

## **STUDY OF EFFECT OF TALISADI CHURNA IN MANAGEMENT OF PANDU ROGA (ANAEMIA)**

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### **ABSTRACT**

Anaemia or *Pandu roga* is one of the most important and common dietary deficiency diseases prevalent in the world today. It is the condition when blood of the person gets impoverished. *Pandu roga* is *Rasapradoshaj vikara*. *Rakta dhaatu kshaya* is the common symptom of *Pandu roga*. When there is *raktakshaya*, *medakshaya* (weakness), *Oja-kshaya* diminished body activities and discoloration of body occurs, these are the signs of *Pandu roga*. One third (30%) of world population suffers from anaemia. Prevalence of anaemia in India is 75% out of these 48.4% of women in Maharashtra are anaemic. The prevalence of anaemia is high because of low dietary intake, poor iron and folic acid intake and poor bio availability of iron, etc. Here 60 patients were selected randomly in the study and given *Talisadi churna* 4gms/day in two divides dose with *Anupana madhu* after meal. At the end of 30 days symptoms improvement and also increase in hemoglobin percentage was noticed. No significant therapy for chronic anaemia in modern sciences. So study has been performed to evaluate the effect of *Talisadi churna* in management of Anaemia. It is reported that *Talisadi churna* has effective role in reducing the symptoms as well as preventing the Anaemia due to metabolic defects.

**Keywords:** *Pandu roga*, Anaemia, *Talisadi churna*

### **INTRODUCTION**

*Pandu roga* is *Rasapradoshaj vikara*, *Rakta dhaatu kshaya* is the common symptom of *Pandu roga*. When there is *raktakshaya*, *medakshaya* (weakness) and *Ojaskshaya* diminished body activities and discoloration of body occurs these are the signs of *Pandu roga*. When *Ranjakpitta* mixed with the first *dhaatu* i.e.

*Rasdhaatu*, it produces *Rakta dhatu* (blood), but when this process gets vitiated *Panduroga* occurs. The essence of *rasa* gets transformed into *rakta* by virtue of colour imparted by *ushma* of *pitta*. In *Pandu roga* change the colour of the body like pallor of skin, sclera, nail and tongue etc. due to *Rakta alpata* we can correlate this

disease to Anaemia in modern science. *Rakta* has been considered as a key factor for the *Jeevan* (Life), *Prinana* (provide nutrition to other dhatu), *Dharana* and *Poshana karma* of the body. *Rakta* gets vitiated by *doshas*, mainly by *pitta dosha* and create *Pandu roga*. due to intake of *pitta pradhana*, *tridosha prakopaka aahara* and *vihara*, the *pitta (sadhakpitta)* which is situated in the heart is excited and this excited *pitta* is thrown away from the heart via ten *dhamanis* with the help of vitiated *vayu*, then it wanders throughout the whole body and finally comes (*sthaanasamsraya*) in the space between skin and muscle and there by vitiating *kapha*, *vata*, *rakta*, *twak* and *mansa* produces *pandu varna* (pale colouration), *haridra varna* (deep yellow colour), *harita varna* (greenish yellow) etc. According to modern science Anaemia is define as insufficient red blood cells (RBC) mass to adequately deliver oxygen to peripheral tissue. It may be due to increase RBC clearance, decrease RBC productions or both and caused by intrinsic or extrinsic causes. In regards with this situation, there are many line of treatments adopted in modern medicine to combat the disease e.g. iron therapy, red blood transfusion in severe anaemia. But they are quite expensive and having some side effects as well as they are not easily available. In Ayurveda number of treatment and formulation are mention for the *Pandu roga*, among this *Acharya Charaka* has mentions the use of *Talisadi churna* in the *Pandu vyadhi*. The modern medicines for Anaemia are available but their market cost is quite high, so it is not affordable for majority of the population. In the management of anaemia most probably use drugs are “*Lohakalp* or oxides of ferrous” etc. but which is not required in all cases of *Pandu roga* (Anaemia). Most of the times, symptoms of *pandu roga* is

related to *Agnimandya*, *aruchi* (Anorexia) and *Dhatu kshaya*. *Talisadi churna* increases *Agni* and also used for betterment of *dhaatuvidhi*. *Talisadi churna* effective in *Agni deepana*, it's also *ruchivardhaka*, *hridayashool prashman*. The clinical study of the drug *Talisadi churna* is very cheap, effective and easily available. So, clinical study was carried out with *Talisadi churna* in management of *pandu roga* (Anaemia).

### **AIM AND OBJECTIVES**

The aim of study was to evaluate the effect of *Talisadi churna* in the management of *Pandu roga* and also assess the effect of *Talisadi churna* in various *lakshan* of *Pandu roga* (Anaemia).

### **MATERIALS AND METHODS:**

Clinical study will be performed on group of randomly selected 60 patients from OPD & IPD of *Kayachikitsa* department in Dr. D. Y. Patil Ayurved College, Hospital & Research Centre, Pimpri, Pune-18 in the year of 2016. Out of 74 patients 14 patients discontinue during the treatment and 60 patients are treated completely.

### **Inclusion Criteria:**

1. *Pandu roga* diagnosed according to subjective & objective parameters.
2. Age group between 18-55 year irrespective of sex, religion, socio- economic status, marital status is selected.
3. Blood sample showing hemoglobin percent more than 6gm/dl and less than 12gm/dl.

### **Exclusion Criteria:**

1. *Pandu* in age group below 12 years and above 55 years.
2. *Mridabhakshanjanya pandu* (Anaemia).

3. Anaemia due to internal bleeding, external bleeding, hemorrhoids' and pregnancy induced anaemia & post natal care.
4. Anaemia due to hemorrhage like Esophageal varices, Gastrointestinal bleeding, Gastric and duodenal ulcer and Thalassemia etc.
5. AIDS, Tuberculosis, Hypertension, Diabetes, and cardiac problems.

1. If patients develop any adverse effect.
2. If patient is not responding to treatment and aggravation of symptoms.
3. If patient refuses to continue with the treatment.

**ASSESSMENT CRITERIA:-**

The patients are assessed on the basis of subjective and objective parameter.

**Withdrawal Criteria:-**

**Table 1:** Assessment criteria on the basis of symptoms (subjective and objective)

Lakshan (Symptoms)	Grade -0	Mild + Grade-1	Moderate ++ Grade -2	Severe+++ Grade -3
<i>Panduta (Netra, Nakha, Jivha, Hastatala, Twacha)</i>	Absent	<i>Panduta</i> present at one Site 0-1	<i>Panduta</i> present at 1-3 sites	<i>Panduta</i> present at all the 5 sites
<i>Jwara (fever)</i>	Absent	99 <sup>0</sup> F	99 – 101 <sup>0</sup> F	101 -102 <sup>0</sup> F
<i>Gatrashul (body ache)</i>	Absent	VAS (visual analogue scale) scale 0-3	VAS 3-6	VAS above 6 upto 10
<i>Daurbalya ( weakness)</i>	Absent	Sits up and down in 3 mins more than 15 times	Sits up and down in 3 mins 10-15 times	Sits up and down in 3 mins less than 8 times
<i>Nidraluta (sleeping)</i>	Absent	8-10 hours	10-12 hours	12- 14 hours
<i>Aarohanasya ayaas vishesh shwas</i>	Absent	Dyspnoea stepping up to > 20 steps	Dyspnoea stepping up between 10-20 steps	Dyspnoea on stepping up < 10-15 steps
<i>Agnimandya (Dig. Problem)</i>	Absent	Digestion in 5hrs.	Digestion in 7 hrs.	Digestion in 9 hrs.
<i>Akshikutashotha</i>	Absent	<i>Akshikutashotha</i> 3mm from lower eyelid margin	<i>Akshikutashotha</i> from lower eyelid margin	<i>Akshikutashotha</i> 10mm from lower eyelid margin
<i>Hridayaspandan (palpitation)</i>	Absent	Palpitation on moderate exertion.	Palpitation on mild exertion	Palpitation on Resting position.

Objective criteria	Mild	Moderate	Severe
Hb% (Hemoglobin)	Above 9gm% But below normal level	6gm% to 9gm%	Below 6gm%

**Clinical study:**

1. The symptoms of *Pandu roga* was noted in selected 60 patients.

2. Deworming of the patients will be done before commencements of the study with Tab-Albendazole 400mg (HS).

3. 60 Patients will be given Talisadi churna 4gm/day in two divided doses with *anupana madhu* (Honey) after meal for one month.

**Informed consent:** - Informed, written and valid consent of the patient or relatives of the patient will be taken prior to commencement of clinical study.

**Follow up:**

1. Follow up of each patient will be taken at the interval of 15-days or earlier required at the time of clinical assessment.
2. Haemogram will be carried out before after 15 days and at the end of study.

**Drug preparation:**

1. The materials require for preparation of *Talisadi churna* were *tallish patra, shunthi, pippali, marich, chotiilayachi, dalchini, khadisakar (Sita)*. In *Talisadi churna*, *tallish patra* is a main ingredient.
2. Authenticated and standardize materials were taken i.e. pharmacopeia quality base.
3. Dried in tray dryer (each drug separately) for 48 hrs (4 hours working time per day).
4. All the raw materials required for the preparation were weighed in gram and powdered

separately in a pulveriser and then weighed again.

5. All the *prakshepya* drug were taken in their powder forms and then passed through sieved no 85.
6. Weigh separately each powdered ingredient and mix together in specified ratio.
7. Pass the *churna* through sieve number 44 to prepare a homogeneous blend.
8. Pack it in tightly closed containers to protect from light and moisture.
9. Organoleptic evaluation was used for identification of sensory characteristic like odour, taste, size texture and fracture.

**Drug administration:** The route of administration of drug was oral.

**Null hypothesis:** The difference between means of two sets of observation i.e. before and after treatment is same.

**Alternate hypothesis:** The difference between means of two sets of observation i.e. before and after treatment is difference.

**Observation and results:**

Each patient is studied symptom wise. The size of the sample was 60 (n=60). The sample was selected randomly on the basis of subjective and objective criteria. Data is analyzed by applying ‘Wilcoxon signed rank test’ and ‘paired t test’

**Table 2:** *Panduta* (pallor of eyes, nails, skin, tongue, and palms)

Statistical analysis for relief from <i>Panduta</i>						
<i>Panduta</i>	Mean score	SD	% Relief	Wilcoxon Signed Ranks Test Z	P Value	Significance
	0.03	0.181	97.4	6.693	<0.001 HS	Highly significance

**Interpretation:**

The table shows the statistical analysis for relief from *Panduta* in *Pandu roga*, the mean score of *Panduta* at 1<sup>st</sup> visit was 1.30 which decreased to

0.03 at the last day of treatment. Percentage of relief in the symptom of *Panduta* was 97.4%. This relief of symptom was found statistically highly significant as Z was 6.693, P <0.001.

**Table 3: Jwara (fever)**

Statistical analysis for relief from <i>Jwara</i>						
<i>Jwara</i>	Mean score	SD	% Relief	Wilcoxon Signed Ranks Test Z	P Value	Significance
	0.30	0.462	82.5	6.705	<0.001 HS	Highly significance

**Interpretation:**

The table shows the statistical analysis for relief from *Jwara* in *Pandu roga*, the mean score shows that *Jwara* before treatment was 1.72 which reduced to 0.30 after treatment. Percent-

age of relief in the symptom of *jwara* was 82.5%. This relief of symptom was found statistically highly significant as Z was 6.705, P<0.001.

**Table 4: Daurbalya (weekness)**

Statistical analysis for relief from <i>Daurbalya</i>						
<i>Daurbalya</i>	Mean score	SD	% Relief	Wilcoxon Signed Ranks Test Z	P Value	Significance
	0.35	0.481	83.8	6.799	<0.001 HS	Highly significance

**Interpretation:**

The table shows the statistical analysis for relief from *daurbalya* in *Pandu roga*, the mean score of *daurbalya* before treatment was 2.17 which reduced to 0.35 after treatment. Percentage of

relief in the symptom of *daurbalya* was 83.8%. This relief of symptom was found statistically highly significant as Z was 6.779, P<0.001

**Table 5: Nidraluta (Sleeping)**

Statistical analysis for relief from <i>Nidraluta</i>						
<i>Nidraluta</i>	Mean score	SD	% Relief	Wilcoxon Signed Ranks Test Z	P Value	Significance
	0.40	0.527	76.5	6.602	<0.001 HS	Highly significance

**Interpretation:**

The table shows the statistical analysis for relief from *Nidraluta* in *Pandu roga*, the mean score of *Nidraluta* before treatment was 1.70 which reduced to 0.40 after treatment. The percentage

of relief in the symptom of *Nidraluta* was 76.5%. This relief of symptom was found statistically highly significant as Z was 6.602, P <0.001

**Table 6: Gatrashula**

Statistical analysis for relief from <i>Gatrashula</i>							
<i>Gatrashula</i>	Mean score	SD	% Relief	Wilcoxon Signed Ranks Test Z	P Value	Significance	
	<b>0.42</b>	<b>0.561</b>	<b>80.2</b>	<b>6.792</b>	<b>&lt;0.001 HS</b>	<b>Highly significance</b>	

**Interpretation:**

The table shows the statistical analysis for relief from *gatrashula in Pandu roga*, the mean score of *Gatrashul* before treatment was 2.10 and af-

ter treatment it decreased to 0.42. Percentage of relief in the symptom of *Gatrashula* was 80.2%. This relief of symptom was found statistically highly significant as Z was 6.792, P<0.001.

**Table 7: Arohanasya aayash vishesh shwas**

Statistical analysis for relief from <i>Arohanasya aayash vishesh shwas</i>							
<i>Arohanasya aayash vishesh</i>	Mean score	SD	% Relief	Wilcoxon Signed Ranks Test Z	P Value	Significance	
	<b>0.57</b>	<b>0.647</b>	<b>71.7</b>	<b>6.759</b>	<b>&lt;0.001 HS</b>	<b>Highly significance</b>	

**Interpretation:**

The table shows the statistical analysis for relief from *Arohanasya aayash vishesh shwas in Pandu roga*, the mean score at 1<sup>st</sup> day of visit was 2.00 and at the last day was 0.57. Percent-

age of relief in the symptom of *Arohanasya aayash vishesh shwas* was 71.7%. This relief of symptom was found statistically highly significant as Z was 6.759, P<0.001.

**Table 8: Agnimandya**

Statistical analysis for relief from <i>Agnimandya</i>						
<i>Agnimandya</i>	Mean score	SD	% Relief	Wilcoxon Signed Ranks Test Z	P Value	Significance
	<b>0.37</b>	<b>0.551</b>	<b>80.0</b>	<b>6.816</b>	<b>&lt;0.001 HS</b>	<b>Highly significance</b>

**Interpretation:**

The table shows the statistical analysis for relief from *Agnimandya in Pandu roga*, the mean score of *Agnimandya* before treatment was 1.83

and after treatment was 0.37. Percentage of relief in the symptom of *Agnimandya* was 80%. This relief of symptoms was found statistically highly significant as Z was 6.816, P<0.001.

**Table 9: Hrudayaspandan**

Statistical analysis for relief from <i>Hrudayaspandan</i>							
<i>Hrudayaspandan</i>	Mean score	SD	% Relief	Wilcoxon Signed Ranks Test Z	P Value	Significance	
	<b>0.32</b>	<b>0.567</b>	<b>81.7</b>	<b>6.776</b>	<b>&lt;0.001 HS</b>	<b>Highly significance</b>	

**Interpretation:**

The table shows the statistical analysis for relief from *Hrudayaspandan in Pandu roga*, the mean score of *hrudayaspandan* before treatment was 1.73 and after treatment reduces to 0.32. Per-

centage of relief in the symptom of *hrudayaspandan* was 81.7%. This relief was found statistically highly significant as Z was 6.776, P<0.001.

**Table 10: Akshikutasho᳚ha**

Statistical analysis for relief from <i>Akshikutasho᳚ha</i>						
<i>Akshikutasho᳚ha</i>	Mean score	SD	% Relief	Wilcoxon Signed Ranks Test Z	P Value	Significance
	0.25	0.437	82.8	6.682	<0.001 HS	Highly significance

**Interpretation:**

The table shows the statistical analysis for relief from *Akshikutasho᳚ha in Pandu roga*, the mean score of *Akshikutasho᳚ha* before treatment was 1.45 and after treatment reduces to 0.25. Per-

centage of relief in the symptom of *Akshikutasho᳚ha* on an average was 82.8%. This relief of symptom was found statistically highly significant as Z was 6.682, P<0.001.

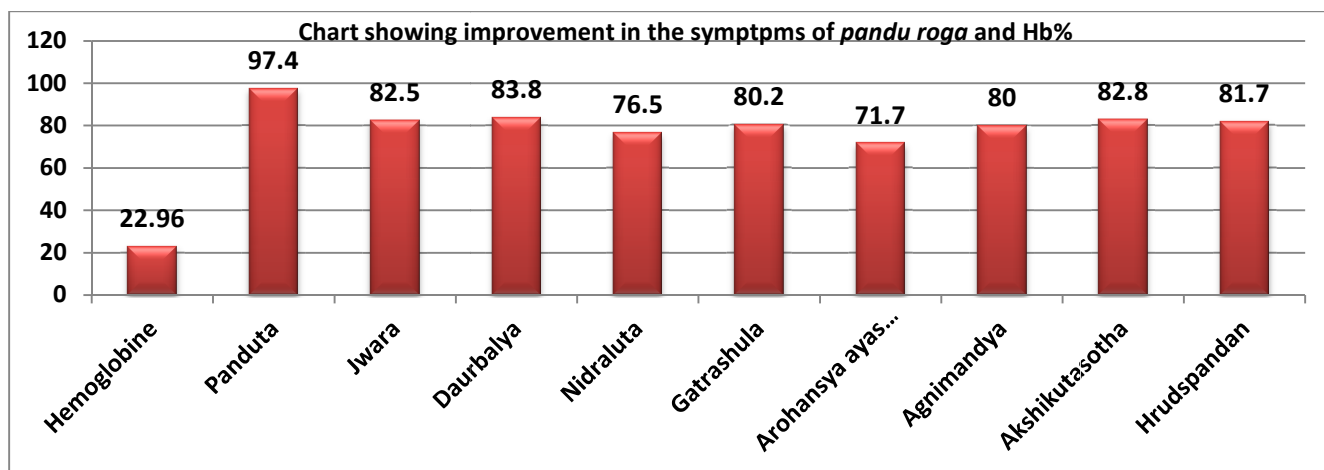
**Table10: Hemoglobin**

Statistical analysis for relief from Hemoglobin						
Hemoglobin	Mean score	SD	Paired t	% Relief	P Value	Significance
	10.82	1.308	7.783	22.96%	<0.001 HS	Highly significance

**Interpretation:**

The table shows the statistical analysis for relief from Hemoglobin *in Pandu roga*, the mean score before treatment was 9.73 and after treat-

ment which increased to 10.82. This improvement of hemoglobin was statistically highly significant as t was 7.783, P<0.001.



## DISCUSSION

The most important presenting sign of *Pandu roga* is *Panduta*. This is the most conclusive sign of the disease because whenever any patient comes across, the first things observe is the appearance, *Varna* and *prabha*. There are the properties of *Raktadhaatu* and *Pitta dosha*, particularly the *Bhrajaka* and *Ranjaka pitta*. Regarding the effects of therapy, By 'Wilcoxon Signed rank test' highly significant result is obtained i.e. *panduta* decreases as the treatment proceeds. *Talisadi churna* which is responsible for *Agnideepana* due to *tikta, kashaya, madhura rasa, madhura vipaka* and *kapha pitta shamaka* effect of *talish patra, sunthi, pippali, vanshalochana, choti ilyachi* and *maricha panduta* decreases. *Talisadi churna* is drug of choice for clinical trial because of its action at *dhatwagni* level which is a prime requirement in *Pandu roga*, vitiation of *doshas* lead to *nissar dhatu* formation which is due to *dhatwa agnimandya*, as has been described in diseases review. Normally vitiated *Pitta* leads to *prakopa* or *vikrut vrudhi* of *rakta dhatu* e.g. in *Raktapitta* but as an exception in *pandu rakta kshaya* is found even though *pitta* is vitiated. Because vitiated *pitta* leads to decrease of *rakta poshaka* part, which results in formation of *rakata dhatu*. Further all forth coming *dhatu*s are affected. *Dhatu shaithilya* i.e. improper quality and loss of normal function of *dhatu*s which occurs there after the core factor in the pathology of *pandu*. An overview of the *kalpa* reveals that it is *tikta kashaya katu madhur rasa pradhan, ushna sheet veeryatmaka* and *katu, madhura vipaki* and *tridoshaghna*. *Tikta* and *madhura rasa* are excellent with regards to *deepana karma*, which leads *dhatwagni deepana* mainly *rasagni* and *raktagni*.

*Rasadhatu agnimandya* manifests symptom of *rasadusthi* like *gaurava, aruchi, annadwasha*. All constituents' *dravyas* in *Talisadi churna* digests the *ama* in the *rasa dhatu* and leads to qualitative *rasa dhatu* formation. Consequently further *dhatu*s (*rakta, mamsa* etc formed are also qualitative) i.e. to say that constituent drugs aid in *dhatwagni deepana* due to its *deepana pachana gunas* and hence *prakrut dhatu* formation take place and *dhatu shaithilya* is reduced. *Pitta* is the main vitiated *dosha* in *pandu*. The *dravyas* like *sunthi, pippali, vanshalochana* and *choti ilaayachi* help in *pitta shodhana* due to its *virechana karma*. Further *pitta shamana* is carried out by *tikta, kashaya madhura rasatmaka guna* of the *kalpa*. *Talishadi churna* acts on *dhatwagni* level leading to qualitative *dhatu* formation, which increases *vyadhishamatva* i.e. immunity of the patient. *Dhatwagni deepana* leads to restoration of *bala* due to qualitative *dhatu* formation. *Raktagni deepana* result in *prakruta rakta* formation and hence leads to restoration of *prakrut varna*. Consequently qualitative *dhatu* production of further *dhatu*s i.e. *Mamsa meda* leads to restoration of *sneha* in the body. The drug being *tikta katu kashaya madhur rasatmaka* and *ushna sheeta veerya* acts mainly on the symptoms produced due to predominant *pitta dosha* in *samprapti* of *pandu*. Hence the drugs prove it to be effective in *Pandu roga*.

## CONCLUSION

The patients from lower and middle class were more prone to *Pandu roga* in this study due to worries & responsibilities for their family, wrong food habits, shifts duty and lack of exercise. Lower class people are unable to afford the proper nutritious diet hence suffer more from this disease. Ingredients of *Talisadi churna* hav-



ing the properties like *deepena, pachana, rasarakta dhatuwardhana, Rasayana, strotoshodaka, pitta virechana, pittashamaka, amapachka, kledhagna, ras-rakt prasadan, yakrut uttejaka* so it was seen effective in *Pandu roga*. After analyzing all the data and the observation we conclude that administration of *Talisadi churna* is effective in *Pandu Roga*. No adverse event recorded during clinical trial hence we may conclude that *Talisadi churna* is highly significant in reducing the severity of symptoms of *Pandu viz. Panduta, jwara, gatrashula, daurabalya, nidraluta, arohanasya aayash vishesh shwas, agnimandya, akshikutashotha* and *hridayaspandan*. Also from the available data it is concluded that *Talisadi churna* is showing significant result ( $P < 0.001$  which is less than 't' 7.783) in increasing in the haemoglobin level in all the anaemia.

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