



## **“Formulation and Evaluation of a Polyherbal Lotion for Antimicrobial and Skin-Soothing Properties”**

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### **ABSTRACT:**

Skin infections and inflammation are common dermatological concerns that are frequently treated with synthetic lotions, which might have negative effects if used for an extended period of time. Herbal formulations have grown in popularity in recent years due to their biocompatibility, low toxicity, and potential medicinal benefits. The purpose of this research is to create and test a polyherbal lotion with antibacterial and skin-soothing characteristics using extracts of Aloe vera gel, Coconut milk, Honey, Almond oil, Glycerine, and Rose water.

The results showed that the prepared polyherbal lotion had an appropriate pH, spread well, and was stable under accelerated storage conditions. The formulation revealed no symptoms of irritation in human participants. The addition of Aloe vera and honey enhanced skin-soothing benefits, as seen by decreased inflammation as well as redness.

Finally, new polyherbal lotion developed in this work represents a viable natural alternative to synthetic topical formulations, combining antibacterial and calming qualities with improved skin compatibility.

**Keywords:** Aloe vera, antibacterial, polyherbal, lotion, formulation, antibacterial.

### **Introduction:**

Herbal formulation involves the natural ingredients which are used in cosmetic products.<sup>1</sup> The word “Cosmetic” derived from a Greek word – “Kosmestikos” that means to adorn. From that time any Materials used to beautification or promoting appearance is known as cosmetic.<sup>2</sup> The term “cosmetics” Actually, it derives from its use in ancient Rome. Female slaves known as “Cosmetic” were responsible for producing cosmetics, hence the term “cosmetics”.<sup>3</sup> Cosmetics are used to improve appearance.<sup>4</sup> Ayurveda demonstrates the effectiveness of herbal formulations. Herbal medicines enrich the body with nutrition and other beneficial minerals.<sup>5</sup> An herbal lotion that can provide great skin protection while remaining free of toxins.<sup>6</sup> Herbal lotions are liquid preparations used to enhance skin beauty.<sup>7</sup>

Lotions are used to cleanse the skin and eliminate greasy secretions. It promotes blood circulation, emollience, astringency, skin freshness, bleaching, and other medical benefits.<sup>8</sup>

Lotions are liquid treatments designed to be applied externally without friction.<sup>9</sup> They are administered directly to the skin using absorbing substances like cotton wool or gauze saturated in it.<sup>10</sup> Skin lotions protect the skin from external factors and provide a calming effect.<sup>11</sup> Herbal cosmetics are described as products that use acceptable cosmetic ingredients to deliver specific cosmetic benefits.<sup>12</sup>

Herbal medicines enrich the body with nutrition and other beneficial minerals.<sup>13</sup> Natural ingredients are considered safer to use than chemical-based formulations. Lotions are semi-liquids that can be directly applied to the body. Benefits of Coconut Milk, Honey, and Alovera Saffron's richness nourishes the skin, prevents dryness during summer and winter, and adds a subtle glow. Lotions can be applied locally to provide cooling, relaxing, or protecting effects.<sup>14</sup>

### **Ideal Properties of Polyherbal Lotion:<sup>15</sup>**

- Ensure homogeneous distribution on skin surface.

- Avoid skin toxicity.
- Ensure compatibility with skin ph.
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#### ***Application of Polyherbal Lotion:*<sup>16</sup>**

- Feel and smell good.
- Help yourself relax.
- Soften the roughest parts of your body.
- Make your skin glow.
- Protect the skin.
- Purifies the skin.
- Improve skin elasticity.
- Replenish extra dry or rough spots on the skin.
- Rehydrates dried skin.
- Make your skin look more radiant.

#### ***Main Ingredients for Polyherbal Lotion:***



**Fig No. 1** Ingredients of Aloe vera, Coconut milk, Honey, Almond oil, Glycerine, and Rose water.

**Formulation of Polyherbal Lotion:****Table No – 1 Ingredient Profile of Polyherbal Lotion:**

Sr. No	Name Of Ingredient	Quantity
1.	Aloe vera	15
2.	Coconut milk	7.5
3.	Honey	7.5
4.	Almond oil	2 ml
5.	Glycerine	5 ml
6.	Rose water	3 ml

**Method of Preparation of Polyherbal Lotion:**

1. Weigh all of the components according to the formulation.
2. Alovera gel was mixed in a separate clean beaker until it became creamy.
3. Honey was added and blended in.
4. In another beaker, add almond oil, lavender oil and glycerin.
5. The oils solution was gently added to the first beaker and carefully mixed.
6. After mixing all ingredients, add rose water and coconut milk to desired consistency.

**Physical Evaluation Parameter and Results of Polyherbal Lotion:****Table No. 2 Physical Evaluation Parameter of Polyherbal Lotion.**

Sr. No	Evaluation Test	Observation
1.	Colour	White
2.	Oduor	Fragrant
3.	Stability	Stable in room temp.
4.	Texture	Smooth
5.	pH	7.9
6.	Skin Irritancy test	No Irritation to skin.
7.	Consistency/ Appearance	Semisolid
8.	Spreadable	Uniform

**Formulated sample of Polyherbal Lotion.****Fig. No 2 Formulated sample of Lotion.**

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**Discussion:**

The created polyherbal lotion, which included Aloe vera, Coconut milk, Honey, Almond oil, Glycerine, and Rose water, underwent investigation for antibacterial activity and skin-soothing potential, with positive findings in both areas.

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**Conclusion:**

Overall, the polyherbal lotion exhibited strong antibacterial activity and great skin-soothing characteristics, indicating that it could be used as a natural alternative to synthetic topical preparations. To further establish its benefits, future research should look into clinical efficacy in bigger populations, long-term stability, and quantitative moisture retention assessments.

The lotion's physicochemical properties, such as pH, appearance, stability, texture, skin irritancy test and homogeneity, were all within acceptable ranges, indicating that the formulation is stable and safe for topical use. The lotion's pH was balanced with the skin's natural pH and reducing the chance of irritation.

**Conflict of Interests:**

The authors declare that they have no known competing financial interests or personal relationship that could have appeared to influence the work reported in this paper.

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