Formulation and Evaluation of Herbal Anti-Dandruff Shampoo

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Abstract:

The objective of this study is to formulate and evaluate polyherbal shampoo for cosmetic purpose from herbal ingredients. Herbal anti-dandruff shampoo were prepared by using various herbal ingredient like Coconut oil, Shikakai Powder, Aloe-Vera gel and then formulated shampoo were subjected to evaluation parameter like PH, Viscosity, foaming stability, inspection satisfactory. Dandruff is a common disorder affecting the scalp condition caused by yeast pityrosporum. Dandruff cannot be completely eliminated but can only be managed and effectively controlled in that way. In present research work the various anti-fungal agents.

Keywords: Dandruff, Antifungal, Various herbs, Evaluation.

I. INTRODUCTION

Dandruff is a major cosmetic problem that poses very great public health concern both in developed and developing countries. The word dandruff (dandruff, dandriffe) is of Anglo-Saxon origin, a combination of "tan" meaning "tatter" and "drof" meaning "dirty"). Dandruff is a chronic scalp condition characterized by scaling, itching and redness of the scalp. It occurs when scalp sheds epidermal cells in large clumps. The skin of scalp renews itself about once a month Usually, scalp sheds dead cells in nearly invisible way, but sometimes cell turnover becomes unusually rapid and dead cells are shed as visible flakes called dandruff.

.1 Definition of Shampoo.
A shampoo may be described as a cosmetic preparation meant for the washing of hair and scalp, packed in a form convenient for use. Its primary function is of cleansing the hair of accumulated sebum, scalp debris and residues of hair-grooming preparations. The added functions of shampoo include lubrication, conditioning, bodybuilding, prevention of static charge build up, medication and so on. Finally, the complete shampoo formulation must be medically safe for long-term usage.

2The action of shampoo on hair The original prime function of the shampoo is to clean the hair. There are three types of hair soil to be dealt with. These are oily that soil or sebum, soluble soils, and insoluble particulate soils. All three
types of soil require being wetted, thus surface tension of the water is reduced by the shampoo surfactant allowing full contact with the soil’s surface. Any soluble soil is then removed in the aqueous medium. A process known as roll-up, the displacement of the soil by the detergent solution, I removes oily soil or sebum. Iuble particulate soils tend to be removed by electrostatic repulsion between the soil and the hair fiber assisted by repulsion between the surfactant molecules adsorbed onto the hair fiber and those dissolved onto the soil. In the process of soil removal, the detergent micelles make contact with the lipid surface for a finite time during which they take up an increment of lipid. This is assimilated to form lipid–detergent co-micelles which detach and float away into the bulk aqueous solution. In Figure 9 the rectangular core of diagrammatic micelles can be considered to represent the hydrocarbon domain created by the non–polar regions of the detergent, molecules, the smaller circles represent the polar heads of these molecules.

Fig 1. Lavender oil.

Fig 2. Coconut oil.
Fig 3. Shikakai.

Fig 4. Aloe-vera.
Fig 5. Cedarwood

Method of preparation:

1. Weighing:
All required herbal ingredient for shampoo preparation were accurately weighed individually by using digital balance.

2. Mixing:
They are prepared by simple mixing process in case of clear liquid shampoo. The detergent are first dissolved in half of with first part other of water and then perfume is added last. Mix all the ingredient together and perfume finally to mixed and triturate further.

3. Storage:
- Store in suitable container.

Formulation table:

Table 1.

<table>
<thead>
<tr>
<th>Sr.No</th>
<th>Ingredients</th>
<th>Quantity taken</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Coconut oil</td>
<td>10.0ml</td>
<td>Prevent the dryness of hair</td>
</tr>
<tr>
<td>2.</td>
<td>Cedar wood oil</td>
<td>0.7ml</td>
<td>Increase hair growth</td>
</tr>
<tr>
<td>3.</td>
<td>Lavender oil</td>
<td>0.7ml</td>
<td>Help to increases hair growth</td>
</tr>
<tr>
<td>4.</td>
<td>Rosemery oil</td>
<td>0.7ml</td>
<td>Help to increases hair growth</td>
</tr>
<tr>
<td>5.</td>
<td>Shikakai powder</td>
<td>0.7gm</td>
<td>Foam base</td>
</tr>
<tr>
<td>6.</td>
<td>Aloe-vera gel</td>
<td>2ml</td>
<td>Reduces dandruff</td>
</tr>
<tr>
<td>7.</td>
<td>Water</td>
<td>Q.S</td>
<td>Diluent</td>
</tr>
</tbody>
</table>
EVALUATION TEST FOR SHAMPOO:-

1. **visual inspection**
The formulation prepared were evaluated in terms of their clarity, foam producing ability and fluidity.

2. **Foaming ability and foam stability:-**
The total volume of foam content after 1 minute shaking were recorded. The foam volume was calculated only. Immediately after shaking the volume of foam at 1 minute intervals for 4 minute were recorded.

3. **Determination of PH:-**
Take PH Paper strip and place on a white tile. Pour a drop of the sample on the PH paper using a clean dropper. Observe the colour of the PH Paper. Now, compare colour obtained on the PH paper with different colour shade of the standard colour PH chart and note down the PH value.

4. **Percent of solid content:-**
A clean dry china dish was weighed and added with 4 grams of shampoo. the dish with shampoo was weighed. The exact weighed of the shampoo was calculated. The china dish with shampoo was placed on the hot plate until the liquid portion was evaporated. The weighed after drying was calculated.

5. **Skin irritancy:-**
Skin irritancy of shampoo can be checked by taking small amount of product on skin , after few minute to check whether local irritation or any inflammatory reaction are produce or not.

<table>
<thead>
<tr>
<th>Evaluation parameter</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Off white , good foaming</td>
</tr>
<tr>
<td>Foam ability</td>
<td>Good -40ml</td>
</tr>
<tr>
<td>PH</td>
<td>5.5±0.01</td>
</tr>
<tr>
<td>Clarity</td>
<td>Clear solution</td>
</tr>
<tr>
<td>Skin irritancy</td>
<td>Not found</td>
</tr>
<tr>
<td>Determination of % solid Content</td>
<td>2.10 gm % solid content</td>
</tr>
</tbody>
</table>

**RESULT AND DISCUSSION**

Herbal shampoo was formulated using simple mixing process. Herbal antidandruff shampoo was formulated by adding the required amount of herbal ingredient as given in formulation table. This prepared herbal shampoo was evaluated for various evaluation test, and the test shown in following table no. 2. The present work is based on the preparation and evaluation of the herbal anti-dandruff shampoo containing herbal ingredients such as Shikakai Powder, coconut oil and Aloe-vera gel etc. herbal anti-dandruff shampoo was evaluated by using evaluation different test shows white and good foaming appearance and PH-5.5±0.01, and also it is cost effective, treat to dandruff or dermatitis enhancing natural health of hair of and make them shiny. Hence, from the present investigation it was found that the formulated herbal anti-dandruff shampoo has optimum standard.
REFERENCE:


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