



Research Article

EFFICACY OF 'MADHUSIKTHADI LEPA' IN PADADARI**Chaitanya Shah¹, Sachin Rohani², Shende Krushnadev^{3*}, Vaibhav Tad⁴**¹Associate Professor, Dept. of Shalya Tantra, Dr.D.Y. Patil Ayurved College, Pune, M.S. India.²Assistant Professor, Dept. of Rog Nidana, Dr.D.Y. Patil Ayurved College, Pune, M.S. India.³Assistant Professor, ⁴Assistant Professor, Dept. of Kayachikitsa, Dr.D.Y. Patil Ayurved College, Pune, M.S. India.**KEYWORDS:** *Padadari, Kshudra roga, Madhusikthadi Lepa.***ABSTRACT**

Padadari is one of the commonest & most negligible diseases. It is observed that people are least bothered about their feet than their face. The feet bear the whole body weight. In India 80 % of population live in rural area. Most of them work in farms in wet soil and water also. So incidence of cracking the skin of the foot is very common. Poor people ignore this problem due to lack of consciousness about foot care or may be due to costly drugs. In Ayurveda, *Padadari* is described in *Kshudra roga* by Sushruta, Madhavanidana, Bhavaprakasha, Yogaratnakara etc. The signs, symptoms, pathogenesis and treatment of *Padadari* are mentioned in details which indicate that this disease was affecting the people since ancient times. It is mentioned that *Padadari* is caused due to *Vataprakopaka hetu* such as *Aticankramana* (i.e. excessive walking especially barefooted). In the initial stage of disease patient does not have any complaint. But as the disease progresses, it can lead to severe symptoms as acute pain, burning sensation, itching and even bleeding from cracks. Study was a small scale trial including 50 patients with a small duration of 11days. But after studying 15 patients for one more week (total 14 days), it was observed that 12 patients (80%) were totally symptom free. So we concluded that *Madhusikthadi lepa* gives better effects in long duration with proper *Pathyapalana*.

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Now days in developing countries like India, man has to compete for good economical status. In order to get such desired lifestyle, one has to face continuous busy and stressful life. These are also supplemented by fast food, tinned food (*Adhyashan, Viruddhashan*), leading to irregular dietary habits. All these factors including poor hygiene are predominant to develop chronic diseases, skin diseases, *Kshudraroga* like *Alasaka, Padadari, Mukhadooshika* (acne vulgaris) etc.

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In Ayurveda, *Padadari* is described in *Kshudra roga* by Sushruta, Madhavanidana, Bhavaprakasha, Yogaratnakara etc. The signs, symptoms, pathogenesis and treatment of *Padadari* are mentioned in details which indicate that this disease was affecting the people since ancient times. It is mentioned that *Padadari* is caused due to *Vataprakopaka hetu* such as

Aticankramana (i.e. excessive walking especially barefooted). In the initial stage of disease patient does not have any complaint. But as the disease progresses, it can lead to severe symptoms as acute pain, burning sensation, itching and even bleeding from cracks.

Ayurveda has mentioned two types of treatment in *Padadari*, *Antahparimarjan* and *Bahiparimarjan* which means respectively systemic and local therapy. In *Padadari* local treatment is more effective than systemic in short duration. Many *Bahya* (local) *Lepas* are mentioned in *Padadari chikitsa* in Ayurvedic samhita. In *Yogaratnakara Madhusikthadi lepa* is prescribed for "*Padadari*". Though the word '*Lepa*' has been used, the drug prepared is in the *Malahar* form. So meaning of '*Lepa*' should be taken as 'application' or 'spreading'. It contains *Madhusiktha, Saindhava, Ghrita, Gudh, Guggul & Gairik*. So this dissertation is an effort to reveal the total effect of all drugs together acting on "*Padadari*".

Purpose of selection of topic

1. Found number of people & patients suffering from *Padadari* in the BMF's Ayurved Hospital and most of them were unsatisfied with the previous treatment.
2. As per textual reference *Madhusikthadi lepa* is useful in *Padadari*.

- All ingredients of *Madhusikthadi lepa* are easily available.
- Madhusikthadi lepa* is easy to prepare and effective in short duration as per textual reference.

AIMS AND OBJECTIVES

- To study the efficacy of *Madhusikthadi lepa* in *Padadari*.
- To collect details about *Padadari* disease from Ayurvedic and Modern literature.
- To compare the disease from Ayurvedic and Modern point of view.
- To observe clinical studies by recording effect of *Madhusikthadi lepa* in *Padadari*.

Materials and Methods

The objective of the dissertation is to study the efficacy of *Madhusikthadi lepa* in *Padadari*.

Detailed Research Plan

- Review of Literature
- Standardization
- Clinical trials

Review of Literature

Primary Sources - All literature work regarding *Padadari & Madhusikthadi lepa*.

Secondary Sources

- *Bruhat trayee*
 - *Laghu trayee*
 - Related different commentaries
 - Related modern literature
 - Related research
 - Related journals
- Extensive review of literature from Ayurvedic samhita and modern texts was done regarding following points.
 - *Twak Sharira rachana* and *Kriya*
 - *Nidanpancaka* of *Padadari*
 - *Malahara kalpana*
 - *Dravya guna-karma* of drugs in *Madhusikthadi lepa*.
 - Previous study was incorporated and internet facility was used.

Authentication and standardization

Authentication and standardization of ingredients of *Madhusikthadi lepa* was done as per Ayurvedic pharmacopeia and Indian pharmacopeia.

3. Clinical trials: The clinical study was done in Bharati Ayurvedic Hospital, Pune.

Selection of patients: Randomized, uncontrolled clinical trial was carried out on 50 patients.

Inclusion criteria

- Patients having signs and symptoms of *Padadari* were included irrespective of sex, religion, economical status, education, occupation.
- Patients between age 15 to 75 years were included.
- Patients who had given written consent.

Exclusion criteria

- Patients with bleeding cracks

Medications permitted during trials: Ongoing medications such as antihypertensive, anti diabetic treatment etc.

Medications which were not permitted during trials

- Corticosteroids
- Internal and local analgesics and anti-inflammatory drugs and ointments.

Preparation of *Madhusikthadi lepa*

Ingredients

- Madhusiktha*
 - Saindhava*
 - Gudha*
 - Guggul*
 - Gairik*
 - Go ghrita*
- In Equal Parts

Procedure

- A pot was taken and heated on gas. Then *Madhusiktha* was added in it. Allowed it to melt.
- Guda, Saindhava, Guggul* and *Gairik churna* were taken and mixed in the above melted *Madhusiktha*.
- It was mixed properly and then *Goghrita* was added as per requirement.
- The pot of mixture was kept in the hot water tub and was mixed continuously till it became smooth. Ointment was kept in sterile and clean container.

Figure 1: *Madhusikthadi Lepa*



Procedure of administration

Trial treatment - *Madhusikthadi lepa* in *Padadari*.

Rout - *Sthanik - Padapradeshi - Bahyata*

Bandage Changing Time - Every morning

Form - *Lepa* (Ointment)

Kala - Alternate Days.

Duration of treatment - 11 days.

Follow up - 1st, 3rd, 5th, 7th, 9th, 11th day

Follow after 11th day (if necessary)

On the first visit patients were explained the nature of medicine, its purpose, its method of application. Before application thorough cleaning of the feet was advised. Patients were instructed to keep the feet in lukewarm water for 15 to 20 minutes and to clean with a brush or foot scrapper, then to wrap with a clean cloth and allow the feet to dry. Then *Lepa* was applied

uniformly over the planter aspect of the feet till all the fissures of feet get filled with *Lepa* or ointment. They were asked to use socks and sleepers or bandages the whole day during the treatment span.

Other instructions given to the patient: Dietary instruction and *Nidana parivarjana* were advised to the patients. They were also asked to report any abnormal sign and symptoms during the treatment. Follow up of the patients were taken on day 1st, 3rd, 5th, 7th, 9th, 11th.

Action of Madhusikthadi lepa in Padadari

Padadari is caused by *Vataprakopaka hetu* (e.g. *Aticankramana*). So the *Samprapti* of *Padadari* is occurred due to increased *Ruksha*, *Laghu* and *Shita guna* (esp. *Ruksha*) of *Vata*.

So according to *Samanya-Visheshha siddhanta* of *Chikitsa*, for the *Sampraptibhanga* of *Padadari snigdha*, *guru*, *Ushna gunatmaka dravyas* are required.

In *Madhusikta lepa ghrita* is having *Madhura*, *guru*, *Snigdha guna* which acts as a *Vatakapha shamak*, *Vranashodhaka*, *Vranaropaka*.

Madhusiktha is having *Mrudu*, *Snigdha guna* and is *Mardavakar*, *Vatashamaka*, *Vranshodhaka*, *Vranaropaka*, *Jantughna*.

Saindhava lavana is having *Madhura rasa*, *Ushna*, *guru*, *Snigdha guna* and acts as *Vatasamka*, *Lekhana*.

Guggul is having *Sandhaniya* of *Dari*, *Vatashaman*, *Lepan karma*.

Guda, *Guggulu*, & *Gairika* is having *Vatakaphanashaka guna*.

Thus the total effect of *Madhusiktadi lepa* in *Padadari* is *Vranashodhaka*, *Vranaropaka*, *Mardavakara*, *Vedanashamak*, *Dahashamaka*, *Twakprasadaka* and *Vata-Kaphasamaka*.

Guggul reduces pain. *Madhusiktha* and *Ghritha* reduce dryness by giving moisture to skin and soften the skin by *Snigdha guna*.

Thus the total effect of the *Lepa* in *Padadari* is *Vransodhaka*, *Mardavkara*, *Vedansthapaka*, *Dahasmaka*, *Twakprasadaka* and *Vatapittasamaka*.

Criteria of Assessment

1. A special case paper was prepared incorporating all signs and symptoms of *Padadari*.
2. The photographic record of patient's lesion was kept before and after treatment.
3. Gradation scale according to sign and symptoms was assessed before and after treatment on the basis of changes in gradation.
4. Visual analog scale was used.

Efficacy Parameters

- Numbers of *Dari* (fissure)
- Measurement of *Dari*
- Visual analog scale

Table 1: Gradation Chart

Signs	0 (No)	1 (Mild)	2 (Moderate)	3 (Severe)
1.Average Length of <i>Dari</i>	Absent	< 1cm	1.0 - 1.5cm	> 1.5 cm
2.Average Width of <i>Dari</i>	Absent	< 0.1cm	0.1-0.2cm	>0.2cm
3. Distribution of <i>Dari</i>	Absent	At heal	Heal with whole border of feet	Whole foot
4. Number of <i>Dari</i> (fissure)	Absent	<20	20 to 30	> 30
5. Symptoms <i>Shoola</i> , <i>Daha</i>	Absent	Precipitating Time to time	Continuous during movement	Unable to do any movement

- Total number of cracks of both the feet was counted. Minute fissures were ignored.
- Average length and width of fissure were taken by using a thread and then measured on a standard scale.

Visual analog scale (VAS): Visual analog scale was used to assess 2 parameters, mentioned in *Padadari* namely *Shoola* (pain), *Daha* (burning sensation). There was a 10 cm horizontal line for 1st and last day assessment. There was a '0' marking on left side end and '10' on right hand side end. '0' indicated absolutely no symptom. '10' indicated severe most symptoms. Each centimetre indicated digits from 0 to 10, patients were asked to grade their symptoms and define in numbers.

The relief in pain for VAS was calculated according to following formula,

$$\% \text{ of relief} = \frac{IpO - IpL}{IpO} \times 100$$

Where, IpO - is intensity of symptom on 0th day of trial

IpL - is intensity of symptom on last day of trial

Percentage of efficacy

% Result

- 0 No improvement
- 1-25 Poor
- 26-50 Average
- 51-75 Good
- 76-100 Excellent

Table 2: Study flow chart

Sr. No.	Visit day	1 st	8 th
1	Complete history	✓	
2	Informed Consent	✓	
3	Physical examination	✓	
4	Case paper recording	✓	✓
5	Assessment chart	✓	✓
6	Visual analog scale	✓	✓
7	Photographic record	✓	✓

Observation and Results

After the clinical study, occurrences of various incidences in *Padadari* are shown in the form of charts and tables. Incidence of age, sex, diet, *Prakriti*, etiological factors and symptoms are Shown accordingly. The tables and charts Showing Excellent, good, average, poor results and *Anupashaya* of the clinical study are also mentioned in this chapter.

Demographic Data**Table 3: Length of Padadari**

Length of Dari	Day-1	Day-3	Day-5	Day-7	Day-9	Day-11
Score-0	-	-	-	8	16	38
Score-1	27	27	28	38	33	12
Score-2	23	23	22	4	1	-

Table 4: Width of Padadari

Width of Dari	Day-1	Day-3	Day-5	Day-7	Day-9	Day-11
Score-0	-	-	-	21	45	50
Score-1	49	49	49	29	5	-
Score-2	1	1	1	-	-	-

Table 5: Distribution of Padadari

Distribution of Dari	Day-1	Day-3	Day-5	Day-7	Day-9	Day-11
Score-0	-	-	-	3	10	30
Score-1	33	33	35	46	40	20
Score-2	17	17	15	1	-	-

Table 6: No. of Padadari

No. of Dari	Day-1	Day-3	Day-5	Day-7	Day-9	Day-11
Score-0	-	-	-	15	45	49
Score-1	28	28	32	35	5	1
Score-2	22	22	18	-	-	-

Table 7: Shula in Padadari

Shula Daha	Day-1	Day-3	Day-5	Day-7	Day-9	Day-11
Score-0	-	-	7	20	44	45
Score-1	9	9	21	30	6	5
Score-2	41	41	22	-	-	-

Table 8: Age in yrs

Age in yrs	No. of cases
20 - 29	24
30 - 39	9
40 - 49	13
50 +	4

Table 9: Sex wise

Sex	No. of cases
Males	19
Females	31

Table 10: Occupation wise

Occupation	No. of cases
Retired	1
Service	43
HW	6

Table 11: Length of Dari

Length of Dari	Day-1		Day-11		Wilcoxon Signed Ranks Test Z	P
	Mean score	Sd	Mean score	Sd		
Trial	1.46	0.503	0.24	0.431	6.352	<0.001 HS

Table 12: Width of Dari

Width of Dari	Day-1		Day-11		Wilcoxon Signed Ranks Test Z	P
	Mean score	Sd	Mean score	Sd		
Trial	1.02	0.141	0.0	0.000	7.005	<0.001 HS

Table 13: Distribution of Dari

Distribution of Dari	Day-1		Day-11		Wilcoxon Signed Ranks Test Z	P
	Mean score	Sd	Mean score	Sd		
Trial	1.34	0.479	0.40	0.495	6.179	<0.001 HS

Table 14: No. of Dari (fissure)

No. of Dari	Day-1		Day-11		Wilcoxon Signed Ranks Test Z	P
	Mean score	Sd	Mean score	Sd		
Trial	1.44	0.501	0.02	0.141	6.365	<0.001 HS

Table 15: Shula Daha

Shula Daha	Day-1		Day-11		Wilcoxon Signed Ranks Test Z	P
	Mean score	Sd	Mean score	Sd		
Trial	1.82	0.388	0.10	0.303	6.472	<0.001 HS

Table 16: Length of Padadari

Length of Dari	Mean score	Sd
Day-1	1.46	.503
Day-3	1.46	.503
Day-5	1.44	.501
Day-7	.92	.488
Day-9	.70	.505
Day-11	.24	.431

Table 17: Width of Padadari

Width of Dari	Mean score	Sd
Day-1	1.02	.141
Day-3	1.02	.141
Day-5	1.02	.141
Day-7	.58	.499
Day-9	.10	.303
Day-11	.00	.000

Table 18: Distribution of Dari (fissure)

Distribution of Dari	Mean score	Sd
Day-1	1.34	.479
Day-3	1.34	.479
Day-5	1.30	.463
Day-7	.96	.283
Day-9	.80	.404
Day-11	.40	.495

Table 19: No. of Padadari

No. of Dari	Mean score	Sd
Day-1	1.44	.501
Day-3	1.44	.501
Day-5	1.36	.485
Day-7	.70	.463
Day-9	.10	.303
Day-11	.02	.141

Table 20: Shula in Padadari

Shula Daha	Mean score	Sd
Day-1	1.82	.388
Day-3	1.82	.388
Day-5	1.30	.707
Day-7	.60	.495
Day-9	.12	.331
Day-11	.10	.303

Picture No.B-1: Before & After Treatment

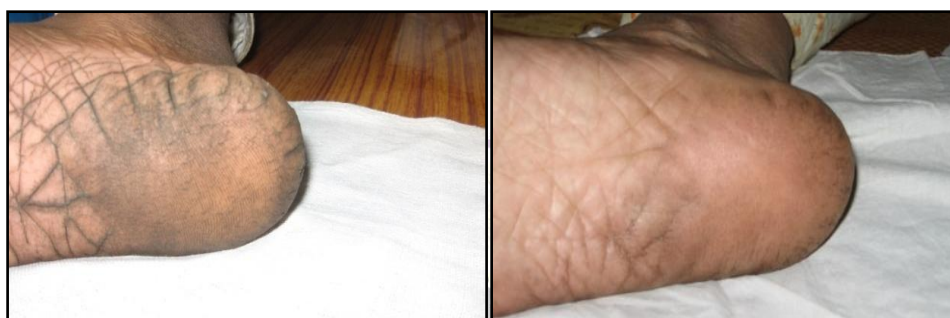
Before treatment

After treatment

OPD NO. 47258



OPD NO. 76820



OPD NO. 3792

**DISCUSSION**

After focusing the observations made and analyzing the data, we got the result that drug is effective in the conducted trial. The trial was conducted on a sample size of fifty.

Discussion about general observations

1) According to age - The maximum patients were belonging to age group 20-29 and then 40-49 years. This Shows that incidence of *Padadari* is more in middle age group as they are more prone to etiological factors of *Padadari*.

2) According to sex - Among the 50 patients, 31 patients were females & male were 19 patient. This indicates that females are more prone to this disease. It

was due to etiological factor like excessive exposure to cold (i.e. water, floor etc.)

3) According to occupation - Maximum patients observed were service (43) and then housewives (6) & retired (1).

4) According to length of *Dari* - Patient have mild symptom 27 & moderate symptom 23 & have got result 76%.

5) According to width of *Dari* - Patient have mild symptom 49 & moderate symptom 1 & have got result 90% which was excellent result of *Lepa*.

6) According to distribution of Dari - 33 patients have at heal with border & 17 at whole foot & got 30 patients complete relief of distribution of Dari i.e. 60%.

7) According to No. of Dari - 28 patients have mild symptom & 22 patients have moderate symptom & got 49 patients have complete relief i.e. excellent relief.

8) According to Shula & Daha - 41 patients have moderate symptom & 9 patients have mild symptom. Have got excellent relief from *Shula & Daha* i.e. 45 (90%) patients.

In the present study *Madhusikthadi lepa* was tested against 7 parameters and had seen clinically effective in decreasing the no. of cracks, *Shoola* and *Daha*. *Madhusikthadi lepa* had shown quick results in *Padashoola* and *Padadaha* within 4-5 days of treatment and filling of cracks totally within 9 days in 90% of the patients. It was also observed that patients who had followed *Pathya- Apathya* (e.g. using foot wears, avoiding contact with cold etc) properly got good results.

Total effect of *Madhusikthadi lepa* is *Vata-Pitta Shamaka, Vranshodhaka, Vranaropaka, Vedanasthapaka* and *Dahashamaka*. So it was seen effective in *Padadari*. *Sanhanan Shakti* of *Pada pradeshi* increase due to *Madhusikthadi lepa* of patient.

The trial conducted in this study was a small scale trial including 50 patients with a small duration of 11 days. Thus *Madhusikthadi lepa* gives better effects in long duration with proper *Pathyapalana*.

CONCLUSION

- After analyzing all the data and the observations, we concluded that application of *Madhusikthadi lepa* (ointment) is effective in *Padadari*.
- In Ayurvedic texts *Padadari* is included in *Kshudra roga* while in Modern medicine it is included as a sign and symptom in many other diseases like Psoriasis, eczema etc.
- In *Padadari* symptoms like *Daha, Kanḍoo*, bleeding are present which are not mentioned in Ayurvedic texts.
- *Madhusikthadi lepa* (ointment) was more effective in symptoms like pain and burning sensation than itching approximately within 4 to 5 days. It had

shown excellent results in 56% patients of *Shoola*, 44% patients of *Daha*.

- The fissures were filled totally within 9 days in 90% of the patients.
- *Madhusikthadi lepa* had shown excellent result in 33% of the patients, good result in 7% and average result in 40% of the patients within 7 days.
- No adverse effect of *Madhusikthadi Lepa* was found in this study.
- This trial conducted a small scale trial including 50 patients with a small duration of 11days. But after studying 15 patients for one more week (total 14 days), it was observed that 12 patients (80%) were totally symptom free. So we concluded that *Madhusikthadi lepa* gives better effects in long duration with proper *Pathyapalana*.
- Drug is cost effective.

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