

# Preparation and Evaluation of Catharanthus Roseus Face Sheet Mask Serum

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**Abstract:-** Sheet masks are used as part of a skin care routine, and serum-infused sheet masks are more convenient to use. Acne is the most common skin problem. A medicinal plant with anti-acne properties, such as Catharanthus roseus, was chosen for formulation. The extract of Catharanthus roseus was prepared, followed by its evaluation process, and the results were satisfactory in all evaluation parameters. The study discovered that catharanthus roseus serum has antiacne properties, as well as moisturising and other beneficial effects on the skin, and that it is safe to use.

**Keywords:-** Acne, Propionibacterium Acne, Serum, Catharanthus Roseus.

## I. INTRODUCTION

One of the skin diseases that are often suffered by humans is acne. Propionibacterium acne is a gram-positive rod-shaped bacterium and a normal flora of the skin that plays a role in formation of acne. Propionibacterium acne converts unsaturated fatty acids into saturated fatty acids which cause sebum to become solid. If the production of sebum increases, more of the Propionibacterium acne will come out of the sebaceous glands, because Propionibacterium acne is a fat eater. as the largest organ of the body the skin needs to be taken care of the skin has very important functions such as protection regulation sensation There are several skin conditions ranging from severe to minor. Having a proper skin can routine is very important. use of correct products can

minimise the skin conditions such as acne wrinkles fine lines etc. from wide range of skin care products face mask sheet is very popular and it is very easy to apply has beneficial effects on the skin. This mask are cloth sheets that absorb the solution called serum and it is used against skin for cleaning hydration brightness and many other properties.

## II. MATERIALS AND METHODS

The tools used in this research include laboratory glassware, stirring rod, mortar and pestle, oven, evaporating dish, object glass, pH meter, water bath, magnetic stirrer.

The ingredients used in this study were Catharanthus roseus Extract, Aloe vera Extract, PEG-40 Hydrogenated castor oil, Tween 80, Butylene glycol, Xanthan gum, Sodium benzoate, Sodium EDTA, Essential oil, distilled water.

### A. Preparation of Aloe Vera Extract

Freshly cultivated aloe vera leaves were washed and dried. The gel matrix was separated from the outer leaf. The collected gel matrix was pulverized in a grinder. The gel was further boiled on a low flame to remove any remaining rind by simple separation when it rises to the top with bubbles on heating. The gel was then filtered through a muclin cloth

### B. Preparation of Catharanthus Roseus Essence

Tween 80 and PEG-40 hydrogenated castor oil was mixed with aloe vera and c. roseus extract and vitamin E until and stored in a refrigerator till further use.

Table 1 Formulation

Sr.No	Components	Class	Qty (F0)	Qty (F1)	Qty (F2)
1	Catharanthus roseus Extract	API	10%	12%	15%
2	Aloe Vera Extract	Moisturizer	1ml	1ml	1ml
3	PEG-40 Hydrogenated Castor Oil	Emulsifier	3ml	3ml	3ml
4	Tween 80	Solubilizer	5ml	5ml	5ml
5	Butylene glycol	Humectant	1ml	1ml	1ml
6	Xanthan gum	Thickening agent	0.2gm	0.2gm	0.2gm
7	Sodium benzoate	Preservative	0.5gm	0.5gm	0.5gm
8	Sodium EDTA	Chelating agent	0.1gm	0.1gm	0.1gm

9	Essential oil	Perfume	Q.s.	Q.s.	Q.s.
10	Distilled water	-	Q.s.	Q.s.	Q.s.

### C. Preparation of Catharanthus Roseus Extract-

Catharanthus roseus fresh leaves are sterilised in a 96% ethanol solution.

Drying sterile leaves in an oven set at 40 °C. After that, a grinder is used to coarsely smash the dried leaves. The crushed leaves are macerated for 4-5 days with periodic stirring in a 50:50 solution of ethanol: water. After that, the finished extract is filtered and refrigerated homogenized.

- Glycerin was added to the above mixture. (Mix 1)
- Xanthan gum was dispersed with butylene glycol. (Mix 2)
- Sodium benzoate and sodium EDTA were dissolved in distilled water. (Mix 3)
- Admixed mixture 2 and mixture 3 until homogenized (mixture 4)
- Slowly poured into mixture 1 until homogenized.

### D. Packaging of sheet mask

The dry non-woven fibre sheet mask is folded and placed within a foil bag. A 35 g essence mask is then weighed and added to the foil bag. Utilizing sealing tools and a label, close the foil bag.

### E. Evaluation of Preparation Characteristics

#### ➤ Anti-Acne Screening

- This method was followed to determine the antiacne activity. Nutrient agar were inoculated with broth cultures of Propionibacterium acne.
- Well (10mm diameter and about 1cm of a part) were made in each of these plates using sterile cork borer.
- A nutrient agar plate with gel formulation was made
- The gel formulation were dissolved in DMSO and added into the wells of agar plates with standard

clindamycin.

- The plates were sealed and the cultured plates kept in the jar and lit candle inside then the jar is closed firmly. The candle flame will consume most of the oxygen in the jar and will produce an elevated level of carbon dioxide the whole setup kept in incubator for 48 hours at 37 degree Celsius. Zone of inhibition was measured in mm.
- *Ph Measurement of Cotton Mask Sheet*
- Two hours were spent submerging the cotton mask sheet in 100 ml of distilled water that was kept at room temperature.
  - A pH metre is then used to measure the surface pH. (Kedida). Three measurements were taken, and the means were used.

#### ➤ Essence Stability Test

Each formula was placed in a plastic container. Additionally, the observations include modifications to consistency, colour, and aroma both at the conclusion of preparation and after 12 weeks of room-temperature storage.

#### ➤ Essence Ph

Using a pH metre, the preparation's pH is determined (Kedida). Until the instrument displays the pH values, the device must first be calibrated using pH neutral buffer solution (pH 7.01) and acidic pH buffer solution (pH 4.01). The electrode was afterwards cleaned with distilled water and dried with paper towels. After inserting the electrode into the essence, a display showing the essence's pH will appear.

## III. RESULT AND DISCUSSION

#### ➤ Anti-Acne Screening Result

Table 2 Zone Pf Inhibition Against Propionibacterium Acne.

Sr No.	Formulation	Propionibacterium Acne					
		Zone of inhibition in mm		Mean	AI	%I	SC
1	F0	10.1	10.3	10.2	0.463	46.3	22
2	F1	11.6	10.9	11.15	0.506	50.6	22
3	F3	12.2	12.6	12.4	0.563	56.3	22

\*AI -Activity Index

#### ➤ Essence Homogeneity Test

On a piece of glass or another suitable clear material, a quantity of preparations was applied; these preparations should have a homogeneous composition with no discernible coarse grains.

- \*SC – std clindamycin
- \*% I – percentage inhibition

In the present anti-acne study of catharanthus roseus against P. acne the formulation F3 showed the highest

activity against P. acne. F1 shows lowest activity. The inhibitory activity of all formulations was reported in table 2.0.

## ACKNOWLEDGEMENT

#### • Cotton Mask Sheet pH

The cotton mask sheet's pH reading was 7.0. The pH resulted falls within the range of acceptable pH standards, which is pH 58. Too much acidity in the pH value can irritate the skin, while too much alkalinity might result in

scaly skin.

- *Essence Homogeneity Test*

When the preparation was put to transparent glass, the homogeneity test results for the cotton mask essence preparation revealed that none of the preparations displayed any coarse grains. This suggests that the formulations have a uniform structure.

- *Essence Stability*

During storage, the essence is physically stable. From the beginning of observation through storage for 12 weeks, the preparation's colour remained clear, and the smell and form did not change, leading to the conclusion that the bio cellulose mask's essence was physically stable

- *Essence pH*

The essence's pH ranged from 5.53 to 6.16. The obtained pH falls within the range of acceptable pH standards, which is pH 5-8[6]. The skin might get irritated if the pH is too acidic, and scaly skin can develop if the pH is too alkaline.

#### IV. CONCLUSION

According to the findings of the current study, traditional herbal remedies contain components with antiacne capabilities that can be employed as antiacne agents in novel medications for the treatment of infectious disorders brought on by *P. acnes* without causing skin irritation or edoema. All formulations have effective moisturising and rejuvenating qualities, and the created composition when applied causes no stinging or other side effects, making it safer to use.

Every student's Practice school report owes their debts to the predecessors to their teachers, friends and family. The present work is an effort to throw some light on "PREPARATION AND EVALUATION OF CATHARANTHUS ROSEUS FACE SHEET MASK SERUM". Foremost, I would like to express my deep and sincere gratitude to my advisor Mrs. Sheetal Mahajan for giving me the opportunity to do research and providing invaluable guidance throughout this research. Besides my advisor, I would like to thank Dr. Smita Takarkhede, M Pharm, PhD, Principal, Ideal College of Pharmacy and Research for rich expertise, encouragement and insightful comments throughout the research work for its successful denouncement and helping in preparing and completion of dissertation.

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