

A Clinical Trial Study of Evaluation of Efficacy of Nisha Loha Churna in Pandu**Dr. Abhijeet Pundlik Patil**

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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. This figures 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. Nisha Loha churna is one herbo-mineral drug mentioned in Bhaishajyaratnavali, which is cost effective, easily available and effective medicine. Present study is an attempt to study clinical efficacy of Nisha Loha churna 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 Kayachikitsa, Shalya tantra, Shalakya tantra, Dravya Guna, Bhaishajya Kalpana, Rasashastra etc. The branch Kayachikitsa deals with various diseases afflicting the human body, it's causative factors, course of progress, symptomatology, 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.¹

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).² 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. Nisha loha churna is the most familiar compound preparations in the treatment of Pandu Roga and it is mentioned in Panduchikitsiya adhyaya of Bhaishjya Ratnavali.³ So in this study, clinical efficacy of Nisha

Loha Churna in the Pandu was studied and it was found effective.

Aim

A clinical trial study of evaluation of efficacy of nisha loha churna in pandu

Objectives:

- I. To study Pandu Vyadhi.
- II. To study Nisha Loha Churna.
- III. To study efficacy of Nisha Loha Churna in Pandu.

Methodology:

Materials –

Patient was selected from the Outpatient department of *Kayachikitsa* Department of Sant Gajanan Maharaj Ayurved Medical College, Mahagaon, site. 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-B₁₂, 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 Sangraha kara. This intrinsic factor is responsible for the absorption of Vit-B₁₂ 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 B₁₂ 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 B₁₂ and in the bound state Vit- B₁₂ is protected from digestion by the GIT enzymes. Vit-B₁₂ 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 B₁₂ 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 :⁴

Pandu Roga is one of the pitta pradhan vyadhi and in general all the pittakara Ahara leads to Pandu and if one wants to highlights 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 :⁵

- Maithuna
- Vegavidharana
- Rutu vaishamya
- Diwaswapna
- Vyayama

Manasika karana :⁶ 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 rasadhātu. 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 dhatus 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 vriddhi, which in turn is due to dhatu kshaya.

7)**shoonakshi koota Shotha and shtivana:** They are the continuation sign from poorvarupa stage. Kapha vriddhi 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)**Annadweshha** : Charaka mentioned that Annadweshha and Aruchi in samanya lakshana. Acharya Sushruta mentions this in upadrava stage and is caused due to Kapha vriddhi and agnimandya.

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

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

15)**Harita Varna** : Inducates pitta vriddhi.

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

17) **Shwasa** : In samanya lakshanas also, shwasa is mentioned. There ,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:

Nisha Loha Churna

- Haridra : 1 Tola (10 gm)
- Daruharidra : 1 Tola (10 gm)
- Amalaki : 1 Tola (10 gm)
- Bibhitaki : 1 Tola (10 gm)
- Haritaki : 1 Tola (10 gm)
- Kutaki : 1 Tola (10 gm)
- Loha : 6 Tola (60 gm)

Method of Preparation:

Coarse Churnas of Haridra, Daruharidra, Haritaki, Bibhitaki, Amalaki, Kutaki each of 1 Tola (10 gm) and Loha bhasma 6 Tola (60 gm) were taken in Khalva Yantra and fine powder (Churna) is prepared.⁷ . The properties of each drug is as follows:⁸

	s Gaer tn.	Rasa (except lavana)				ya, Medhya, Nadibalya.
Bibhitaki	Terminalia belirica Roxb	Kashaya	Ushna	Madhura	Laghu	Chedana, Shleshmaha, Deepana, Ropana, Chakshushya.
Haritaki	Terminalia chebulula	Kashaya pradhana Lavanav arjita Panchar asa	Ushna	madhura	Laghu, ruksha	Rasayana, Vayasthapanana, Sarvagrah aprashamana
Kutaki	Picrorhiza kurooa Royle ex Benth	Tikta	Sheeta	Katu	Laghu, ruksha	bhedani, Deepani, Hridya,
Loha	Ferrum	Tikta, Madhura, kashaya	Sheeta	-	Sarala, Guruksha	Raktavardhak, Rasayana, Balya, Varnya.

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

- 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.

Dravya	Latin name	Rasa	Veerya	Vipaka	Guna	Karma
Haridra	Curcuma longa	Tikta, Katu	Ushna	Katu	Laghu, ruksha	Anulomaka, Ruchivardhaka, Murtasangrahaniya
Daruharidra	Berberis aristata	Tikta, Kashaya	Ushna	Katu	Laghu, ruksha	Deepana, Grahi, Raktashodhaka, Kaphaghna
Amalaki	Emblica officinalis	Amla pradhana, pancha	Sheeta	Madhura	Guruksha	Vayasthapanana, Rasayana, Chakshush

6. Treatment:

Nisha Loha Churna

- Dose: 500mg churna once a day
- Kal : Paschyat bhakta
- Route of Administration: Orally
- Anupan: Madhu 1 Tsp and Goghrita 2 Tsp
- Duration: 60 Days
- Follow Up: 30th & 60th 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.

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

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) Ayasen 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

4) Pindikodveshtan :

0	Absent
1	After heavy work
2	After Moderate work
3	Only at Night but beyond tolerance
4	Whole day, severe, require medicine.

❖ 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	Panduta	Dourbalya	Ayase na Shwasa	Pindikodveshtan
1.	Cas e 1	B T	2	2	2
	A T	0	0	1	0
2.	Cas e 2	B T	2	3	2
	A T	1	2	1	0
3.	Cas e 3	B T	2	1	0
	A T	1	0	0	1
4.	Cas e 4	B T	0	1	2
	A T	0	0	1	1
5.	Cas e 5	B T	1	1	2
	A T	0	1	1	0
6.	Cas e 6	B T	0	2	3
	A T	0	0	1	1
7.	Cas e 7	B T	2	3	2
	A T	0	1	1	0
8.	Cas e 8	B T	2	2	3
	A T	1	1	2	1

9.	Case 9	B T	3	2	2	2
		A T	1	1	1	1
10	Case 10	B T	0	2	0	2
		A T	0	0	0	0

(BT- Before Treatment, AT- After Treatment)

Results:

Effect of *Nisha Loha 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	0.67	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 dhatus (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. Haridra has katu rasa and it does anulomana and ruchivardhaka karma. Dauharidra does deepana karma. Amalaki gives nourishment to all dhatus. Bibhitaki does deepana and pachana karma. Haritaki is also rasayani in its functionality. Kutaki 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. The herbo-mineral drugs Nisha Loha 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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