



ANALYTICAL STUDY OF TRAYUSHNADI ANJANA: AN AYURVEDIC FORMULATION

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ABSTRACT

Trayushnadi Anjana is a combination of herbal and mineral topical formulation mentioned in *Ayurvedic* classics. The formulation is useful in itching, watering, stickiness in eyes, like ocular disorders. Keeping all these points in view the present study has been undertaken with the aim to modify *Trayushnadi Anjana* into ointment form and to develop the physiochemical profile of the final product. This form was designed by using Vaseline as base which is mixed with powdered *Ghana Satva* and mineral drug was adopted for attaining the final product. **Materials and method:** The prepared drug was evaluated for organoleptic study, physiochemical study; pH value and also the product was subjected for microbial contamination test and TLC profile, it was tested in analytical laboratory and results were documented. **Result:** The result shows the organoleptic character, sterility and TLC profile. **Conclusion:** *Trayushnadi Anjana* was prepared by following the method prescribed in *Sharangdhara Samhita*. This paper presents the analytical study of the formulation.

KEYWORDS: *Trayushnadi Anjana*, analytical, organoleptic, TLC profile.

INTRODUCTION

In Ayurvedic classical texts administration of potent formulation in ocular disorders is used in the form of Anjana which are Churnanajana (fine powder), Gutikanjana (tablet rubbed in appropriate solution) and Rasanjana (ointment form).^[1] *Trayushnadi Anjana* contains Triphala, Trikatu, Tagar, Saindhav and Manahshila (As₂S₃), which has its pharmacological action in Kleda (watering from eyes), Updeha (stickiness in eyes), Kandu (itching in eyes) and Kaphaja Netraroga.^[2] Triphala is Chakshushya^[3] i.e. good for eyes and gives strength to the eye muscles and improves eyesight. Acharya Charaka has also cited Saindhava as Chakshushy.^[4] Manahshila (As₂S₃) is effective in itching and is known as "Rasayanagravi" (antioxidant and immunomodilator action) and Kapha-vaathanti.^[5] Tagar has the property Akshirog-doshtrayapaham^[6] i.e. effective in eye disorders and subside all the Doshas. This paper presents the analytical study of the formulation, which may serve as supporting literature for future studies and to maintain standard quality of the formulation.

MATERIALS AND METHODS

Aims and objectives

1. To analyze the physical or organoleptic character of drug.
2. To find out the sterility test and TLC profile of *Trayushnadi Anjana* formulation prepared by classical and modified methods.

Collection of raw materials

The raw drugs for the study were procured from the Hansa Pharmacy Premnagar Ashram, Haridwar Uttarakhand. Figure 1-8. The final product i.e. *Trayushnadi Anjana* was prepared in the Hansa Pharmacy Premnagar Ashram, Haridwar Uttarakhand.

Method of preparation of *Trayushnadi Anjana*

The *Trayushnadi Anjana* was prepared by classical method of *Ghana satva*.⁷ For *Ghana satva* all the herbal drugs i.e. *Shunthi* (*Zingiber officinale*), *Marich* (Piper Nigrum), *Pippali* (Piper Longum), *Triphala* and *Tagar* (*Valeriana wallichii*) were taken in equal amount (i.e. 200gm each) and decoction was made in eight times of water till it remain 1/4th of it⁸, then that 1/4th part of decoction was filtered and again boiled till it become

thicker. After that all that *Ghana Satva* was dried into tray drier at temperature 35-40°C and then powdered.

Now *Saindhav Lavana* and *Manahshila* were added in 1/7th part of above powder drug and mixed well. At the end Vaseline was taken as base ingredient and then the

whole powder was mixed in liquid Vaseline in the ratio of 40:60.

The contents of *Trayushnadi Anjana* and there proportion is mentioned in

Table-1.

Drug	Latin Name	Family	Part use	Ratio
<i>Shunthi</i>	<i>Zingiber officinale</i>	Zingiberaceae	Root (Rhizome)	200gm
<i>Marich</i>	<i>Piper Nigrum</i>	Piperaceae	Dried unripe fruit	200gm
<i>Pippali</i>	<i>Piper Longum</i>	Piperaceae	Dried Fruit	200gm
<i>Haritaki</i>	<i>Terminalia chebula</i>	Combretaceae	Dried Fruit	200gm
<i>Vibhitaki</i>	<i>Terminalia bellirica</i>	Combretaceae	Dried Fruit	200gm
<i>Amalaki</i>	<i>Emblika officinale</i>	Euphorbiaceae	Dried Fruit	200gm
<i>Tagar</i>	<i>Valeriana wallichii</i>	Valerianaceae		200gm
<i>Manahshila(As₂S₃)</i>	–	–		1/7 th of all herbal <i>Ghan</i>
<i>Saindhava Lavanna</i>	–	–		1/7 th of all herbal <i>Ghan</i>

Analytical study

Prepared final product i.e. *Triyushnadi Anjana* was analyzed by employing various analytical parameters.

Physical Characterization Description or Organoleptic study

Organoleptic characteristics for various sensory characters like appearance, color, taste, odor etc and was carefully noted down.

Table-2.

Physical characterization description	
Appearance	Semi solid
Colour	Light brown
Odour	Characterstic
Taste	Characterstic

pH value

pH was determined by using Digital pH meter. One gram of ointment was dissolved in 100 ml of distilled water and stored for 2 hours and the measurement of pH was 4.4 which is weakly acidic.

Trayushnadi Anjana was further subjected to Thin Layer Chromatography (TLC) study.

Sterility Test

Sterility test was done by the method mentioned under IP 2007, Vol-2, which shows that the drug was tested, was sterile.

TLC Profile

Instrument used was silica plate. The stationary phase used was silica gel G60F254 and mobile phase was Tolune, ethyle acetate, formic acid (6:3:1). The plate was visualized under iodine vapours, Rf value were recorded 0.34,0.67,0.91.

Aflatoxins

Afltoxin B1, B2, G1, G2 were tested by the method mentioned under A.P.I, Part II, Vol-I, Appendices- 2.7 which shows no detection of any aflatoxins.

Table-3.

Parameters	Specification	Result
Aflatoxins B1	0.5 PPM	Not detected
Aflatoxins G1	0.5 PPM	Not detected
Aflatoxins B2	0.1 PPM	Not detected
Aflatoxins G2	0.1 PPM	Not detected

Microbial Analysis

Trayushnadi Anjana was evaluated for total aerobic microbial count and total yeast and mould count. Total aerobic microbial count was carried out by plate count method, which is mentioned in A.P.I, Part II, Vol-I, Appendices- 2.4.

Table-4.

Microbial limit test		
Parameters	Specification	Result
Total Aerobic Microbial count	10 ⁵ /gm	10 ⁵ /gm
Total yeast and mould count	10 ³ /gm	10 ³ /gm

Esimation of Vit-C

Vit-C was tested by the method mentioned in HPLC (House) result recorded is 0.0014 µg/gm

RESULTS AND DISCUSSION

Pharmacognostical Analysis Organoleptic evaluation was performed at finished product (Observations of organoleptic analysis are tabulated in Figure 9. Thin Layer Chromatography study (TLC) was carried out under 254 and 366 nm UV to establish finger printing profile. It showed Rf values 0.34, 0.67 and 0.91 were recorded, which may be responsible for expression of its pharmacological and clinical actions.



Figure 1: Zingiber officinale.



Figure 2: Piper Nigrum.



Figure 3: Piper longum.



Figure 4: Terminalia bellirica.



Figure 5: Terminalia chebula.



Figure 6: Emblika officinale.



Figure 7: Valeriana wallichii.



Figure 8: Shuddha Manahshila (As_2S_3).



Figure 9: Saindhava.



Figure 10: Final product (Trayushnadi anjana).



TLC Test Report

CONCLUSION

Pharmacognostical evaluation of *Trayushnadi Anjana* illustrated the specific characters of this preparation. For the first time, pharmaceutical and analytical profile of *Trayushnadi Anjana* was established. On the basis of microscopic features, TLC fingerprint profiles and the physio-chemical parameters dealt within this paper may be used for standardization and quality evaluation of *Trayushnadi Anjana* compound formulation and may be useful in future for other scholars.

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