



ISSN: 0976-3031

Available Online at <http://www.recentscientific.com>

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research
Vol. 9, Issue, 5(F), pp. 27047-27051, May, 2018

**International Journal of
Recent Scientific
Research**

DOI: 10.24327/IJRSR

Research Article

CLINICAL EFFICACY OF GUDA-HARITAKI (JAGGERY-TERMINALIA CHEBULA) IN THE MANAGEMENT OF PANDU ROGA (ANAEMIA)

Vinay Mohan G¹ and Rama Shastry V. V. S²

¹Department of Kaya Chikitsa, Shri Shivayogeeshwar Rural Ayurvedic Medical College, Inchal. Tq-Savadatti, Dist-Belagavi, Karnataka

²Department of KC, Dr. B.R.K.R. Govt. Ayurvedic College and Hospital, Hyderabad

DOI: <http://dx.doi.org/10.24327/ijrsr.2018.0905.2176>

ARTICLE INFO

Article History:

Received 24th February, 2018

Received in revised form 19th

March, 2018

Accepted 16th April, 2018

Published online 28th May, 2018

ABSTRACT

William D. Whitney, an eminent authority of Vedic literature, compared *Viloma* with anemia. The hemoglobin concentration falls below the accepted normal range due to the failure of hemoglobin synthesis and other conditions mentioned in *nidana*(causes), in particular, where unhygienic, low socioeconomic and faulty food habits are the contributing factors. It is even more common in pregnant women. Its prevalence in all the age groups and in both the sexes interested researchers from ages.

Thirty patients are randomly selected from those attending the out-patient Department of Post Graduate Unit of *Kayachikitsa*, (General medicine) at Dr B.R.K.R. Govt. Ayurvedic College and Hospital, Erragadda, Hyderabad. The Drug *GudaHareetaki* is tried on 30 patient and results are assessed periodically.

The results are encouraging, which are discussed in length, in the chapter of Results separately. The entire work is divided in to VII parts, covering all the aspects of the disease – *Pandu Roga* and Drug – *GudaHareetaki*.

Copyright © Vinay Mohan G and Rama Shastry V. V. S, 2018, this is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

Chaaya and *Prabha* are associated with skin and are due to the normal condition of *Bhrajaka pitta* (Pitta responsible for colouration of skin). The discolorations like *KetakiDhooli* (Pallor), *Swetha* (Whitish), *Peeta* (Yellowish), and *Haritha* (Yellow),^{7, 15} are the manifestations of pathological process, caused not only by the etiological factors of vitiated *doshas*, but also by consumption of *Mrit* seen in *Pandu Roga* (*PALLOR seen in Anemia*). *Pandu Roga* is one of the commonest ailments prevalent not only in India but also worldwide.

William D. Whitney an eminent authority of Vedic literature compared *Viloma* with anemia. The hemoglobin concentration falls below the accepted normal range due to the failure of hemoglobin synthesis and other conditions mentioned in *nidana* (cause), in particular, where unhygienic, low socioeconomic and faulty food habits are the contributing factors. It is even more common in pregnant women. Its prevalence in all the age groups and in both the sexes, interested researchers from ages.

Ayurveda mentioned a number of effective formulations in treating *Pandu Roga*. Keeping in view of the above factors, ease of availability and cost effectiveness, the present study entitled - "Clinical Efficacy of *GudaHareetaki* in the management of *Pandu Roga*" is carried out.

The efficacy of this formulation in *Pandu Roga* can be justified by its indication in *Alparakta* condition explained below. The preparation *GudaHareetaki* is taken from *Pandu Roga Adhyaya of Bhaishajya Ratnavali*⁶. The drug fulfils the qualities like *Bahuguna* (many qualities), *Yogya* (appropriate in disease), *Sukhaaswadana* (palatability), *Preerana* (nourishment), *VyadhiNashana* (Therapeutic effect on Anemia), *Avipathkara* (No Complications or side effects) and *Gandha-Varna Rasopeta* (Good taste, colour and no bad smell).

Thirty patients are randomly selected from those attending the Out-patient Department of Post Graduate Unit of *Kayachikitsa*, at Dr B.R.K.R. Govt. Ayurvedic College and Hospital, Erragadda, Hyderabad. The Drug *GudaHareetaki* is tried on 30 patients and the results are assessed periodically.

*Corresponding author: **Vinay Mohan G**

Department of Kaya Chikitsa, Shri Shivayogeeshwar Rural Ayurvedic Medical College, Inchal.

Tq-Savadatti, Dist-Belagavi, Karnataka

The results are encouraging, which are discussed in length, in the chapter of Results separately. The entire work is divided in to VII parts, covering all the aspects of the Disease – *Pandu Roga* and Drug – *GudaHareetaki*.

Definition and Synonyms

Most of the diseases in Ayurveda are named depending upon either of the following, i.e., *Varna* (Colour), *Ahara* (food habits), *Vihara* (Life style), *Ruja* (Type of Pain), *Samuthana* (cause), *Sthana* (location of disease), *Chikitsa* (mode of treatment), *doshasinvolved* or *many others*.¹² The disease *Pandu Roga* acquired its name based on the *Lakshana*– “*Pandutvam*” in the diseased state. The *PratyatmaniyataLakshana* (specific symptom/sign) is related to the color of the skin.^{2,3}

There are many definitions given by different schools of thought, but all of those are related in one way or other to the color of the skin.¹ “*Pandutwenopalakshitorogapanduroga*”. *Charaka* in *chikitsasthana* mentioned “*Vaivarnyambhajatyardham.....*”⁷, in the context of *Pandu Roga*. It means that a patient of *Pandu roga* have *vikritavarna* (discolouration) of the skin.

The word Anemia is derived from two words “an” which means without or less and “emia” which means blood condition. It is a condition in which the blood hemoglobin level is below the normal range for the patient’s age and sex.^{4,5,8,9}

Hemoglobin in Normal adult male : 16gms/dL.
Hemoglobin in Normal adult female : 14 gms/dL.

Anemia is also said to be present in adults if the “Hematocrit” (packed RBC) is less than 41% in males and 37% in females. Anemia is also seen in patients in whom the Number of RBC is less than the normal.^{10,11}

RBC in Normal adult male : 5,200,000 (+/- 300,000)/cmm
RBC in Normal adult female : 4,700,000 (+/- 300,000)/cmm.

Synonyms of Pandu Roga

After viewing the definition of the disease *Pandu*, let us consider the synonyms of it. In Vedic literature, *Vilohita*, *Harima* and *Halima* are used to represent *pandu*.^{13,14}

Mode of Preparation of Guda Hareetaki

The preparation *GudaHareetaki* consists of *Hareetaki* and *Gudamin* the following mentioned ratio.⁶

GUDAM : 3 Kgs.
HAREETAKI : 1 Kg.

The above mentioned ingredients were collected in pure form from the market. Individual choornas are made at the beginning of the process. These drugs are mixed in the quantities mentioned above.

The powder was weighed and made 12gms packets and was distributed to the patients.

Dose : 12grams, twice a day.
Time : Morning and evening after food.

Anupana: Luke WarmWater

Duration of the Treatment: 45 days.

Indications: It is indicated in all age groups and both the sexes in treatment being non-toxic.

MATERIALS AND METHODS

1. Patients
2. Parameters
3. Drug

Patients

Selection of patients: Totally, 30 patients, suffering from *pandu* are selected randomly from the Out-Patient Department of Post Graduate unit, Kayachikitsa Department of Government Ayurvedic Hospital, Erragadda, Hyderabad.

Patients were examined thoroughly according to the *Lakshanas* (Characteristics), *Ashtasthana* & *DashavidhaPareekshas* (Elaborated methods of examining the patients as per *ayurveda*), and laboratory investigations. Those patients, who have been elicited about *rogi* and *rogapareeksha* are noted in the proforma of special case sheet of *panduroga*, which is enclosed.

Parameters: The parameters that are used in assessing the results can be divided into two categories.

1. Subjective parameters.
2. Objective parameters.

Subjective Parameters: The following have been taken as subjective parameters.

1. Relief of clinical signs and symptoms.
2. Appearance of *Raktasaaralaxhanas*.

Objective Parameters: The following have been taken as objective parameters.

1. Hemoglobin Percentage.
2. Red Blood Cells Count.
3. Erythrocytic Sedimentation Rate.

Drug Regime: The prepared drug (the preparation of the drug is mentioned in drug aspect) *GudaHareetaki* is administered to the patients. The dosage of the drug is 12gms, twice a day. It is given in two doses of 12gms after each principal meal. The dosage is modified according to the *prakriti* (constitution) and *dosha* involvement of the patients. The *anupana* chosen for the drug is *Srutasheetajala* (Luke warm Water).

METHOD OF OBSERVATION

The progress of the patients is observed and recorded after every 15 days. This procedure is followed for a duration of 45 days. After the completion treatment, the results are assessed based on the observations.

ASSESSMENT OF RESULTS

After completion of the treatment, the results are assessed in terms of *Pravara*, *Madhyama* and *Avara*. The criteria adopted for the gradation of *Lakshanas* is shown by the sign ‘+ve’, and absence of *Lakshanas* is shown by the sign ‘-ve’

The criteria adopted for this is given below:

Pravara: The result is concluded as *Pravara* when,

1. All the signs and symptoms present before starting the treatment are relieved with no side effects.
2. Increase in Hemoglobin levels is between 12 and 15 grams.

- Increase in RBC count is between 4.5 and 6 million cells/cumm.

Madhyama: The result is concluded as Madhyama when,

- Most of the signs and symptoms present before starting the treatment are relieved except one or two.
- Increase in Hemoglobin levels is between 10 and 12 grams.
- Increase in RBC count is between 3.5 and 4.5 million cells/cumm.

Avara: The result is concluded as Avara when,

- There is no relief of signs and symptoms.
- ii. Increase in Hemoglobin levels is less than 10 grams.
- iii. RBCs count is less than 3.5 million cells/cumm.

RESULTS

The results of the treatment are assessed periodically after 15, 30 and 45 days. The results are tabulated according to the signs and symptoms, Hb percentage, RBC levels, Percentage of Results etc.

The results are assessed and granted as *Pravara*, *Madhyama* and *Avara*, according to the parameters mentioned in Materials and Methods. The present study comprises 36.66% of adult males (11 to 30), 50% of adult females (15 out of 30) and 13.34% (4 out of 30) of children. Out of these, 45.45% (5 out of 11) among males, 66.6% (10 out of 15) among adult females, and 75% (3 out of 4) among children got best result.

Table No 1 Response based on Sex

SI No	Sex	Pravara	Madhyama	Avara
1	Male	5	3	3
2	Female	10	4	1
3	Children	3	1	0

The present study comprises of different age groups. The youngest being 9 years and the oldest has 58 years. Out of these, 31-40 years age group got best results, followed by 21-30 and 11-20 age groups. Out of 11 adult males, 5 patients achieved best results, followed by 3 Madhyama and 3 Avara patients. Out of 15 adult females, 10 patients got best results, followed by 4 Madhyama and 1 Avara patient.

Table No 2 Response based on Age

SI No	Age (Years)	Pravara			Madhyama			Avara		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
1	0-10	2	0	2	0	0	0	0	0	0
2	11-20	2	2	4	1	1	2	0	0	0
3	21-30	2	2	4	0	3	3	0	0	0
4	31-40	2	3	5	1	0	1	0	0	0
5	41-50	0	0	0	1	0	1	2	0	2
6	51-60	0	0	0	1	0	1	2	0	2

In the present study, vegetarians are 46.66% (14 out of 30) and non-vegetarians are 53.34% (16 out of 30). Out of these, 93.75% (15 out of 16) non-vegetarians got better results than that of vegetarians (78.5% i.e. 11 out of 14)

Table No. 3 Response based on Diet

SI No	Type of Diet	Pravara		Madhyama		Avara	
		Male	Female	Male	Female	Male	Female
1	Vegetarian (14)	4	5	1	1	2	1
2	Non-vegetarian (16)	4	5	2	4	1	0

In the present study, the incidence of poor is more than that of middle class and rich 71% (out of 7) among rich 60% (6 out of 10) among middle class, and 53.33% (7 out of 13) among poor, showed best results.

Table No.4 Response based on Economic status

Eco. Status	Rich (7)		Middle Class (10)		Poor (13)		Total
	Male	Female	Male	Female	Male	Female	
Pravara	3	2	2	4	3	4	18
Madhyama	0	2	3	1	0	2	8
Avara	0	0	0	0	3	1	4

In the present study, *Pandutwa* is an important clinical symptom that got considerable improvement. 22 out of 30 patients showed best results with complete relief, 6 with partial improvement and 2 cases showed a little response towards the treatment. Other important symptoms such as *shodha (Edema)*, *Aruchi(anorexia)* and *Dourbalyata (lassitude)* also showed greater response to the treatment. The list of signs and symptoms before the treatment and after the treatment is tabulated below and it is inferred that there is considerable relief in the same.

Table No 5 Response based on symptoms

SI No	Symptoms / Sign	No. of cases	Improved	Partially Improved	Not Responded
1	Pandutwa	30	22	6	2
2	SwethaNakha	25	20	1	2
3	Rooksha Netra	16	13	2	1
4	Dourbalyata	30	23	5	1
5	Mandagni	30	24	4	2
6	Aruchi	20	13	5	2
7	Asyavairasya	21	17	2	2
8	Angamardha	15	13	2	0
9	Pindikodweshta	13	10	1	2
10	Jwara	14	9	2	3
11	Swasa	16	14	1	1
12	Kasa	10	8	2	0
13	Shrama	13	10	2	1
14	Prabhaheena	9	4	2	3
15	Nidralutwa	15	10	2	3
16	Bhrama	20	16	2	2
17	Shodha	4	3	1	0
18	Sirashoola	4	3	0	1

In the present study, the hemoglobin levels ranged from 6 to 10.6 grams/dL before the treatment. Patients with very poor Hemoglobin levels are of 83.3% and patients with average anemia are 16.7%.

Table No.6 Hemoglobin levels before treatment

Hb levels	Males	Females	Total	Percentage
Pravara	0	0	0	0
Madhyama	3	2	5	16.7
Avara	11	14	25	83.3

Hemoglobin levels showed gradual increase within 15 days from the starting day of treatment. The average anemic patients before the treatment increased from 16.7% to 56.7%.

Table No. 7 Hemoglobin levels after 15 days of treatment

Hb levels	Males	Females	Total	Percentage
Pravara	0	0	0	0
Madhyama	8	9	17	56.7
Avara	6	7	13	43.3

Hemoglobin levels showed better results after 30 days from the starting day of treatment. The Avara group of patients with very low hemoglobin levels before the treatment decreased from 83.3% to 33.3%.

Table No. 8 Hemoglobin levels after 30 days of Treatment

Hb levels	Males	Females	Total	Percentage
Pravara	6	0	6	20
Madhyama	2	12	14	46.7
Avara	6	4	10	33.3

Hemoglobin levels achieved to maximum levels within 45 days of treatment. 60% of the patients (18 out of 30) turned non-anemic, where as 26.7% of the patients (8 out of 30) got moderate results, and 13.3% of the patients (4 out of 30) did not respond much to the treatment.

Table No 9 Hemoglobin levels after 45 days of Treatment

Hb levels	Males	Females	Total	Percentage
Pravara	8	10	18	60.0
Madhyama	3	5	8	26.7
Avara	3	1	4	13.3

The RBC levels before the starting of treatment ranged from 2.7 to 4.2 mill. Cells/cumm. The Avara group of patients are 73.3% (22 out of 30) and moderate group (Madhyama) are 26.7% (8 out of 30).

Table No 10 RBC levels before treatment

RBC levels	Males	Females	Total	Percentage
Pravara	0	0	0	0
Madhyama	4	4	8	26.7
Avara	10	12	22	73.3

RBC levels showed gradual increase within 15 days from the starting day of treatment. The Avara group of patients before the treatment decreased from 73.3% to 26.6% Madhyama group of patients increased from 26.7% to 66.7% and 6.7% of patients reached Pravara category.

Table No.11 RBC levels after 15 days of treatment

Hb levels	Males	Females	Total	Percentage
Pravara	2	0	2	6.7
Madhyama	6	14	20	66.7
Avara	6	2	8	26.6

RBC levels showed better results after 30 days from the starting day of treatment. The Avara group of patients with very low RBC levels before the treatment decreased from 73.3% to 10% and Pravara group of patients increased to 33.3%.

Table No 12 RBC levels after 30 days of treatment

Hb levels	Males	Females	Total	Percentage
Pravara	5	5	10	33.3
Madhyama	6	11	17	56.7
Avara	3	0	3	10.0

RBC levels showed best results after 45 days from the starting day of treatment. The Avara group of patients with very low RBC levels before the treatment decreased from 73.3% to 3.3% Madhyama group patients decreased to 40% and Pravara group of patients increased to 56.7% with the increase in RBC levels.

Table No 13 RBC levels after 45 days of treatment

Hb levels	Males	Females	Total	Percentage
Pravara	6	11	17	56.7
Madhyama	6	6	12	40.0
Avara	1	0	1	3.3

After 45 days of treatment, there is significant decrease in the clinical symptoms, increase in the Hemoglobin and RBC levels, decrease in ESR levels and patients felt comfortable.

Table No.14 Final results after completion of treatment

Results	Males	Females	Total	Percentage
Pravara	8	10	18	60.0
Madhyama	3	5	8	26.7
Avara	3	1	4	13.3

DISCUSSION

The disease *pandu* is manifested due to the vitiation of *Pittavardhaka* (pitta aggravating)-*Kshara* (alkaline), *Amla* (sour), *Lavana* (high salt intake), *Atiushnaahara* (hot and spicy food) etc. The *nidana* (Causative) factors cause vitiation of *Pittadosha*, leading to the manifestation of *Pandu*. The word vitiation includes *vriddhi* or *Ksheera*. The consumed food, which has the properties of *kshara*, *amla*, *lavana*, *atiushna* etc., acts as predisposing and precipitating factors responsible for manifestation of the disease.

The drug *GudaHareetaki* has *Hareetaki*, which has *Anulomana* property. The disease is placed under *Santarpanjanya* (Over nourishment) diseases, and the predominance of *pitta* is noticed in the pathogenesis of the disease.

In three patients, purgation is noticed on the first two days of treatment. This was thought as adverse effect, noticed during the study. It got relieved after adjustment of the dose in those patients.

Though *Hareetrakiis ushnaveerya*, patients did not suffer from vitiation of *pitta*, because the *Rasas* (*Kashaya Rasa pradhana-Hareetaki and Madhura rasa pradhana-Guda*), *Vipaka* (*madhuravipaka*) are *pitta hara* in nature.

Constipation is relieved in all the patients who presented with this complaint because of *anulomana* and *pathaanabhishyadhi* properties of *Hareetaki* and *Gudam*. After achieving *Shrotoshuddhi*, *deeptagni* (Increase in appetite) as well as *pachana* (digestion and absorption) is noticed.

It is also observed that the reduced *Rakta* (RBC and Hemoglobin) content in the body is again replenished by the stimulation of absorption of *loha* (Iron) content in the drug (*Guda*).

CONCLUSION

1. *Pandu* is a *SantarpanaJanyaVyadhi* and *Pitta* is involved predominantly.
2. The patients of poor economic status are prone than the middle class and the rich.
3. Patients consuming alcohol are more prone to the disease than non-alcoholics and non-smokers.
4. The patients consuming *Katu* and *AmlaRasaPradhanaahara* are more prone to the disease than those who consume *Madhurarasa*.
5. In *Pandu Roga*, vitiation of *pitta* is *Vriddhi*, but not *Ksheena*.
6. Females are more prone to this disease than males.
7. Pregnant women commonly come across the disease.
8. The people residing in urban areas are more prone to the disease than those residing in sub-urban and rural areas.
9. People with history of *Arshas*, *Asrigdara* and *Malaria* are more prone to the disease.
10. The age groups of 21-30 are more prone to this disease, followed by 31-40 and 11-20. Reproductive age group in India is between 21 and 30 years in general. This may be

the reason for occurrence of the disease. It is also seen that the age group of 11-20 is also prone to the disease because of their growing period and less intake of nutritious food is the real cause for occurrence of the disease.

11. The drug *GudaHareetaki* is highly effective in *Pandu*, when the associated *doshas* are mainly *Vata* and *Kapha*.
12. The drug can be administrated with *Ksheera*, in *Pitta Prakriti* patients.
13. The symptoms like *Dourabhlyata*, *Arudhi*, *AshaVairasya*, *Kasa*, *Swasa*, *AtiNidrata*, and *Shodha* can be relieved with the drug effectively.
14. Hemoglobin and RBC levels have gradually increased with oral intake of 12 grams of *GudaHareetaki* within a span of 15 days.
15. Gradual decrease in the ESR levels is noticed with the decrease of clinical symptoms after 15 days from day one of the treatment. This may be due to anodyne and anti-inflammatory actions of *Hareetaki*.
16. It is necessary to adjust the dosage of the drug and duration of treatment according to symptoms and signs, *prakriti* and *koshta* of the patients.
17. In a patient who presented with *Asrigdara*, *GudaHareetaki* is given along with *KumariAsav* No. 1 for 15 days.
18. In a patient with history of *Krimi Roga*, oral administration of *GudaHareetaki* alone made him pass *Ascaris* through faces. This is a significant finding, which also indicated that *GudaHareetaki* could be administered in *krimi Roga*.
19. *GudaHareetaki* is more effective in *Pandu Roga*, when the associated symptoms are *Dourbalyata*, *Angamardha*, *Kasa*, *Shodha*, *Mandagni*, and *Aruchi*.

References

1. Amarkosha, Amara simha, Choukambha Sanskrit series, Varanasi, 1957
2. AstangaHridaya, V. RamaswamyShastrulu & Sons, Vavilla press, Madras, 1954.
3. AstangaSangraha, Punyachlok Sri PanditLalachandra, Swati enterprises, Nagpur, 1989.
4. A Textbook of Pathology, William Byoid, 9th edition, 1990.
5. A Textbook of Pharacology, N Murgesh, Satya Publishers, Madhurai, 4th Edition, 1997.
6. Bhaishajya Ratnavali, Ambika DattaSastry, Choukambha Sanskrit Samsthan, Varanasi, 1981.
7. Charaka Samhita, Sripada Krishna MoorthyShastry, Sunrise printers, Rajahmundry, 4th Edition, 1989.
8. Clinical Medicine, Praveen Kumar Michael Clark, ELBS with Balliere, Tindall, 3rd Edition, 1994.
9. Clinical Hematology, Wintrob M M, 5th Edition.
10. Essentials of Medical Pharmacology, K.D. TripathiJapee Brothers Medical Publishers, PVT. Ltd., New Delhi. 1999.
11. Human Physiology, Arthur C. Guyton John E. Hall, Prism Books Pvt. Ltd. Bangalore, 9th Edition, 1996.
12. Introduction to Kayachikitsa, C. Dwarakanath, Choukamba Orientalia, Varanasi, 2nd Edition, 1986.
13. ShabdaKalpadruvam, Raja Radhakant Dev Bahadur, Vyaptistamisana Press, Calcutta, 1808.
14. ShabdasthomaMahanidhi, Sri TaranathTakravachaspathi, Veedanyantra Press, Calcutta, 1976.
15. Susruta Samhita, AmbikadattaSastry, ChoukambhaSamsthan, Varanasi, 4th Edition, 1979.

How to cite this article:

Vinay Mohan G and Rama Shastry V. V. S.2018, Clinical Efficacy of Guda-Haritaki (Jaggery-Terminalia Chebula) In The Management of Pandu Roga (Anaemia) . *Int J Recent Sci Res.* 9(5), pp. 27047-27051.
DOI: <http://dx.doi.org/10.24327/ijrsr.2018.0905.2176>
