



## COMPARATIVE PHYSICO-CHEMICAL ANALYSIS OF OIL AND GEL PREPARED BY KARAVEERPATRA

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### ABSTRACT:

Ayurveda is widely regarded as the oldest form of healthcare in the world. Ayurveda is an intricate medical system that originated in India thousands of years ago. The aim of this system is to prevent illness, heal the sick and preserve life. The reference of karaveer-patra-Siddha Tail is in CharakSamhita and SarthVagbhat used for the treatment of kikwisa. Gel is the new dose form. This form is more comfortable to use and carry now a days. There was a need to study the analytical comparison between the oil and Gel prepared by using karaveerpatra. Karaveer-patra-siddha-tail was prepared by the method mentioned in the snehakalpana in Sharangdhar Samhita Madhyam Khand. So the present study is carried out under the title comparative physicochemical analysis of oil and gel prepared by karaveer patra. After analyzing the samples there was no significant difference seen in the analytical tests of oil and gel prepared by karaveerpatra. Only the viscosity of oil and gel was different. Hence the comparative study shows no significant difference between oil and gel prepared by karaveer patra.

**KEYWORDS:** *karaveer-patra, Taila, Gel, Kikwisa.*

### INTRODUCTION:

Ayurveda is widely regarded as the oldest form of healthcare in the world. Ayurveda is an intricate medical system that originated in India thousands of years ago. The aim of this system is to prevent illness, heal the sick and preserve life.

In BhaishajyaKalpana various kalpanas are given like PanchavidhKalpana, AvalehKalpana, SandhanKalpana, SnehaKalpana etc.

Dose forms are the carrier through which drug molecules are delivered to site of action within the body. Every doses forms is a combination of the drug and different kinds of nondrug components called as Excipients or Additives. The additives are used to give a particular shape to the formulation to increase stability, palatability and more elegance to preparations.

The reference of karaveer-patra-Siddha Tail is in CharakSamhita and SarthVagbhat used for the

treatment of kikwisa.

A colloid in which the disperse phase has combined with the dispersion medium to produce a semisolid material, such as a jelly is called Gel. Gel is the new dose form. This form is more comfortable to use and carry now a days. There was a need to study the analytical comparison between the oil and Gel prepared by using karaveerpatra. So the present study is carried out under the title "comparative physicochemical analysis of oil and gel prepared by karaveer patra." This research work was carried out on preparation and analytical study of oil and gel prepared by karaveerpatra.

### Aim and objectives

#### AIM

- To do comparative physicochemical analysis of oil and gel prepared by karaveerpatra.

**OBJECTIVES**

- To prepare Karaveer-Patra-Sidhha-Tail by snehakalpana method.
- To prepare Gel by using Karaveer-Patra-Sidhha-Tail.
- Analytical and Physicochemical study of oil and Gel prepared by using KaraveerPatra.
- To study efficacy of Gel prepared by using karaveer-Patra-Sidhha-Tail in the management of kirkwisa in clinical trials.

**MATERIALS AND METHODS****Materials include**

- Major raw drugs.
- Associated raw drugs.

**Major Raw Drugs**

Karaveer- patra (leaves) is the major raw drug collected according to grahyaagrahyalakshanas mentioned in Bhaishajya texts and was also authenticated by subject experts.

**Associated Raw Drugs**

- Til tail and water are used for the preparation of Karaveer - patra- sidhha-tail
- The gelling agent Carbapol-934 and Tween80 as a preservative is used for the preparation of gel using Karaveer- patra- sidhha-tail.

**Methods Include**

- Preparation of Karaveer-patra-sidhha tail.
- Preparation of Gel using Karaveer-patra-sidhha tail.

**These Heads Are Studied By Carrying Out Following Practicals,**

- Practical no.1: Preparation of Karaveer-patra-sidhha tail.
- Practical no.2: Preparation of Gel using Karaveer-patra-sidhha tail.

**Preparation Of Karaveer-Patra-Sidhha Tail**

कल्काश्चचुर्गणीकृत्यघृतंवातैलमेवा ॥

चतुर्गुणैर्द्रुवेसाध्यंतस्यमात्रापलोन्मिता॥

शा.स.म.ख. १/१ , ५/१

**Ingredients**

- Karaveer (Neriumindicum/oleander) kalk - 50 gms
- Til tail - 200ml

- Karaveerpatraswaras -800 ml

**Equipments**

Gas stove,Pot with lid,Mixergrinder,Flask,Stirrer,Measuringcylinder,Beaker,Weighingmachine,Swedanyantra (modified),Musline cloth

**Procedure**

- 100 gms. Of Karaveer (Neriumindicum) leaves were taken according to grahyaagrahyalakshanas mentioned in Bhaishajya texts.
- Karaveer (Neriumindicum) leaves were cleaned properly.
- Karaveer (Neriumindicum) leaves were kept in swedanyantra and heat was given for about 1hour till leaves changed it's colour and become little softer.
- Then warm Karaveer (Neriumindicum) leaves were taken in the mixer grinder and fine paste was made. This is Kalk.
- 50 gms of kalk, 200 ml til tail and 800 ml of swarasof Karaveer (Neriumindicum) leaves was taken in the pot and mixed well.
- Uniform heat was given till the entire water content was evaporated.
- After the sidhhalakshnas were observed heat was stoped.
- The entire mixture was allowed to be cool.
- After it was cooled down, it was filtered with the help of muslin cloth.
- Karaveer-patra-sidhha tail was obtained and measured in the measuring cylinder.

**Causes Of Weight Loss-**

- Oil remained in the muslin cloth and the kalk during procedure of filtration.

**Precautions-**

- Proper heat should be given to leaves in swedanyantra to avoid burning and dehydration of leaves.
- Warm leaves should be taken in the grinder for making paste.
- Heat should be given till the shehlakshanas are observed.
- Filtration should be done properly to avoid loss of oil.

**Preparation of Gel using Karaveer-patra-sidhha tail.****Composition Of Gel Prepared By Using Karaveer-Patra-Sidhha-Tail**

Ingredients	Formulations		
	F1	F2	F3
NeriumIndicum oil (ml)	7	7	7
Carbopol 934 (gm)	3	4	5
Tween 80 (drop)	2	2	2
Dist. Water (ml)	Up to 100ml	Up to 100ml	Up to 100ml

Out of these three formulations F2 sample was having good consistency of gel so that formula was considered standard and the following practical was performed.

#### Ingredients

- Karaveer-patra-sidhha tail - 140 ml
- Carbopol934 - 80 gms
- Tween 80 - 40 drops
- Purified water - 2000 m

#### Equipments

Magnetic stirrer, Beaker, Flask, Test tube

#### Procedure

- 2000 ml of water was taken in the magnetic stirrer. 80 gms of Carbopol-934 was added and stirred well and carbapol was dissolved properly.
- It was allowed to rest overnight as it takes a time carbapol to hydrate and to take the consistency of gel.
- Once it took the consistency of gel Karaveer - patra-sidhhatail was added drop by drop.
- After the oil was added 40 drops of tween 80 were added as a preservative.

#### Causes Of Weight Loss

- Some amount of gel remained adherent to magnetic stirrer which was difficult to cover.

#### Precautions-

- Stirrer should be stirred continuously.
- The preparation of water and gelling agent should be kept overnight to allow carbopol swell properly and hydrate.
- Karaveer-patra-sidhha tail should be added drop by drop so that gel doesn't lose its consistency.

All aseptic precautions should be taken to avoid microbial contamination.

#### OBSERVATIONS AND RESULT

Table Showing Evaluation On Classical Analytical Parameters

Parameters	karaveer-patra-sidhha-tail	Gel prepared by using karaveer-patra-sidhha-tail
Shabda	Sounds chatchat	No perceptible sound
Sparsha	Smoothy	Smoothy
Roopa	Hareet	HareetPeet
Rasa	-	-
Gandha	Karaveerpatra smell	No specific

Table Showing Evaluation On Modern Analytical Parameters

	karaveer-patra-sidhha-tail	Gel prepared by using karaveer-patra-sidhha-tail
Colour	Dark green	Greenish yellow
Odour	Karaveerpatra smell	Karaveerpatra oil
Consistency	Oily	Thick
TLC	0.82	0.86
Rancidity test	Absent	Absent
Refractive index	1.341	-
Uniformity of Content	-	0.11
Viscosity		
At 20 rpm	61.4	24378
At 40 rpm	52.4	10635
At 60 rpm	50.4	7227
At 80 rpm	49.6	5752
At 100 rpm	47.5	4760
pH	2.54	2.54
Iodine value	2.12	
Thermal stability	No change	No change
Saponification value	110.11	-
Total fatty matter	9.46	9.96
Acid value	42.21	-
Spreadability	-	16
Peroxide value	4.6	-
Free fatty acid	2.28	-
Total fatty matter	9.46	-

**DISCUSSION****1)The following physicochemical changes occur during preparation of Karaveer-patra-sidhha tail**

- The gradual increase in the temperature during Tail paka is suggestive of the reduction of water content.
- The change in the colour during snehpaka may be due to the introduction of bio constituents of karaveerpatra.
- The kalk is to be tested by rolling and pressing it between the finger tips. Absence of water content, softness on touch, disappearance of stickiness and rolling of a vick from kalka, all the signs are indications of Madhyampaka. According to SharangdharSamhitaMadhyamPaka is prescribed to be used for all purposes.
- Tail Pariksha- Absence of crackling sound on burning in flame, appearance of colour and test of plant ingredients in oil are the signs of completion of snehpaka. They became dark green in colour due to introduction of Karaveerpatra in oil.
- The loss of oil was found 22.33ml.(mean) The reason for loss may be absorption of oil by Kalk, evaporation of oil during the heating, spillage during snehapaka, loss during filtration as a factor of absorption by cloth.
- The shabda of all three batches were not significant. The sparsha of three batches were snigdha. The colour (roopa) of all three batches was dark green, due to the ingredients KaraveerPatra used in the preparation was having the colour.All three batches were having characteristic smell of KaraveerPatraSwaras.

**2) The following physicochemical changes occur during preparation of gel prepared by Karaveer-patra-sidhha tail-**

- The required quantity of carbopol 934 was sprinkled into 2 liters of purified water with constant stirring to get the uniform dispersion.
- The solution was kept overnight for hydration so that it received the consistency of gel.
- Karaveer-patra-sidhha-tail was added into the gel. It becomes greenish yellow in colour.
- Tween 80 was added as a preservative at last as per the mentioned amount.

- The final product in the form of gel is obtained with good consistency from Karaveer-patra-sidhha-tail.
- The loss of gel was found 210gms.(mean). The reason for loss may be manual error during the collection of gel from magnetic sturrer.
- The shabda of all three batches were not significant. The sparsha of three batches were snigdha. The colour (roopa) of all three batches was greenish yellow, due to the ingredients KaraveerPatrasidhha tail used in the preparation was having green colour. All three batches were having characteristic smell of KaraveerPatrasidhha tail.

**Composition Of Gel Prepared By Using Karaveer-Patra-Sidhha Tail**

Total three compositions of gel were prepared F1,F2 and F3 respectively. Which were having different amount of all the three constituents. Out of which F2 sample in which karaveer-patra-sidhha-tail was 7 ml, carbapol 934 was 4 gms and tween 80 which is used as a preservative was 2 drops in 100 ml of water gained a good consistency of gel and hydrated nicely. Further preparation was prepared according to set formula.

There is no much difference observed in the analytical tests of both oil and gel prepared by karveerpatra.

**CONCLUSION:**

- Karaveer-patra-sidhha-tail was prepared by the method mentioned in the snehakalpana in SharangdharSamhitaMadhyamKhand. It was dark green in colour.
- There was no significant difference seen in the analytical tests of oil and gel prepared by karveerpatra. Only the viscosity of oil and gel was different.
- Hence the comparative study shows no significant difference between oil and gel prepared by karveer patra.

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