

## PHARMACOGNOSTICAL STUDY OF PADMAK (PRUNUS CERASOIDES(D.DON)) AND ITS CLINICAL EFFICACY IN VARNYA

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### ABSTRACT

*Padmaka* i.e., *Prunus Cerasoides (D. Don)* is a medicine traditionally used for various skin disorders such as *daha*, *visphota*, *visarpa*, and disorders like *jwara*, *chardi*, *moha*, nasal bleeding, etc. The objective of this study is to assess the clinical efficacy of *Padmaka* in *Varnya*. For clinical efficacy of *Padmaka* in *Varnya*. The present Clinical Study was planned in a single group to manage the problem. The volunteers are between the age group of 15yrs to 50 yrs. were chosen. For the clinical study randomly selected 21 patients selected patients have given *Padmaka* powder 10 gm twice a day for local application twice a day for 60 days with a follow-up after 30 days during the trial. The overall effect of the therapies showed that 23.81% of volunteers were markedly improved, and 57.14% were moderately improved. However, 19.05% of the volunteers showed mild improvement in the therapy. The results show that except for oily skin in all other criteria i.e *daha*, dry skin, patches, skin tone, *Tvaka sarata*  $P < 0.01$ ,  $P < 0.001$  i.e., from moderately significant to highly significant.

**Key words:** *Padmaka*, *Prunus Cerasoides*, *Varnya*.

### INTRODUCTION

The definition of health is given by Ayurveda, in which, the equilibrium state of *Dosha*, maintenance of *Jatharagni*, equilibrium of the *Dhatus* as well as of *Malas*, well-functioning of all these and clarity of *Aatma*, sense organs and mind the person having all these is called in Healthy state. The equilibrium of all

the *Dhatus* is the root cause of *Vridhhi*, *Bala*, *Varna*, *Oja*, *Jatharagni*, *Medha*, *Ayu*, and *Sukha*, and the disturbed state of the same results in ailments <sup>(1)</sup>. Here, *Varna* is given as a sign of Health. All medical sciences aim at the alleviation of ailments, but ayurveda aims to maintain the equilibrium of the body

elements<sup>(2)</sup>. The equilibrium of the *Dosha* and *Dhatu*s is examined by many features, acquiring the normal *Varna* is one of them. In *Indriya Sthana* of *Caraka Samhita*, a whole chapter deals with the predisposing symptoms. Thus, *Varna* becomes of vital importance. Any unhealthy state of physique or the psyche would be reflected by the skin. It beautifies the person, as beauty manifests through the appearance of the complexion of the skin. Such type of conditions does not cause a painful manifestation, but it affects the person psychologically. *Tvak Vaivarnya* is such a type of condition. Only a few modern medicines are available, and they are incomplete to cure the disease totally. Moreover, those available medicines show many side effects. Therefore, there is a high need for a proper understanding of such problems in society through the Ayurvedic perspectives and to find out some effective steps of management. Hyper melanosis<sup>(3)</sup> is an increased amount of melanin in the skin. This excess may be confined to the epidermis when the skin appears browner than normal, or it may be present in the dermis, the skin having a slaty gray or blue appearance. The second type is hypo melanosis, in which melanin in the epidermis is decreased or absent<sup>(4)</sup>. Some humans have very little or no melanin synthesis in their bodies a condition known as albinism<sup>(5)</sup>.

According to ayurvedic texts, Padmaka is a plant with Ksaya, tikta rasa, katu vipaka, Laghu, snigdha guna, and sheet virya due to these attributes it has therapeutic uses in kushtha, visphota<sup>(6)</sup>, Daha, Trishna, Vamana<sup>(7)</sup>, Garbhasthapanam<sup>(8)</sup>

## MATERIAL AND METHODS

The clinical studies on the topic "PHARMACOGNOSTICAL STUDY OF PADMAKA (Prunus Cerasoides D. Don) AND ITS CLINICAL EFFICACY IN VARNYA" was approved by the Research Development Committee (RDC) of Uttarakhand Ayurved University, Harrawala. The clinical study was commenced thereafter

**1. Source of the drug:** The heartwood of *P. Cerasoides* was purchased from the local market. The authenticity of the sample was confirmed in the PG Department of Dravyaguna, UAC, Dehradun.

**2. Processing and preservation of sample:** The purchased drug was cut into small pieces and dried in shade. After drying the drug was finally powdered in disintegrator and then sieved in 80 mesh sieves. It was then packed and stored in an airtight container till further use.

**3. Dosage:** A dosage of 10 gm of *Padmaka* powder with water two times daily for local application.

**4. Number of patients:** A total of 21 female patients were selected for the study irrespective of cast, race, and religion

**5. Duration of treatment:** Total duration of treatment was for 60 days

**6. Follow-up:** After 30 days of the trial.

### 7. Inclusion criteria:

1. Female volunteers willing for trial
2. Volunteers having ages more than 20 years and less than 40 years
3. Volunteers have a difference between their exposed area(face) and unexposed area(thigh)

### 8. Exclusion Criteria:

1. Volunteers not willing for trial
2. Volunteers having ages less than 20 years and more than 40 years
3. Volunteers having any allergic reaction
4. Volunteers have no difference complexion in between their exposed and unexposed parts of the body

**9. Assessment Criteria:** The efficacy of therapy was assessed by subjective improvement in the *varna* of skin, however for statistical analysis some of the symptoms were also given scores. The scoring pattern adopted to assess the symptoms of the disease is as follows

1. Dry skin (*Rukshta*)

Grade 0 –Normal

Grade 1 –Mild dryness (not seen but felt by touch)

Grade 2 –Moderate dryness (stretching of the skin that person feels)

Grade 3-Severe dryness (visible dryness, chapping of the skin, and hardness of the skin)

2. Oily skin (*Snigdha*)

Grade 0-Normal

Grade 1-Mild oiliness (not seen with the naked eye, oiliness feels by touch)

Grade 2-Moderate oiliness (oiliness is visible on the skin, need to wash face frequently 3-4 times a day)

Severe oiliness (excessive oiliness, formation of acne, need to wash the face more frequently (more than 4 times a day)

3. Skin tone (as per Fitzpatrick scale)

Grade 0-Light and fair

Grade 1-Medium

Grade 2-Olive

Grade 3-Brown and Black

4. *Daha* (burning sensation in sun exposure)

Grade 0-No burning sensation

Grade 1-Mild burning sensation (occasional burning sensation mostly when the patient undergoes sun exposure)

Grade 2-Moderate burning sensation (frequent burning sensation which increases when the patient undergoes sun exposure)

Grade 3-Severe burning sensation (continuous burning sensation with or without sun exposure)

5. No. of patches

Grade 0- No patches

Grade 1- 1-5 patches

Grade 2- 6-10 patches

Grade 3- More than 10 patches

6. *Tvak Sarta*

According to *Acharya charaka vimanasthana*, 8/103 following seven *lakshanas* of *twak sarata* have been mentioned

1. Unctous

2. Smooth

3. Soft

4. Clear with fine sparsha

5. Deep-rooted hairs

6. Delicate hairs

7. Lustrous

Out of these seven numbers of *lakshanas* present in the volunteers will be graded here as under Grade 0 – 5-7, Grade 1 – 3-4, Grade 2 – 1-2, Grade 3 – 0

10. **Investigations:** Following is the list of investigations that were carried out in 21 patients of *vaivarnya* enrolled in the study

a. Hemogram – Routine haematological examination was done for Hb (haemoglobin)

b. TLC, DLC, ESR – To exclude any infection

c. Blood Sugar – Fasting blood sugar was done to ascertain the sugar level

#### 11) **Statistical analysis:**

The obtained data were analyzed statistically and expressed in terms of the mean score before treatment (BT), after treatment (AT), the difference of mean (BT-AT), standard deviation (SD), and standard error (SE). Overall percentage improvement of each patient was calculated by the following formula: Total BT-Total AT. Student Paired 't'-test was applied at  $p>0.05$ ,  $p<0.05$ ,  $p<0.01$ , and  $p<0.001$  to observe the significance of results obtained after treatment. The results were considered significant or insignificant depending upon the value of p

- Highly significant –  $p<0.001$
- Moderately significant –  $p<0.01$
- Significant –  $p<0.05$
- Insignificant –  $p>0.05$

The results thus obtained were categorized according to the following grades

- Cured – 100% relief in symptomatology
- Markedly improved -  $>75%$  -  $<100%$  Improvement in symptoms
- Moderately improved -  $>50%$  -  $<75%$  Improvement in symptoms
- Mildly improved -  $>25%$  -  $<50%$  Improvement in symptoms
- Unchanged -  $<25%$  Improvement in symptoms

## OBSERVATIONS & RESULTS

**Table 01:** Different symptoms-wise distribution of 21 cases

Sr no.	Symptom	Pt.	%
1	Dry skin	15	71.42%
2	Oily skin	7	33.34%
3	Skin tone	15	71.42%
4	Daha	10	47.61%
5	Patches	10	47.61%
6	Tvak sarata	13	61.90%

**Table 02:** Effect of therapy in 21 volunteers (paired t-test):

Sr. No.	Symptoms	Mean		% Relief		SD±	SE±	't'	P
		BT	AT	Diff.	%Age				
1.	Dry skin	1.4	.66	0.74	57%	0.53	0.11	6.4	<0.001
2.	Oily skin	.42	.42	0	0	0	0	0	>0.05
3.	Skin tone	2.1	.76	1.34	66%	0.50	0.11	12.9	<0.001
4.	Daha	.57	.23	.34	59%	0.48	0.10	3.1	<0.01
5.	Patches	.33	.09	.24	72%	0.43	0.09	2.5	<0.01
6.	Tvak sarata	.71	1.3	.59	46%	0.49	0.10	5.7	<0.001

Among 21 volunteers, 5 volunteers were markedly improved, 12 volunteers were moderately improved, 4 volunteers were mildly improved, and no volunteers remained unchanged.

## DISCUSSION

The present Clinical Study was planned in a single group to manage the problem. The trial cases were treated with *Padmakastha Churna Lepa* (10 gms /day for local application). The Lepa selected here was used for local application hence only the discolouration on the face is chosen here as it would limit the area of application, hence facilitating the local use of the medicine. Therefore, a small area only could be selected for the study e.g., the face. The volunteers are between the age group of 15yrs to 50 yrs. were chosen. The *Piita Kala* according to *Vaya* is the *Madhyama Vayah*, i.e., between 16 to 60 yrs. Again, during this time the hormonal changes start in the body. Hence skin related problems are more frequent during this period of age. 100% of volunteers were females because females are more conscious of their physical appearance. 90.48% of the volunteers were students. The study-related stress also can be considered as a *Hetu* here. The maximum no. of volunteers (76.2%) registered were of the age group between 21-30 years. Females have more changes in their sex hormones concentrations due to monthly cycles and as a result, they are more prone to have *Tvakvaivarnya* in certain age groups and at certain times. Expo-

sure to sun rays was observed in most of the volunteers (80.96%). Secondly, due to the excessive *Usnata* and *Rukshata*, especially due to the *Atapadhikya*, *Tvakvaivarnya* is predominantly seen. Due to this reason, *Grisma Ritu* was observed in most of the volunteers (66.66%) as an aggravating factor. Maximum numbers of volunteers were reported consuming *Katu*, *Kashaya*, *Amla*, and *Lavana Rasa* dominant diet. This type of diet aggravates the *Pitta Dosa* in the body which first vitiates the *Rakta Dhatu* and may result in *Varna Vikrti*. Maximum volunteers (80.96%) were having sun exposure of 1 – 2 hours per day for their routine work without the covering of the face, which results in the disturbance of *Varna* after a long time. These volunteers had come for the treatment after taking the Allopathic Medicines, because of the partial relief. Maximum volunteers were having patches of more than 2 in number, irregular shape, and dark brown colour. Among the volunteers, patients had irregular and non-elevated types of patches (28.57%). The overall effect of the therapies showed that 23.81% of volunteers were markedly improved, and 57.14% were moderately improved. However, 19.05% of the volunteers showed mild improvement in the therapy. The results show that except for oily skin in all other criteria i.e., daha, dry skin, patches, skin tone, Tvaka sarata P<0.01, P<0.001 that is from moderately significant to highly significant. The results show that except for oily skin in all other criteria i.e., daha, dry skin, patches, skin tone, Tvaka sarata

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## CONCLUSION

*Bhrajaka Pitta* is one of the main precursors of *Varna* and it resides in the skin. Any kind of local application over the skin, especially here *Padmakastha Churna Lepa* acts on the *Bhrajaka Pitta*. The drug is mainly *Vata-Pitta Samaka* with the action seen on the *Pitta Dosa* specifically. It is of *sheet Virya* and *Vishaghna guna*. By *Sheet Virya* it will avoid the excess increase of *Pitta* and will help *Samprapti Vighatana*. Thus clear the *Dosa-Dusyas Samurchhana* and helps in breaking down the Pathology of the *Vaivarnya*.

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