WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
Coden USA: WJPRAP Impact Factor 8.63
Volume 15, Issue 22, 906-927. Research Article ISSN 2277–7105

A COMPARATIVE CLINICAL STUDY OF PALASHA KSHARA AND APAMARGA KSHARA IN THE MANAGEMENT OF CHARMAKEELA WITH SPECIAL REFERENCE TO WARTS

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Article Received on 17 Oct. 2026,
Article Revised on 05 Nov. 2026,
Article Published on 16 Nov. 2026

https://doi.org/10.5281/zenodo.24300063

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How to cite this Article: Dr. Indu S.[1]*, Uday D. K.[2], Meera K. Baby[3]. (2026). A Comparative Clinical Study of Palasha Kshara and Apamarga Kshara in the Management of Charmakeela with Special Reference to Warts. World Journal of Pharmaceutical Research, 15(22), 906–927.
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ABSTRACT

Background: *Charmakeela* is a common dermatological condition described under *Kshudraroga* in classical Ayurvedic texts, characterized by peg- or nail-shaped immovable skin sprouts produced by the vitiation of *Vyana Vayu* associated with *Kapha*. Clinically, it closely correlates with warts (verrucae) caused by the Human Papillomavirus (HPV). Conventional management modalities (e.g., cryotherapy, electrosurgery, topical keratolytics) often have drawbacks including high recurrence, cost, and scarring. *Acharya Sushruta* highlighted *Kshara Karma* as a superior, minimally invasive parasurgical modality capable of *Chedana*, *Bhedana*, and *Lekhana* actions without severe complication. While *Apamarga Kshara* is conventionally used, *Palasha* (*Butea monosperma*) is readily available and classical texts emphasize its *Sothahara* and *Kapha-Vatahara* properties. **Aims & Objectives:** 1. To prepare *Palasha Pratisaraneeya Teekshna Kshara* and *Apamarga Pratisaraneeya Teekshna Kshara*. 2. To evaluate and compare the therapeutic efficacy of *Palasha Kshara Pratisarana* versus *Apamarga Kshara Pratisarana* in the management of *Charmakeela* (warts). **Materials and Methods:** A randomized comparative clinical trial was conducted on 60 patients presenting with signs and

symptoms of *Charmakeela* (warts), meeting strict inclusion criteria. Patients were allocated equally into two groups (n = 30 each):

- **Group A (Study Group):** Managed with local application of *Palasha Pratisaraneeya Kshara* following *Samyak Lekhana* with *Mandalagra Shastra*, neutralized with *Nimbu Swarasa*, followed by *Jatyadi Ghrita* dressing for 7 days.
- **Group B (Control/Standard Group):** Managed similarly using *Apamarga Pratisaraneeya Kshara*. Clinical parameters (Pain, Itching, Size of Wart, Tenderness, and Surrounding Area involvement) were evaluated pre-treatment and on days 1, 3, 7, 14, and 21. Statistical analysis was performed using Jamovi (v2.3) using Wilcoxon signed-rank test, paired t*t*-test, and Mann–Whitney U*U*test. **Results:** Both groups demonstrated statistically significant clinical improvement across all assessed parameters, including pain, itching, wart size, tenderness, and surrounding tissue inflammation. In the Palasha Kshara group, the mean overall score decreased markedly from before treatment to after treatment, showing marked clinical improvement with a very large effect size. Similarly, the Apamarga Kshara group exhibited a highly significant reduction in overall symptom severity, demonstrating excellent therapeutic efficacy. Comparison between the two groups revealed no statistically significant difference in improvement scores or post-treatment outcomes, confirming that Palasha Kshara and Apamarga Kshara are similarly effective in the management of Charmakeela. Physicochemical analysis showed that both alkaline preparations maintained a strongly caustic alkaline pH greater than twelve at room temperature. **Conclusion:** *Palasha Pratisaraneeya Kshara* is as therapeutically effective as the standard *Apamarga Pratisaraneeya Kshara* in the management of *Charmakeela* (warts), providing safe tissue necrosis, detachment of hyperkeratotic mass, and uneventful healing without recurrence or noticeable scarring.

KEYWORDS: *Charmakeela*, Warts, Verruca vulgaris, *Palasha Kshara*, *Apamarga Kshara*, *Kshara Karma*, *Jatyadi Ghrita*.

1. INTRODUCTION

Charmakeela is an affliction classically described under the purview of *Kshudraroga*. *Acharya Sushruta* records that when deranged *Vyana Vayu* combines with *Kapha*, it produces nail- or peg-shaped, firm, immovable growths on the exterior skin surface designated as *Charmakeela* or *Charma Arsha*. In contemporary medical science, the clinical manifestation of *Charmakeela* directly corresponds to viral warts (verrucae)—benign epidermal

proliferations induced by Human Papillomavirus (HPV) infection of stratified squamous keratinocytes.

Conventional clinical therapeutics comprise chemical destruction (salicylic acid, lactic acid, trichloroacetic acid), cryosurgery with liquid nitrogen, electrosurgery/cautery, laser ablation, or sharp curettage. However, many of these therapies provoke procedural pain, delayed wound healing, noticeable cicatrization/scarring, pigmentary changes, and notable recurrence rates exceeding 30–50%.

Ayurvedic surgical lore offers *Kshara Karma* (application of medicinal alkali), categorized as an *Anushastra* (parasurgical substitute), which possesses the unique inherent capabilities of performing *Chedana* (excision), *Bhedana* (incision), and *Lekhana* (scraping), along with *Tridoshahara* attributes. Because of its caustic, chemical coagulative, and debriding properties, *Kshara* selectively lyses diseased hyperkeratotic tissue without systemic dissemination. While *Apamarga* (*Achyranthes aspera*) is widely regarded as the standard source drug for preparing alkaline preparations, *Palasha* (*Butea monosperma*) is classically enumerated by *Acharya Sushruta* among the 26 prime alkaline plants (*Kshara Gana*). *Palasha* exhibits marked *Katu*, *Tikta*, *Kashaya* tastes, *Laghu-Ruksha* qualities, *Ushna Virya*, and potent *Sothahara* (anti-inflammatory) and *Kapha-Vatahara* therapeutic profiles, making it an accessible, abundant alternative to *Apamarga*.

The present investigation was therefore formulated as a controlled comparative clinical evaluation to validate the clinical efficacy and safety of *Palasha Pratisaraneeya Kshara* in comparison with standard *Apamarga Pratisaraneeya Kshara* in the management of *Charmakeela* (warts).

2. AIMS AND OBJECTIVES

1. To prepare *Palasha Teekshna Pratisaraneeya Kshara* and *Apamarga Teekshna Pratisaraneeya Kshara* according to classical Ayurvedic pharmaceutical methods.
2. To clinically evaluate the therapeutic efficacy of *Palasha Kshara Pratisarana* in patients suffering from *Charmakeela*.
3. To compare the relative therapeutic efficacy of *Palasha Kshara* versus standard *Apamarga Kshara* in the management of *Charmakeela* with special reference to warts.

3. MATERIALS AND METHODS

3.1 Source of Data

- **Literary Source:** Classical treatises (*Sushruta Samhita*, *Charaka Samhita*, *Astanga Sangraha*, *Astanga Hridaya*, *Bhavaprakasha*, *Chakradatta*, *Bhaishajya Ratnavali*, *Rasa Tarangini*) and contemporary surgical and dermatological medical literature.

- **Drug Source:** Authentic raw material (*Twak* / whole plant *Panchanga*) of *Palasha* (*Butea monosperma*) and *Apamarga* (*Achyranthes aspera*), along with limestone (*Shukti/Sudha*) and *Chitraka* (*Plumbago zeylanica*), were sourced, authenticated, and prepared into *Teekshna Pratisaraneeya Kshara* at the Pharmacy of Karnataka Ayurveda Medical College, Mangalore. *Jatyadi Ghrita* was also prepared as per standard pharmacopoeial procedures.

- **Sample Source:** Patients diagnosed with *Charmakeela* (warts) attending the Outpatient and Inpatient Departments of *Shalya Tantra*, Karnataka Ayurveda Medical College & Hospital, Mangalore, as well as peripheral medical camps.

3.2 Sample Size Estimation

Based on matched-pair hypothesis testing on continuous outcome differences (H0:μd=0*H*0:*μd* =0vs. H1:μd≠0*H*1:*μd*□=0), the required sample size was calculated using: n=(z1−α/2+z1−βES)2*n*=(*ES*z1−*α*/2+z1−*β*)2 Assuming α=0.05*α*=0.05(z1−α/2=1.96z1−*α*/2 =1.96), a power of 85% (z1−β=1.04z1−*β*=1.04), a targeted clinically significant difference of 4 points on the overall symptom score scale, and a standard deviation (σd*σd*) of 7 units:ES=μdσd=47≈0.571*ES*=*σdμd*=74≈0.571 n=(1.96+1.040.571)2≈27.7*n*=(0.5711.96+1.04)2≈27.7 Thus, a sample size of 30 patients per group (total N=60*N*=60) was established.

3.3 Selection Criteria

- **Inclusion Criteria**

1. Patients of either sex aged between 18 and 65 years.
2. Established clinical features of *Charmakeela* (common warts / verrucae) where *Kshara Karma* is indicated.

- **Exclusion Criteria**

1. Patients aged <18years or >65 years, and pregnant females.
2. Warts located on the genital region or venereal warts (*Condylomata acuminata*).
3. Deeply seated, broad-based lesions requiring extensive surgical reconstruction.

4. Patients suffering from uncontrolled systemic illnesses (Diabetes Mellitus, Tuberculosis, HIV infection, or active malignancies).
5. General contraindications for *Kshara Karma* as mentioned by *Sushruta* (e.g., severe *Pitta Prakriti* dominance).

3.4 Interventions & Study Design

A total of 60 patients were randomly allocated into two equal cohorts of 30 each:

- **Group A:** Treated with topical application of *Palasha Pratisaraneeya Kshara*.
- **Group B:** Treated with topical application of *Apamarga Pratisaraneeya Kshara*.

Procedural Protocol

1. **Poorva Karma (Pre-procedure):** The affected site was disinfected using sterile Normal Saline under strict aseptic conditions. The hyperkeratotic surface of the wart was gently scarified (*Samyak Lekhana*) using a sterile *Mandalagra Shastra* to remove the impervious keratin coat and expose vascularized papillae.

2. **Pradhana Karma (Operative procedure):** Freshly prepared *Teekshna Pratisaraneeya Kshara* was applied precisely to the lesion using a *Kshara Karma Shalaka*. The application was maintained for 100 *Matrakala* (approx. 1 to 2 minutes) until the appearance of *Samyak Dagdha Lakshana* (characterized by a *Pakva Jambuphala Varna*—blackish/purplish discoloration resembling a ripe blackberry). Immediately thereafter, the caustic alkali was neutralized by thorough lavage with fresh *Nimbu Swarasa* (lemon juice, an acidic counter-agent).

3. **Paschat Karma (Post-procedure):** The treated area was dressed with *Jatyadi Ghrita* and bandaged. Daily cleansing and dressing with *Jatyadi Ghrita* was continued for 7 days.

Duration of Study: The operative procedure was administered in a single sitting. Clinical assessments were documented at baseline (Day 0) and post-treatment on Days 1, 3, 7, 14, and 21.

3.5 Assessment Criteria and Scoring

Therapeutic response was graded using a four-point ordinal scale (0 to 3) covering subjective and objective variables:

1. **Pain (*Toda*)**
   - Grade 0 (Nil): No pain.

- Grade 1 (Mild): Occasional localized feeling of pain.
- Grade 2 (Moderate): Moderate localized pain interfering with normal functions.
- Grade 3 (Severe): Continuous pain even during rest, demanding constant attention.

2. **Itching (*Kandu*)**

- Grade 0 (Nil): No itching.
- Grade 1 (Mild): Occasional localized itching.
- Grade 2 (Moderate): Intermittent localized itching.
- Grade 3 (Severe): Continuous, intense localized itching.

3. **Size of Wart (Diameter in cm)**

- Grade 0: <0.25 cm.
- Grade 1: 0.26 to 0.50 cm.
- Grade 2: 0.51 to 1.0 cm.
- Grade 3: >1.0 cm.

4. **Tenderness (*Vedana*)**

- Grade 0 (Nil): No tenderness on touch.
- Grade 1 (Mild): Allows touch without distress.
- Grade 2 (Moderate): Winces upon touch.
- Grade 3 (Severe): Resists and does not permit touch.

5. **Surrounding Area of Wart**

- Grade 0: Normal (no edema, no discoloration).
- Grade 1: Slight inflammation with normal skin hue.
- Grade 2: Slight edema with reddish erythema.
- Grade 3: Notable edema with dark/blackish discoloration.

4. RESULTS AND OBSERVATIONS

A total of 60 patients fulfilling the inclusion criteria were randomly selected for the study. They were divided into two groups as Group A and Group B, consisting of 30 patients in each group. All registered participants completed the entire course of intervention and follow-up without dropouts.

4.1 Demographic and Baseline Characteristics

Table 1: Distribution of Participants According to Age Group.

Age Group (Years)	Apamarga Kshara	Palasha Kshara	Total	Percentage
18–25	1	7	8	13.3%
26–35	13	6	19	31.7%
36–45	12	10	22	36.7%
46–55	4	7	11	18.3%
Total	**30**	**30**	**60**	**100%**

Table 2: Descriptive Statistics of Age Distribution of Study Participants (N=60*N*=60).

Variable	N	Mean	SD	Median	IQR	Minimum	Maximum
Age	60	36.367	8.483	36	12.25	18	52

Table 3: Distribution of Participants According to Gender.

Gender	Apamarga Kshara	Palasha Kshara	Total	Percentage
Female	13	24	37	61.7%
Male	17	6	23	38.3%
Total	**30**	**30**	**60**	**100%**

Table 4: Distribution of Participants According to Religion.

Religion	Apamarga Kshara	Palasha Kshara	Total	Percentage
Christian	0	3	3	5.0%
Hindu	29	25	54	90.0%
Muslim	1	2	3	5.0%
Total	**30**	**30**	**60**	**100%**

Table 5: Distribution of Participants According to Dietary Habits.

Diet	Apamarga Kshara	Palasha Kshara	Total	Percentage
Non-veg	17	19	36	60.0%
Veg	13	11	24	40.0%
Total	**30**	**30**	**60**	**100%**

Table 6: Distribution of Participants According to Family History.

Family History	Apamarga Kshara	Palasha Kshara	Total	Percentage
No	21	20	41	68.3%
Yes	9	10	19	31.7%
Total	**30**	**30**	**60**	**100%**

Table 7: Distribution of Participants According to Number of Warts.

No. of Warts	Apamarga Kshara	Palasha Kshara	Total	Percentage
Multiple	20	16	36	60.0%
Single	10	14	24	40.0%
Total	**30**	**30**	**60**	**100%**

Table 8: Distribution of Participants According to Site of Wart.

Site	Apamarga Kshara	Palasha Kshara	Total	Percentage
Face	6	17	23	38.3%
Face & Neck	11	7	18	30.0%
Finger	0	1	1	1.7%
Lower limb	3	5	8	13.3%
Neck	7	0	7	11.7%
Other	1	0	1	1.7%
Upper limb	2	0	2	3.3%
Total	**30**	**30**	**60**	**100%**

Table 9: Distribution of Participants According to Occupation.

Occupation	Apamarga Kshara	Palasha Kshara	Total	Percentage
Student	2	7	9	15.0%
Office	10	6	16	26.7%
Housewife	11	14	25	41.7%
Engineer	3	1	4	6.7%
Labor	2	1	3	5.0%
Teacher	2	1	3	5.0%
Total	**30**	**30**	**60**	**100%**

Table 10: Distribution of Participants According to Marital Status.

Marital Status	Apamarga Kshara	Palasha Kshara	Total	Percentage
Unmarried	2	6	8	13.3%
Married	28	24	52	86.7%
Total	**30**	**30**	**60**	**100%**

Table 11: Distribution of Participants According to Socioeconomic Status.

Social Status	Apamarga Kshara	Palasha Kshara	Total	Percentage
Middle Class	24	25	49	81.7%
Rich	3	3	6	10.0%
Poor	3	2	5	8.3%
Total	**30**	**30**	**60**	**100%**

4.2 Analytical Study of Test Drugs

Physicochemical analysis performed at the Sri Dharmasthala Manjunatheshwara Centre for Research in Ayurveda and Allied Sciences, Udupi, confirmed the following parameters:

- **Apamarga Pratisaraneeya Kshara:** Greyish-white color, semi-solid consistency, pH>12.0pH>12.0at room temperature.
- **Palasha Pratisaraneeya Kshara:** Greyish-white color, semi-solid consistency, pH>12.0pH>12.0at room temperature.

4.3 Normality Tests and Inferential Statistics

Table 12: Assessment of Normality for Outcome Variables in the Palasha Kshara Group.

Variable	Shapiro–Wilk Test Statistic	p*p* -value
Pain_BT – Pain_AT	0.859	<0.001<0.001
Itching_BT – Itching_AT	0.787	<0.001<0.001
Size_BT – Size_AT	0.404	<0.001<0.001
Tenderness_BT – Tenderness_AT	0.689	<0.001<0.001
Surrounding_BT – Surrounding_AT	0.404	<0.001<0.001
Overall Score BT – Overall Score AT	0.964	0.401

Table 13: Effect of Palasha Kshara on Individual Clinical Parameters (n=30*n*=30).

Variable	Time	Mean (SD)	Median (IQR)	Test Statistic (W*W*)	p*p* -value	Effect Size
Pain	Before After	0.700 (0.794) 0.067 (0.254)	0.5 (1.0) 0.0 (0.0)	141	0.002	0.843
Itching	Before After	0.800 (1.126) 0.100 (0.305)	0.0 (1.75) 0.0 (0.0)	85	0.006	0.868
Size	Before After	1.267 (0.521) 0.133 (0.434)	1.0 (0.0) 0.0 (0.0)	465	<0.001<0.001	1.000
Tenderness	Before After	0.967 (1.066) 0.133 (0.346)	0.0 (2.0) 0.0 (0.0)	105	<0.001<0.001	1.000
Surrounding Area	Before After	1.300 (0.466) 0.167 (0.379)	1.0 (1.0) 0.0 (0.0)	465	<0.001<0.001	1.000

Table 14: Effect of Palasha Kshara on Overall Score (n=30*n*=30).

Variable	Time	Mean (SD)	Median (IQR)	Mean Difference	Test Statistic (t*t*)	p*p* -value	Effect Size (Cohen's d*d*)
Overall Score	Before After	5.033 (1.884) 0.600 (0.894)	5.0 (2.0) 0.0 (1.0)	4.433	14.322	<0.001<0.001	2.615

Table 15: Assessment of Normality for Outcome Variables in the Apamarga Kshara Group.

Variable	Shapiro–Wilk Test Statistic	p*p*-value
Pain_BT – Pain_AT	0.861	0.001
Itching_BT – Itching_AT	0.742	<0.001<0.001
Size_BT – Size_AT	0.347	<0.001<0.001
Tenderness_BT – Tenderness_AT	0.641	<0.001<0.001
Surrounding_BT – Surrounding_AT	0.404	<0.001<0.001
Overall Score BT – Overall Score AT	0.930	0.050

Table 16: Effect of Apamarga Kshara on Individual Parameters and Overall Score (n=30*n*=30).

Variable	Time	Mean (SD)	Median (IQR)	Test Statistic (W*W*)	p*p* -value	Effect Size
Pain	Before After	0.600 (0.770) 0.100 (0.305)	0.0 (1.0) 0.0 (0.0)	118	0.008	0.735
Itching	Before After	0.700 (0.988) 0.133 (0.346)	0.0 (1.0) 0.0 (0.0)	63.5	0.006	0.924
Size	Before After	1.267 (0.521) 0.167 (0.461)	1.0 (0.0) 0.0 (0.0)	465	<0.001<0.001	1.000
Tenderness	Before After	0.600 (0.968) 0.067 (0.254)	0.0 (1.0) 0.0 (0.0)	55	0.005	1.000
Surrounding Area	Before After	1.233 (0.430) 0.100 (0.305)	1.0 (0.0) 0.0 (0.0)	465	<0.001<0.001	1.000
Overall Score	Before After	4.400 (1.653) 0.567 (0.898)	4.0 (2.0) 0.0 (1.0)	465	<0.001<0.001	1.000

Table 17: Assessment of Normality for Outcome Variables Among All Study Participants(N=60*N*=60).

Variable	Shapiro–Wilk Test Statistic	p*p*-value
Pain_BT – Pain_AT	0.856	<0.001
Itching_BT – Itching_AT	0.767	<0.001
Size_BT – Size_AT	0.374	<0.001
Tenderness_BT – Tenderness_AT	0.671	<0.001

Surrounding_BT – Surrounding_AT	0.402	<0.001
Overall Score BT – Overall Score AT	0.954	0.025

Table 18: Overall Effect of Treatment on Outcome Variables Across All Study Participants (N=60*N*=60).

Variable	Time	Mean (SD)	Median (IQR)	Test Statistic (W*W*)	p*p* -value	Effect Size
Pain	Before After	0.650 (0.777) 0.083 (0.279)	0.0 (1.0) 0.0 (0.0)	503.5	<0.001<0.001	0.795
Itching	Before After	0.750 (1.052) 0.117 (0.324)	0.0 (1.25) 0.0 (0.0)	285	<0.001<0.001	0.900
Size	Before After	1.267 (0.516) 0.150 (0.444)	1.0 (0.0) 0.0 (0.0)	1830	<0.001<0.001	1.000
Tenderness	Before After	0.783 (1.027) 0.100 (0.303)	0.0 (2.0) 0.0 (0.0)	300	<0.001<0.001	1.000
Surrounding Area	Before After	1.267 (0.446) 0.133 (0.343)	1.0 (1.0) 0.0 (0.0)	1830	<0.001<0.001	1.000
Overall Score	Before After	4.717 (1.786) 0.583 (0.889)	4.5 (3.0) 0.0 (1.0)	1830	<0.001<0.001	1.000

4.4 Comparative Evaluation Between Groups

Table 19: Assessment of Improvement Scores and Normality of Distribution (N=60*N*=60).

Improvement Parameter	Mean (SD)	Median (IQR)	Min and Max	Shapiro–Wilk Statistic	p*p* -value
Pain	0.567 (0.890)	0.0 (1.0)	-1 and 2	0.856	<0.001<0.001
Itching	0.633 (1.089)	0.0 (1.25)	-1 and 3	0.767	<0.001<0.001
Size	1.117 (0.324)	1.0 (0.0)	1 and 2	0.374	<0.001<0.001
Tenderness	0.683 (0.892)	0.0 (2.0)	0 and 2	0.671	<0.001<0.001
Surrounding Area	1.133 (0.343)	1.0 (0.0)	1 and 2	0.402	<0.001<0.001

Overall Score	4.133 (1.662)	4.0 (2.0)	1 and 8	0.954	0.025

Table 20: Comparison of Improvement Scores Between Study Groups (Mann–Whitney U*U* Test).

Improvement Parameter	Group	Mean (SD)	Median (IQR)	Test Statistic (U*U*)	p*p* -value	Effect Size
Pain	Apamarga Kshara Palasha Kshara	0.500 (0.900) 0.633 (0.890)	0.0 (1.0) 0.5 (1.0)	413.0	0.565	0.082
Itching	Apamarga Kshara Palasha Kshara	0.567 (0.971) 0.700 (1.208)	0.0 (1.0) 0.0 (1.75)	434.0	0.795	0.036
Size	Apamarga Kshara Palasha Kshara	1.100 (0.305) 1.133 (0.346)	1.0 (0.0) 1.0 (0.0)	435.0	0.700	0.033
Tenderness	Apamarga Kshara Palasha Kshara	0.533 (0.819) 0.833 (0.950)	0.0 (1.0) 0.0 (2.0)	377.0	0.219	0.162
Surrounding Area	Apamarga Kshara Palasha Kshara	1.133 (0.346) 1.133 (0.346)	1.0 (0.0) 1.0 (0.0)	450.0	0.999	0.001
Overall Score	Apamarga Kshara Palasha Kshara	3.833 (1.599) 4.433 (1.695)	4.0 (1.75) 4.5 (2.5)	348.5	0.129	0.226

Table 21: Assessment of Post-Treatment Scores and Normality of Distribution (N=60*N*=60)

After Treatment Parameter	Mean (SD)	Median (IQR)	Min and Max	Shapiro–Wilk Statistic	p*p* -value
Pain	0.083 (0.279)	0.0 (0.0)	0 and 1	0.309	<0.001
Itching	0.117 (0.324)	0.0 (0.0)	0 and 1	0.374	<0.001
Size	0.150 (0.444)	0.0 (0.0)	0 and 2	0.380	<0.001
Tenderness	0.100 (0.303)	0.0 (0.0)	0 and 1	0.343	<0.001
Surrounding Area	0.133 (0.343)	0.0 (0.0)	0 and 1	0.402	<0.001

Overall Score	0.583 (0.889)	0.0 (1.0)	0 and 4	0.661	<0.001

Table 22: Comparison of Post-Treatment Scores Between Study Groups (Mann–Whitney U*U*Test).

After Treatment Parameter	Group	Mean (SD)	Median (IQR)	Test Statistic (U*U*)	p*p* - value	Effect Size
Pain	Apamarga Kshara Palasha Kshara	0.100 (0.305) 0.067 (0.254)	0.0 (0.0) 0.0 (0.0)	435.0	0.654	0.033
Itching	Apamarga Kshara Palasha Kshara	0.133 (0.346) 0.100 (0.305)	0.0 (0.0) 0.0 (0.0)	435.0	0.700	0.033
Size	Apamarga Kshara Palasha Kshara	0.167 (0.461) 0.133 (0.434)	0.0 (0.0) 0.0 (0.0)	435.5	0.710	0.032
Tenderness	Apamarga Kshara Palasha Kshara	0.067 (0.254) 0.133 (0.346)	0.0 (0.0) 0.0 (0.0)	420.0	0.401	0.067
Surrounding Area	Apamarga Kshara Palasha Kshara	0.100 (0.305) 0.167 (0.379)	0.0 (0.0) 0.0 (0.0)	420.0	0.459	0.067
Overall Score	Apamarga Kshara Palasha Kshara	0.567 (0.898) 0.600 (0.894)	0.0 (1.0) 0.0 (1.0)	436.5	0.827	0.030

5. DISCUSSION

The clinical presentation of *Charmakeela* as described in Ayurvedic classics matches the histopathological entity of verruca vulgaris (warts). In classical pathogenesis, *Vyana Vayu* provoked by microtrauma triggers cellular proliferation in association with *Kapha* (yielding unctuous, firm tissue overgrowth), while *Pitta* and *Rakta* vitiation contribute to hypervascularization and color changes.

5.1 Demographic Characteristics

Demographic analysis demonstrated that the highest proportion of patients presented in the age group of 36–45 years (36.7%) and 26–35 years (31.7%), with a mean age of 36.37±8.4836.37±8.48 years. Females predominated the study cohort (61.7%), and

housewives formed the largest single occupational category (41.7%), followed by office workers (26.7%). These findings correlate with common clinical observations: housewives and indoor workers are consistently exposed to repeated wet work, minor abrasion, maceration, and frequent physical contact, facilitating inoculation of HPV into the basal epithelial strata. The most frequent sites of involvement were the face (38.3%) and the combined face-and-neck region (30.0%), areas of cosmetic concern where shaving, threading, and cosmetic manipulation exacerbate autoinoculation.

5.2 Comparative Therapeutic Efficacy

Both *Palasha Pratisaraneeya Kshara* and *Apamarga Pratisaraneeya Kshara* showed marked clinical efficacy:

- **Pain Relief:** Pain scores reduced by 90.4% in the *Palasha Kshara* group (p=0.002) and 83.3% in the *Apamarga Kshara* group (p=0.008). Inter-group comparison was not significant (p=0.565), demonstrating equivalent performance.

- **Itching Reduction:** Itching scores decreased by 87.5% in Group A (p=0.006*p*) and 81.0% in Group B (p=0.006), showing consistent relief (p=0.795).

- **Reduction in Wart Size:** Structural dimension was reduced by 89.5% in Group A and 86.8% in Group B (p<0.001for both), with absolute effect sizes (r=1.0), establishing the ability of both formulations to necrose and slough off hyperkeratotic tissue.

- **Tenderness and Surrounding Area:** Both groups showed over 86% relief in localized tenderness and over 87% improvement in surrounding erythema/edema.

- **Overall Score:** Mean overall score reduction was 88.1% for *Palasha Kshara* and 87.1% for *Apamarga Kshara*. Mann–Whitney U*U* test revealed no statistically significant difference between the two treatments (U=348.5,p=0.129), accepting the null hypothesis (H2*H*2) that *Palasha Kshara* is equally effective to standard *Apamarga Kshara*.

5.3 Probable Mode of Action of Kshara Karma

1. **Chemical Coagulation and Dehydration:** Analytical study showed both *Teekshna Ksharas* have a strongly alkaline pH>12.0. On topical contact, this caustic alkaline medium hydrolyzes protein bonds, denatures cellular lipid-protein membranes, and induces rapid

intracellular dehydration and liquefaction necrosis of the HPV-infected stratified squamous epithelium.

2. **Sushruta's Pharmacodynamics:** *Kshara* embodies multiple drugs (*Nanoushadhi samavayat*), executing *Tridoshaghna* actions. Its *Teekshna*, *Ushna*, and *Katu* attributes act by *Lekhana* (scraping), *Kshanana* (cauterizing/destroying morbid tissue), and *Ksharana* (cleansing and sloughing). Initial localized burning sensation and erythema are neutralized by *Nimbu Swarasa* (citric acid), which halts unwanted deeper tissue damage.

3. **Role of Prekshepaka Dravyas:** Addition of *Shukti* (calcium oxide/hydroxide) provides catalytic and strongly basic ions, while *Chitraka* (*Plumbago zeylanica*), possessing plumbagin and *Ushna-Teekshna* qualities, augments local cauterization and tissue lysis.

4. **Adjuvant Healing Action of Jatyadi Ghrita:** Post-cauterization wound dressing with *Jatyadi Ghrita* mitigates acute post-procedural burning, promotes *Shodhana* (antimicrobial cleansing), and supports *Ropana* (wound epithelialization) due to the presence of *Jati*, *Nimba*, *Patola*, *Haridra*, and *Sikta*, resulting in healthy granulation tissue without scar formation or hyperpigmentation.

6. CONCLUSION

Palasha Pratisaraneeya Teekshna Kshara is as effective as the traditional standard *Apamarga Pratisaraneeya Kshara* in the clinical management of *Charmakeela* (warts). The application of *Kshara* following gentle surgical scarification (*Samyak Lekhana*) delivers complete chemical cauterization and excision of the wart within a single sitting on an outpatient department (OPD) basis. Neutralization with *Nimbu Swarasa* and subsequent application of *Jatyadi Ghrita* ensures rapid wound healing without infection, pain, significant cicatrization, or early recurrence. Given its wide availability and equivalent therapeutic outcomes, *Palasha* serves as an ideal and cost-effective substitute for *Apamarga* in clinical practice.

CLINICAL PHOTOGRAPHS

Drug Preparation

Materials required for Kshara karma.



Preparation of Jathyadi Ghritha.



Final Result of Prepared Jathyadi Gritha.



KSHARA PREPARATION

PREPARATION OF APAMARGA KSHARA	PALASHA KSHARA PREPARATION
 **Panchang**	 **Panchang**
 **BURNING OF APAMARGA PANCHANGA**	 **BURNING OF PALASHA KSHARA**
 **ASH OF APAMARGA KSHARA**	 **GOMUTRA VARNA AFTER FILTRATION FOR 21 TIMES**
 **FILTRATION DONE FOR 21 TIMES**	 **PALASHA KSHARA JALA**
 **ERANDA NAALA PAREEKSHA**	 **ERANDA NAALA PAREEKSHA FOR PALASHA KSHARA**

	
APAMARGA PRATISARANEEYA TEEKSHNA KSHARA	**PALASHA PRATISARANEEYA TEEKSHA KSHARA**

Clinical Photographs

CASE 01

CASE NO.1- PROCEDURE OF APPLICATION OF PALASHA KSHARA



FIGURE NO.17- CHARMAKEELA



FIGURE NO.18- APPLICATION



FIGURE NO.19- APPLIED ON WART



FIGURE NO.20- AFTER KSHARA APPLICATION



FIGURE NO.21- AFTER 21 DAYS

CASE NO- 2



CASE NO 3



CASE 04



CASE 05



CASE 06



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