

Pharmaceutico Analytical Evaluation of Herbal Toner

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Introduction: In today's era several chemicals came into existence for enhancing beauty, thus used as cosmetics. Natural therapies are more effective, safer than chemical medicines. Hence An attempt was made to formulate a natural and safe herbal toner to reduce the facial irritancy and enhance the beauty and can be used in day-to-day life. The ingredients of herbal toner are Yastimadhu, Priyangul, Manjishtha, Kamalpushpa, Raktachandan and Nagkeshar which Possess Varnya, Mukhaprasadak properties. This herbal toner was prepared according to Arka Kalpana which is very specific in its mode of preparation and due to virtue of this particularity it may have all volatile active substance in effective form in its final product . Arka Kalpana is given specific importance and it opines that it has more potency in comparison to the other Kalpanas. Due to its increased potency, better shelf life, easy absorption and fast action of herbal toner.

Material and Methods: All the ingredients of herbal toner were procured from the authentic source. And herbal toner was prepared by standard procedure mentioned for Arka Kalpana which is correlated with distillation in modern pharmaceutics practices. After preparation of Arka, to impart a pleasant odour essential fragrance was added in it. and stored in air tight container.

Result: Based on the optimization of the parameters, the herbal toner could be prepared by standard procedure of Arka Kalpana. Quality control parameters such as physical evaluation, pH, viscosity and specific gravity analysis can be done.

Conclusion: From the above studies of the formulation, this herbal toner is completely chemical free. so, it needs more pharmaceutical study and research work to develop this dosage form without violating the basic principles.

Keywords: Herbal toner, Arka Kalpana, Distillation, Varnya, Beauty

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Introduction

In today's era natural rejuvenation is a necessary step for one's healthy mind and skin. In earlier days, naturally available ingredients were generally used as cosmetics, but day by day several chemicals came into existence for enhancing beauty, thus used as cosmetics. Using these chemical-based products can impart beauty for a particular time but it harms our skin which used for long time.

Natural remedies have lesser side effects, secure and also acceptable than chemical one's. The main aim of this project was to formulate a natural and safe herbal skin toner which has calming, soothing and astringent effect on the skin to reduce the facial irritancy and enhance the beauty and can be used in busy schedule.

This herbal toner was prepared according to *Arka Kalpana* which is very specific in its mode of preparation and due to virtue of this particularity it may have all volatile active substance in effective form in its final product.

Panchavidha Kashaya Kalpana are the primary preparations in Ayurvedic pharmaceuticals.[1] *Arka Prakasha* describes *Kalka*, *Churna*, *Rasa*, *Taila* and *Arka* (distillate) as *Panchavidha Kashaya Kalpana*. [2] Among these, *Arka* is said to be the most potent. *Arka* is a liquid preparation obtained by distillation of certain liquids or of drugs soaked in water using the *Arka Yantra* (distillation apparatus). [3]

Arka's are *Laghupaki*, *Vyavayi* and *Vikasi*. These properties help to enhance potency, better shelf life, easy absorption and fast action of herbal toner. The ingredients of herbal toner are *Yastimadhu*, *Priyangufal*, *Manjishtha*, *Kamalpushpa*, *Raktachandan* and *Nagkeshar* which Possess *Varnya*, *Mukhaprasadak* properties.

Herbs used in this formulation possess active principal working on skin disease and will enhance the beauty of the skin. This above *Dravyas* are mentioned as ingredients of *Kanaka Taila* which is a classical Ayurvedic skin oil formulation described in Chakradatta in the chapter named "*Kshudra Roga*" indicated in *Abhiru*, *Nilika* & *Vyanga*. It is useful in the treatment of oral diseases and to relieve skin scars and hyperpigmentation on the face. It also has *Mukhakantikar* effect.[4]

Advantages of Herbal Skin Toner[5]:

Toners get rid of such remaining impurities to supply your face an additional and complete cleanse.

1. The appearance of pores can minimize by regular use of the toner.
2. Toners are helpful to reinstate the pH balance of the skin.
3. Toner has a tendency to soak quickly into the skin, giving it an instant boost of hydration.
4. Toners can make your skin feel instantly refreshed.
5. Toners are water-based liquids with calming and anti-inflammatory characteristics.
6. A toner adds a layer of protection to your skin. It works as a barrier against dirt, dust, pollution, and the sun.
7. Toners are a boon for oily or acne-prone skin.

Types of toners[5]:

1. Skin bracers or fresheners: These are the mildest form of toners.

2. Skin tonics: These are slightly stronger and contain a small quantity of alcohol (up to 20%), water, and a Humectant ingredient.

3. Acid toner: These are a strong form of toner that typically contains alpha hydroxy acid and or beta Hydroxy acid.

4. Astringents: These are the strongest form of toner and contain a high proportion of alcohol (20–60%), Antiseptic ingredients, water, and a humectant ingredient

Aim and Objectives

Aim:

To formulate a natural and safe herbal toner.

Objectives:

1. To highlight the concept of *Arka Kalpana*.
2. To study preparation of Herbal toner.

Review of Literature

Herbal toner was prepared according to standard procedure of *Arka Kalpana* mentioned in *Arka Prakash*. [2]

Drug Review

Table 1: Showing drug review of Ingredients of herbal toner

SN	Ingredients	Rasa	Guna	Virya	Vipaka	Karma
1.	Yashtimadhu[6]	Madhura	Guru, Snigdha	Sheeta	Madhura	Varnya, Kandughana, Charma rogahara
2.	Priyangu[7]	Tikta, Kasaya, Madhura	Guru, Ruksha	Sheeta	Katu	Charma rogahara
3.	Manjishtha[8]	Tikta, Kasaya, Madhura	Guru, Ruksha	Ushna	Katu	Varnya, Kusthaghana
4.	Raktachandan[9]	Tikta, Madhura	Guru, Ruksha	Sheeta	Katu	Charma rogahara
5.	Kamalpushpa[10]	Madhura, Kasaya, Tikta	Laghu, Snigdha, Picchil	Sheeta	Madhura	Varnya
6.	Nagakeshar[11]	Kasaya, Tikta	Laghu, Ruksha	Ushna	Katu	Kusthaghana

Materials and Methods

The methods followed in this work are divided in to pharmaceutical study and analytical study.

1) Pharmaceutical Study

All the raw materials of herbal toner were procured from authentic source and identified by the experts of *Dravyaguna* department of our institute.

Ingredients

Table 2: Showing material of herbal toner

SN	Ingredients	Quantity taken
1.	Yastimadhu	10 gms
2.	Priyangufal	10 gms
3.	Manjishtha	10 gms
4.	Kamalpushpa	10 gms
5.	Raktachandan	10 gms
6.	Nagakeshar	10 gms
7.	Jala	600 ml

Equipment

Arka Yantra (distillation apparatus), Glass bottle, *Sharava* (earthen pot), *Patra* (stainless steel vessel), *Multani Matti* (for *Sandhibandhan* i.e., sealing), Gas stove.

Procedure

1. Each 10 gm of above ingredients was taken and then added into 600 ml (10 times) hot water.
2. This mixture was kept for overnight soaking.
3. On next day, it was taken in vessel over which *Arka Yantra* (distillation apparatus) was placed.

4. Then *Sharav* (earthen pot) was placed over *Arka Yantra* (distillation apparatus) in which cold water was added continuously. *Sandhi Bandhan* with the help of *Multani Matti* was done.

5. *Mandagni* (mild heat) was given & a glass bottle was attached to *Arka Yantra* (distillation apparatus) for the collection of 60 to 80°C of temperature was maintained during whole preparation.

6. Then *Agni* (heat) was stopped after obtaining 1/3rd of 360 ml of *Arka* was obtained. The total yield was 60%.

7. The *Arka* obtained was a clear liquid. It had a pleasant smell characteristic of the ingredients.

8. After preparation, to impart a pleasant odour essential fragrance was added in it and stored in air tight container.

Precautions

1. Both ends of *Arka Yantra* (distillation apparatus) are sealed tightly by *Multani Matti*.
2. Cool water should be placed in the Upper portion of the *Arka Yantra* (distillation apparatus) and water was changed from time to time when it gets heat (it is convenient to convert the vapour into water).
3. Pipe of *Yantra* should be sprinkled with cold water.
4. The *Mandagni* should be maintained during whole procedure.
5. The Extracted *Arka* should be 60% of total amount of Water.

Images showing preparation of Herbal toner preparation



Figure 1: Drugs soaked in water



Figure 2: Arka Yantra



Figure 3: Sandhibandhan done



Figure 4: Mandagni (mild heating) started

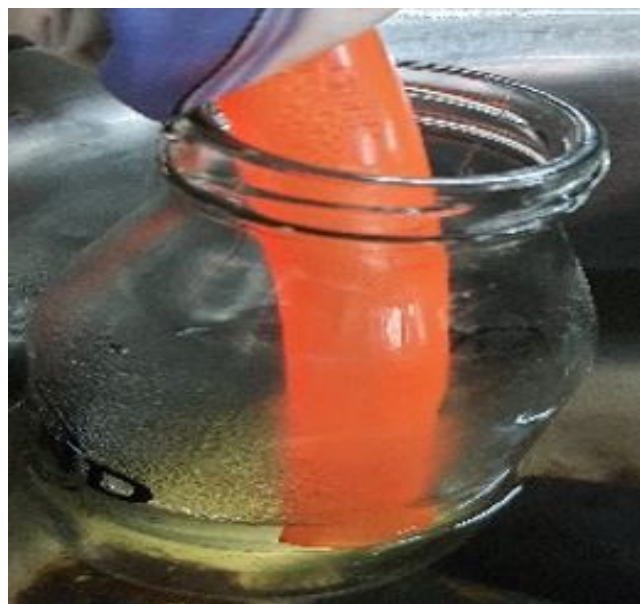


Figure 5: Distillate coming out of outlet



Figure 6: Herbal toner

2) Analytical Study

Quality parameter assessment was carried out of Finished drug on the basis of Organoleptic analysis and Modern Parameter.

Table 3: Showing Organoleptic analysis and Modern Parameter.

Organoleptic Characteristics	Modern Parameters
1. Shabda	1. pH
2. Sparsha	2. Specific gravity
3. Rupa	3. Viscosity
4. Rasa	
5. Gandha	

Observations and Results

1. 360ml herbal toner was obtained.
2. Shelf life - 1 year[12]
3. Based on the optimization of the parameters, the herbal toner could be prepared by standard procedure of *Arka Kalpana*. Quality control parameters such as physical evaluation, pH, viscosity and specific gravity analysis can be done.

Table 4: Showing Organoleptic Evaluation of toner

SN	Parameter	Result
1.	Description	Liquid
2.	Colour	Colourless
3.	Odour	Pleasant
4.	Consistency	Good

Table 5: Showing Analytical Parameter

SN	Parameter	Result
1.	Ph	5.9
2.	Specific gravity	1.04
3.	Viscosity	1.09

Table 6: Showing Physical Evaluation of Herbal toner

SN	Parameter	Result
1.	Skin irritation	Non – irritable
2.	Skin conditioning	Skin was moisturised
3.	Removable	Easily removable
4.	Stickiness	Non sticky

Discussion

The present study aimed at the pharmaceutico-analytical evaluation of herbal toner prepared through classical *Arka Kalpana* method. The need of study behind selecting this method lies in its ability to extract volatile, water soluble phytoconstituents effectively from herbal ingredients which are essential for both therapeutics as well as cosmetics benefits.

In this study *Churna* of all ingredients were soaked in water and kept overnight to increased duration of contact of drug with water and extraction of therapeutically active components of the constituent drugs.

On the following morning the soaked contents were shifted into *Arka Yantra* (distillation apparatus) and *Mandagni* was maintained. The vapour condensed and collected in a receiver.

In the beginning the vapour consists of only steam and may not contain the essential principles of the drugs. Boiling helps for easy extraction of water-soluble principles into water.

In distillation due to *Toyadhara*, (water flow) the developing *Bhashpa* (vapours) will turn to *Arka* by the *Sheetata* (cold nature) of *Jala*. The *Arka* thus formed will be collected through the condenser into the *Grahana Patra* (receiver).[13]

The process yielded 360 ml of clear, aromatic *Arka* indicative of effective distillation which fulfilled the *Uttama Arka Lakshana* (the best quality features) like characteristic aroma of the constituent drugs, clear liquid was appreciated.[13]

To enhance acceptability, essential fragrance was added to impart a pleasant odour to the formulation. This addition aligns with the cosmetic goals of a toner, intended for skin refreshment and soothing.

Physico-chemical analysis

Physico-chemical analysis confirmed the quality and stability of the formulation.

pH Value[13]: The pH value indicates whether a given sample is acidic or alkaline. Herbal toner was prepared and its pH was determined as part of the study. The pH of the formulation Herbal toner was found to be 5.9 which is within the ideal range for topical application and helps maintain the skin's natural acid mantle.

Specific Gravity[13]: Specific gravity of a liquid preparation gives idea about the density. It is indicative of concentration of solutes in a solvent. The molecular information can be assessed in a non-invasive way by determining the specific gravity.

Herbal toner was prepared and its specific gravity was noted as 1.04, indicating a slightly denser liquid compared to water, which contributes to a fresh, hydrating sensation on application.

Viscosity[14]: Ostwald's viscometer was used to measure the viscosity of the formulation. The viscosity of water and the formulation was recorded in centipoise. Viscosity of herbal toner was noted as 1.09, suggesting a light, fluid consistency appropriate for easy absorption and non-greasy feel on the skin.

Conclusion

Arka Kalpana is a very unique formulation in Ayurvedic Pharmaceutics for its method of preparation and efficacy. A new drug delivery system was tried and modified by using ingredients of *Kanak Taila* for preparation of *Arka* used as herbal toner for *Mukhakantika*.

From the above studies of the formulation, this herbal toner is completely chemical free. So, it needs more pharmaceutical study and research work to develop this dosage form without violating the basic principles.

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