



## Formulation and Evaluation of Herbal Cold Cream Using Turmeric

Author-Mr.SaurabhNagare  
Guided by- Prof.Rani Deokar  
Principal- Dr.Megha Salve

*Department Of Bachelor Of Pharmacy  
Shivajiraopawar college of pharmacy pachegaon*

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### ABSTRACT:

Cosmetics are substances intended to improve the appearance and smell of the human body. The word "cosmetics" comes from a Greek word that refers to the art of clothing and decoration. Women must first cover their face, neck, etc. with white powder to add color to their cheeks, not knowing that white powder contains lead and will discolor the complexion after a certain period of time. Modern cosmetics include skin care products. Foundation, powder, blush (rouge). Eye makeup; lipstick; shampoo; preparations for curling and straightening hair; dyes, dyes and bleaches. And manicure. Related products include antiperspirants, mouthwashes, hair removers, astringents, bath crystals, and many other types of products. Formulation and evaluation of herbal cold cream with turmeric for brightening and cooling effects. 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.

**Keywords:** Cosmetics, Drugand cosmetic act 1940, cold cream,,Turmeric, natural extract, herbal cosmetic

### I. INTRODUCTION:-

The use of herbal products as cosmetics is as common in modern times as it was in ancient times. Herbal cosmetics are usually preferred because they have fewer or no side effects and are more effective when used than synthetic products. Used as beauty products, these herbal cosmetics help improve and condition the skin's properties.[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 basic principle of cold cream is to create a cooling sensation due to the slow evaporation of the water-soluble phase. The invention takes place during the storage phase and a non-emulsion cream is formed, often called cold cream." It is called cold cream because it feels cold when applied due to evaporation of moisture. The oil film remaining on the skin provides a gentle effect and efficacy to the skin. [6] Cold cream is an emulsion of water and certain substances (usually including beeswax and various fragrances) to smooth the skin and remove makeup. Emulsion is an oil/water type, and is so named because, unlike oil/water disappearing creams, it appears to disappear when applied to the skin. [7] The use of phytochemicals forms a variety of herbal remedies with dual functions. 1) It acts as a cosmetic to care for the body and its parts. 2) The herbal ingredients present affect the biological functions of the skin and provide nutrients necessary for healthy skin. [8]

**History :**

Cold cream was first invented by Galen, a famous Greek physician- pharmacist in the Roman Empire (who practiced in Rome) of The 1<sup>st</sup> Century AD. The Galen formula of cold cream has changed but little in proportions or method of preparation throughout many centuries.[9]

II.The Drugs and Cosmetics Act,The Drugs and Cosmetics Act, 1940 is an important legislation in India that regulates the import, manufacture, distribution, and sale of drugs and cosmetics. It sets standards for the quality and safety of these products. The Act also establishes the Central Drugs Standard Control Organization (CDSCO) to oversee and enforce these regulations. It has been amended several times to keep up with advancements in the pharmaceutical and cosmetic industries, ensuring the safety and efficacy of products available in the market.[10] The related Drugs and Cosmetics Rules, 1945 contains Provisions for the classification of medicine under given schedules and there are guidelines for the storage, sale, display, and prescription of every schedule.[11] This act was originally mentioned because of the Drug Act and was passed in 1940.

The primary activity was prepared by the recommendations of the Chopra Committee formed in 1930. The related Drugs Rule was as passed in 1945.

Since 1940, the act has undergone several amendments and is now mentioned because of the Drugs and Cosmetics Act Of, 1940.[12]

The term “drug” as defined in the law includes a wide range of substances, diagnostics, and medical devices. [13] Article 16 of the Act sets out the quality standards for products.

Section 17 defines “misbranding”. Drugs that claim to have greater therapeutic value than they actually do are considered misregistered. Manufacturers of such medicines may be asked to stop producing such medicines under Article 18. Article 27 deals with counterfeit and adulterated medicines. [14]

The Drugs and Cosmetics Act restricts the import of substandard drugs and cosmetics.

1. Any misbranded or spurious cosmetic.
  2. Any adulterated or spurious cosmetic.
  3. Any patent or proprietary medicine which has no description of truth formula or list of active ingredients included in it, along with the quantities thereof.
  4. Any drug which purports or claims to cure or mitigate any such disease or ailment within the shape form of a Statement, design, or device accompanying it.
  5. Cosmetics that contain ingredients that may be unsafe or harmful if ingested. [15]
- Pharmaceuticals or cosmetics whose import is prohibited pursuant to this regulation. Pharmaceuticals and cosmetics whose import is prohibited under this regulation will be valued higher than normal. Manufacturers of such medicines may also be required to suspend production of the medicines under Article 18. Article 27 deals with counterfeit and adulterated medicines. The law also requires that the ingredients of medicines be listed on the label. [16]

**Offences and Penalties [17] :-**

Sr. No.	Offence	Penalties	
		First conviction	Subsequent conviction
1.	Import of adulterated or spurious drugs or cosmetics or any cosmetic containing any ingredient which may render it unsafe or harmful for the use under directions recommended.	Imprisonment upto 3 years and fine upto ₹ 5000.	Imprisonment upto 5 years or fine upto ₹ 10,000 or both.
2.	Import of drugs or cosmetics other than referred above the import of which is prohibited.	Imprisonment upto 06 months or fine upto ₹ 500 or both.	Imprisonment upto 1 year or fine upto ₹ 1000 or both.
3.	Import of drugs or cosmetics in contravention of any notification issued under section 10-A.	Imprisonment upto 3 years or fine upto ₹ 5000 or both.	

**3.9Cosmetic License**

Every manufacturer of Cosmetics or must obtain this license. The nonsupervisory authority for Cosmetic Registration in India is the Central Drug Standard Control Organization.[18]

#### IV. PREPARATION OF SOPS OF DIFFERENT EQUIPMENT AND INSTRUMENTS

Preparing bribes using various means and tools. Standard operating procedures (bribes) are a set of written instructions that identify routine or repetitive actions to be followed by a group. The development and use of bribes is an essential part of a successful quality system because it provides people with the information they need to do their jobs correctly and helps improve the quality and integrity of the product or result. The term “bribery” is not always applicable; terms such as protocols, instructions, worksheets, and laboratory operating procedures may also be used. [19]

##### 4.1 SOP Preparation:-

The association should have a procedure in place for determining what procedures or processes need to be proved. Those bribes should also be written by individuals knowledgeable about the exertion and the association’s internal Structure. These individuals are subject-matter experts who perform the work or use the process. A platoon approach can be followed, especially formulate-tasks processes where the guests of several

individualities are critical, which also promotes “buy- in” from implicit druggies of the bribe. bribes should be written with sufficient detail so that someone with limited experience with or knowledge of the procedure, but with an introductory understanding, can successfully reproduce the procedure when unsupervised. The experience demand for performing an exertion should be noted in the section on labour force qualifications. For illustration, if an introductory chemistry or natural course experience or fresh training is needed that demand should be indicated.

#### MATERIAL AND EQUIPMENT:

##### 1.MATERIAL:

Sr.No.	Ingredients
1 .	Turmeric extract
2.	Beeswax
3.	Liquid paraffin
4.	Borax
5.	Rose oil
6.	Distilled water
7.	Olive oil

Table No. – 1

##### 2. EQUIPMENT

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

##### 3. FORMULA: [20]

Sr. No.	Ingredients	Quantity Taken	Quantity Taken	Use
1.	Turmeric	10 ml	0.5 ml	Skin lightening agent/ anti- inflammatory
2.	Beeswax	25 gm	12.5 gm	Stiffening agent
3.	Liquid paraffin	15gm	7.5 gm	Lock moisture
4.	Borax	5.0 gm	2.5 ml	Emulsifying agent
5.	Rose oil	2.0 ml	1.0 ml	Flavouring agents
6.	Distilled water	Q.S	Q.S	Vehicle and solvent
7.	Olive oil	0.8 ml	0.2 ml	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.[21]
- 5) Melt beeswax in a China dish on hot plate at 70 0C.
- 6) Then in a 100 ml beaker borax was dissolved and heated along with olive oil on 0.4 hot plate at 70 0C. [22]
- 7) To an oil phase is added drop wise with constant starring until it comes to 45 0C to 50 0C. Then to this mixture the herbal drug And perfume are added with constant starring. [23]

Take 200 gm of Turmeric + 500 ml of Water

- ↓
- Cover the mouth of flask by cotton plug
- ↓
- Keep mixture aside for 72 hr.
- ↓
- Filter the solution and dry
- ↓
- Melt beeswax + add liquid paraffin
- ↓
- Heat the solution on hot plate at 70 0C
- Borax dissolved in 100 ml beaker
- ↓
- Heat along with olive oil on 4 hot plates in oil phase + aquas phase with constant starring
- ↓
- Add herbal drug and perfume with constant starring.



Fig 3. Cold cream

#### 5.EVALUATION TEST:

##### 5.1. pH of the cream:

The pH meter was calibrated with standard buffer solutions. Approximately 19% of the cream was weighed and dissolved in 100 ml of distilled

water and the pH of the cream was checked. [twenty four]

##### 5.2. consistency:

The consistency was checked by application on the skin. [24]

##### 5.3. Determination of type of smear:

This test was conducted by randomly applying the cream to the surface of human skin, taking into account the oiliness of the cream. After application, the type of smear was observed.

5.4. Determination of emollience:

The emollient test was preferred to check the amount of residue test after the application of Specific quantity of cream [25]

5.5. Determination of spreadability:-

Spreading ability can be expressed as the size of the area over which a topical product spreads when applied to the affected area of the skin. The therapeutic effect of a drug also depends on its prevalence. The radio capacity can be calculated using the formula:

$$S = m * L/T$$

Where,

S = Spread ability

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

T = time taken

The determination was carried out in triplicate and average of three reading was recorded. [26]

5.6. Removal:

The easy of removal of the cream applied was examined by washing the applied part with tap water [27]

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. [28]

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.[29]

5.9. Viscosity:-

Viscosity of the formulation was determined was Brookfield or Ostwald viscometer at 100 RPM, using spindle no. 7 at temperature 25 0C. 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. [30]

5.11. Washability:

The cream was applied on the hand and observed under the running. [31]

Result:-

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

**II. CONCLUSION :-**

Cosmetics are substances intended to improve the appearance and smell of the human body. The word cosmetics It comes from a Greek word that refers to the clothing and decorative techniques needed for women to dye their cheeks. Color your face, neck, etc. with white powder without knowing that it contains white powder. Lead destroys the appearance of the skin over a period of time. There are many

cosmetics used in daily life. Examples: lipstick, mascara, cream, lotion. These are made from herbal or synthetic drugs. They cause many side effects. Cosmetics are useful in the lives of men and women.

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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