingested leading to Prashasta Dhatu (healthy tissue). Pippali is also rasayani in its functionality. Shunthi does deepana and Loha acts as raktavardhaka. Due to all these functions, there was marked reduction in the mean scores of all the parameters of assessment i.e., pandutva, dourbalya, Ayasena shwasa and Pindikodveshtan. Dadimadi Ghrita have proved to be quiet effective in the treatment of Pandu without involving undesirable side*

effects. Along with main line of treatment nourishing diet must also be given to the all malnourished patients

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