



# “FORMULATION AND EVALUATION OF HERBAL COLD CREAM BY USING TURMERIC”

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## **ABSTRACT:**

Herbal cosmetics are the preparation which are the used to beautify and enhance the human appearance. There is an increase in demand for plant-based medicine, cosmetic, food product, food supplement and various pharmaceutical products. Cold cream is o/w type of emulsion. The preparation and evaluation parameter both are influenced by the methods of preparation. The natural content in the botanical does not causes any side effects on the human body instead enrich the body with nutrient and other useful minerals. To formulate and evaluate herbal cold cream using turmeric to give glowing and cooling effect. The cream was prepared by using the cream base that is bees wax, liquid paraffin, borax, distilled water and rose oil. This formulation can be evaluated by using various evaluation parameters like pH, viscosity, irritancy, spreadability, microbial growth, thermal stability, homogeneity, acid value, saponification value, accelerated stability studies, patch test, physical property, dye test etc.

**Keyword:** Cold cream, Turmeric, natural extract, herbal cosmetic, Homogeneity, w/o emulsion, etc.

## **1: INTRODUCTION**

The use of Herbal product as cosmetic is as prevent in modern era as it was in ancient times. Herbal cosmetics are mostly preferred because of their less or nil side effects when compared to synthetic products and shows enhanced effect upon application. These herbal cosmetics used as beauty product help in enhancing and conditioning properties of skin.[1] The Ayurvedic system of medicines was one of the treatments of management of various disease and diseased state. [2] The herb extract by these system shows a number of properties like Anti-inflammatory, Anti-bacterial, Anti-septic, emollient, and sometimes also shows Anti-cancer properties. Curcumin is known to have medicinal effect on a different type of disease in human and has shown the Anti-proliferative effect in multiple cancer.[3] Cream is a topical preparation used for application to the skin where it gets absorbed through the various layer of the skin and it can also apply on the body part such as face, hands, legs, skin etc. [4] The name cold cream derives from the cooling feeling that the cream leaves on the skin variation of the product have been used for nearly two thousands year. [5] “The main principle of cold cream involves slow evaporation of water phase which leads to cooling sensation. On storage phase invention occurs and w/o emulsion cream is formed, and this often known as cold cream”. On application due to evaporating of water cold sensation is observed hence it is called as cold cream. Oily film remaining on the skin gives emollient action and properties to the skin. [6] Cold cream is an emulsion of water and certain facts usually including and beeswax various scent agents, disintegrant to smooth skin and remove makeup. The emulsion is of w/o type unlike the o/w type of vanishing cream so called because they seem to disappear when applied on skin. [7] The use of phytochemicals forms a variety of botanical have dual function 1) they serve as cosmetics for the care of body and its part 2) The botanical ingredient present influence biological function of skin and provide nutrients necessary for the healthy skin. [8]

### **1.1: ADVANTAGES OF HERBAL COLD CREAM:**

- 1)Ease to application.
- 2)Convenient to use
- 3)Avoidance of risk
- 4)In case of intra and inter-patient variation avoid fluctuating of drugs levels.
- 5)No special risk or technician required for application.
- 6)High patient compliance.

**1.2: DISADVANTAGES OF HERBAL COLD CREAM:**

- 1) Chances of allergic reaction.
- 2) It can be used mainly for drugs which required very small plasma concentration for action.
- 3) Larger particle sized drugs cannot be easily absorbed through the skin pores.
- 4) Chances of skin irritation of contact dermatitis due to any drug irritation.[9]

**1.3: BENEFITS OF HERBAL COSMETICS:**

- 1) Being natural, least harmful effect on the skin or other body part.
- 2) Relatively more safe.
- 3) More place effect to the consumer due to its use in traditions and culture.
- 4) Flexibility in formulation.
- 5) Population proves effect from ancient time.
- 6) Easily available.
- 7) Economical.
- 8) It normalizes the body function.
- 9) It enhances the energy level of body.
- 10) Variety of Phyto-constituents can be incorporated.[10-11]

**2: MATERIAL AND EQUIPMENT:****2.1. MATERIAL:**

Sr. No	INGREDIENT
1	Turmeric Extract
2	Beeswax
3	Liquide paraffine
4	Borax
5	Rose oil
6	Distilled water
7	Olive oil

**Table no.1. MATERIALS.****2.2. EQUIPMENTS:**

- 1) UV visible spectrophotometer
- 2) Brookfield viscometer
- 3) Digital pH meter
- 4) Magnetic stirrer
- 5) Mortar and pestle

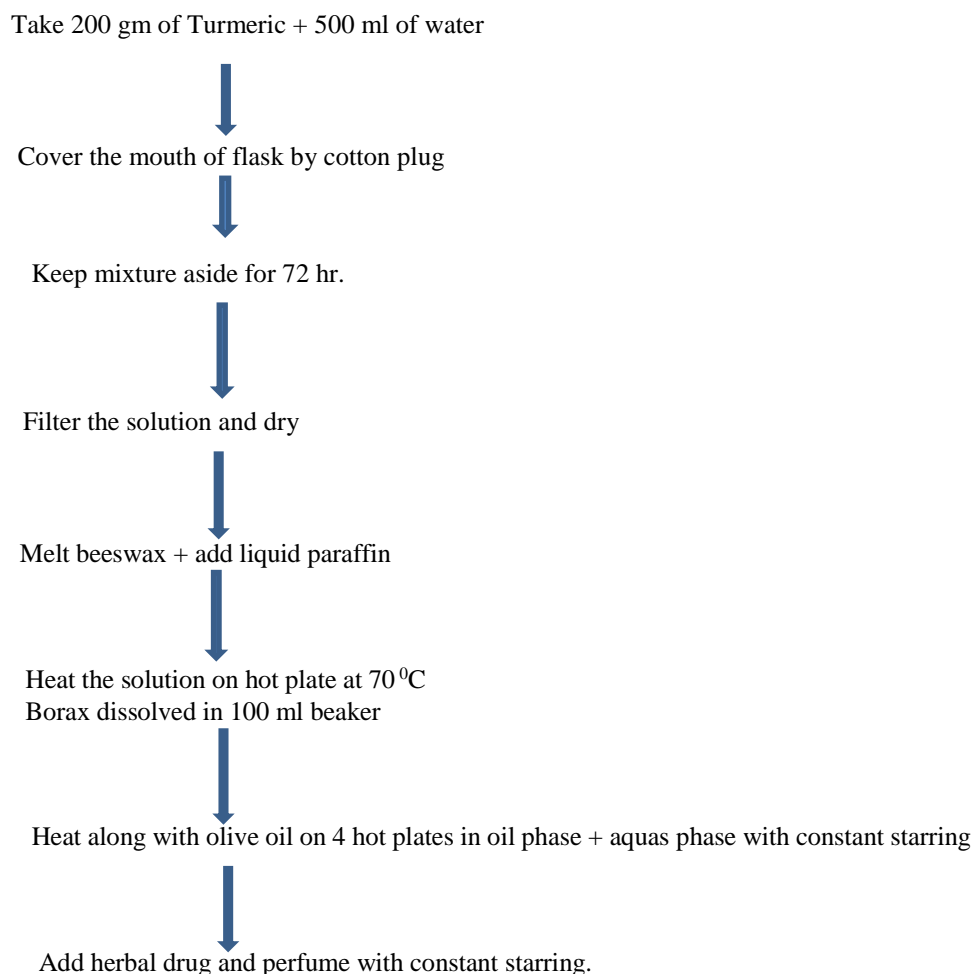
**3.FORMULA:****Table no.: 2. FORMULA**

SR. NO	INGREDIENT	QUANTITY TAKEN	QUANTITY TAKEN	USE
1	Turmeric extract	10 ml	5.0 ml	Skin lightening agent / Anti-inflammatory
2	Beeswax	25gm	12.5gm	Stiffening agent
3	Liquide paraffin	15gm	7.5gm	Lock moisture
4	Borax	5.0 gm	2.5ml	Emulsifying agent
5	Rose oil	2.0 MI	1.0ml	Flavoring agent
6	Distilled water	QS	QS	Vehicle and solvent
7	Olive oil	0.8 ml	0.2	Vehicle and solvent

**Fig.1 Turmeric****fig.2 Beeswax**

#### 4.FORMULATION

- 1) Turmeric extract was made by cold macerating technique. Take 200 mg of Turmeric in conical flask to which add 500 ml of H<sub>2</sub>O.
- 2) Cover the mouth of flask by cotton plug.
- 3) keep the mixture of turmeric aside for 72 hr. with occasional shaking.
- 4) Then filter the solution and dry the filter to dryness.[12]
- 5) Melt beeswax in a China dish on hot plate at 70 °C.
- 6) Then in a 100 ml beaker borax was dissolved and heated along with olive oil on 0.4 hot plate at 70 °C. [13]
- 7) To an oil phase is added drop wise with constant stirring until it comes to 45 °C to 50 °C. Then to this mixture the herbal drug and perfume are added with constant stirring. [14]

**Chart no.: 1. FORMULATION.**



**Fig. formulation of turmeric cold cream**

## 5.EVALUATION TEST:

**5.1. pH of the cream:** The pH meter was calibrated using standard buffer solution. About 19 of cream was weighted and dissolve in 100 ml of distilled water and check the pH of the cream. [15]

**5.2. consistency:** The consistency was checked by application on the skin. [16]

**5.3. Determination of type of smear:** This test was conducted by the application by the application of cream on the skin surface of a human voluntary for its greasiness. After application the type of smear was observed.

**5.4. Determination of emollient:** The emollient test was preferred to check the amount of residue test after the application of specific quantity of cream [16]

**5.5. Determination of spreadability:** Spread ability may be expressed by the extent of the area to which the topical application spread when applied to the affected part on the skin. The therapeutics efficiency of the formulation also depends upon its spreading value. The spread ability (s) can be calculated using formula.

$$S = m * L/T$$

Where,

S = Spread ability

M= weight tied to upper glass slidel-length moved on a glass slaid

T = time taken

The determination was carried out in triplicate and average of three reading was recorded. [17]

**5.6. Removal:** The easy of removal of the cream applied was examined by washing the applied part with tap water [18]

**5.7. Irritancy:** Test mark an area (15 q.cm) on the left-hand dorsal surface. The cream was applied to the specified area and time was noted, irritancy, erythema, edema was checked if any for regular intervals up to 24 hr and reported. [19]

### 5.8. Physical evaluation:

Formulated herbal cream was further evaluated by using the following physical parameter, color, odor, consistency and state of the formulation.

**5.8.1. COLOR:** The color of the cream was observed by visual examination. The result was shown in table.

**5.8.2. ODOR:** The odor of cream was observed by the visual examination.

**5.8.3. STATE:** The state of cream was examined by rubbing visually. The cream having a semisolid state.[20]

SR.NO	PARAMETER	RESULT
1	Color	Slightly white yellow
2	Odor	Characteristics
3	Consistency	Smooth
4	State	Semisolid
5	pH	6.5
6	Spreadibility	7.4 q.cm /sec
7	Washability	Easily washable
8	Non-irritancy	Non-irritant
9	Viscosity	39010 cps
10	Phase separation	No phase separation

Table no.3: EVALUATION

**5.9. Viscosity:** Viscosity of the formulation was determined was Brookfield or Ostwald viscometer at 100 RPM, using spindle no. 7 at temperature 25 °C. The determination was carried out in triplicate and the average of three reading was recorded.

**5.10. Homogeneity:** The formulation were tested for homogeneity by visual appearance and by touch. [21]

**5.11. Washability:** The cream was applied on the hand and observed under the running. [22]

## 6.RESULTS AND DISCUSSION:

### 6.1. RESULT:

Prepared formulation was pale odor and smooth texture.

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1	Color	Slightly white yellow
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Table no.: 4. RESULT

### 6.2. CONCLUSION :

Form the above result it is consider that the formulated cream showed good consistency, and spread ability, homogeneity, pH, no phase separation during study period of research. So, the values of herbs in the cosmetical has been extensively improved in personal care system and To than synthetic ones. From the above study it can be calculated that the polyherbal cold cream is safe to use as it developed from herbal extract. Natural remedies are more acceptable in the belief that they are safer with fewer side effect than the synthetic ones. So, the values of herbs in the cosmetics have been extensively improved in personal care system and there is greater demand for the herbal cosmetics nowadays.

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