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Research Article

Pharmaceutical Preparation And Evaluation Of Herbal Cold Cream

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ABSTRACT

cold cream is used for deep moisturization and allow to remove waste substance from pores and cools the body. Herbal cold cream involve the pure and natural ingredient without any additives in their preparation. The aim of project is Pharmaceutical Preparation and Evaluation of Herbal Cold Cream. Herbal ingredients such as Mint, Honey, Coconut oil, Turmeric powder, Rose water etc are used. All ingredients have any specific property to protect skin from any harmful effect. Main herbal ingredient is Mint because mint have specific cooling effect. To evaluate cream different evaluation parameter used such as Irritation test, Physical evaluation, Washability, pH, Spread ability test etc. Herbal cold cream provide significant effect to the skin.

INTRODUCTION

Cold cream was first invented by Galen a famous Greek physician pharmacist.[3] Cold cream is a type of emulsion and include fats like Beeswax and other ingredient for smooth skin and cooling property. Herbal cold cream are mostly used because they do not have any side effect as compared to synthetic product.[1] The cosmetic are world derived from Greek word Kosmesticos means to adorn. Cold cream is water in oil type emulsion.[5] For preparation of cold cream different herbal ingredient are used such as Mint, Honey, Coconut oil, Rose water, Turmeric powder etc. All ingredients show the specific properties like Antibacterial, anti inflammatory, antioxidant

etc. Herbal ingredient have the medicinal property since ancient time. The herbal ingredient such as mint i.e Pudina belongs to the family Lamiaceae. It is highly recommended herbal medicine and having significant property like antibacterial property and mainly have cool effect to the skin.[9] All the part of mint plant have therapeutic property and plant leaves are great demand for pharmaceutical preparation.[10] The turmeric powder having different property such as wound healing, sun damage protection, ageing treatment also treat chronic skin disease.[1] Honey provide nourishment to the skin and Coconut oil is used to provide moisturization to the skin. Rose water helps to maintain the skin natural pH balance.

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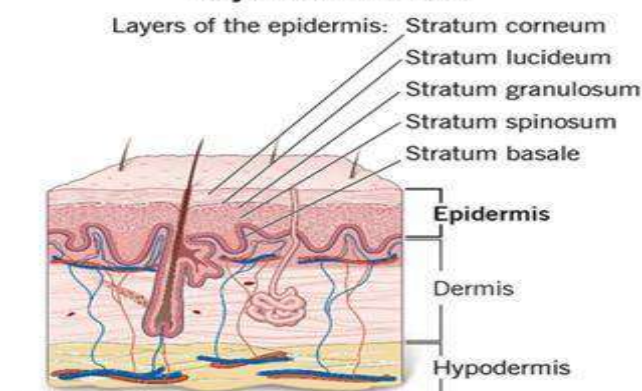
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Herbal cold cream have different application such as it is designed for facial moisturization, nourishment, cooling purpose. Herbal cold cream can be used in a number of different ways. Firstly most important use for removing makeup purpose. It is used in a way such as rubbing or scrubbing. Makeup removed with minimal damage it to remove makeup without water. Cold cream also be effective in as a body lotion, lip balm or even shaving cream.[5] Cold cream used for body make moisture and nourishment to skin and cool effect to the skin without any side effect to the skin. Herbal cold cream have different objectives such as consumer demand in the growing demand due to increasing awareness of harmful effect.

Layers of the Skin



1. Epidermis – The top layer
2. Dermis – The middle layer
3. Hypodermis – Bottom/fatty layer [3]

Skin covers the complete body and act as the protective layer of body. They protect body from Harmful rays, Heat light, injure and Bacterial and Fungal type infection. Skin also contains different character and qualities such as they regulate the body temperature, act as sensory organ, store water and fat, stop entry of bacteria, prevent the body loss. Act as a barrier between the organism and environment, help body to make Vit.D when exposed to the sun.[2,5]

Skin consists of three types of layer that is epidermis dermis and subcutaneous/ hypodermis layer

1. Epidermis is the outermost layer of the skin having thickness about 0.2 mm. It is also called as metabolic active tissue epidemics again classified into five layers i.e. stratum corneum, stratum lucidium, stratum granulosm, stratum spinosum and stratum Basale
2. Dermis is made up from collagen and elastic as well as fibroblast. Sweet gland present in the dermis. Removal of sweet and impurities is possible due to dermis layer. Due to attachment of Hair they make skin soft and smooth.
3. Subcutaneous layer is the deepest layer of the skin. It is also introduce as a fatty layer. They act as a thermostat mean regulate and maintain temperature and also protects the body. The presence of fat act as filter, protecting your muscles, bones and organ from the damage. subcutaneous layer is also known as Hypodermis layer.

OBJECTIVE :-

1. Growing demand due to increasing awareness of harmful effect of synthetic ingredient on the skin.
2. Herbal ingredient provides skin benefits like antibacterial, antioxidant and nourish and protect skin.
3. Herbal cold cream create opportunity in the market.
4. Herbal cold cream safer than synthetic product.
5. Need to determine efficacy of Herbal Cold Cream in providing moisturization and cool effect.

Advantage :-

1. Natural ingredient found in herbal cold cream and they provide moisture as well as additional healthcare properties like

antibacterial, antioxidant, anti-inflammatory etc.

2. Herbal cold cream is cost effective option.
3. Herbal cold cream provide safer way to provide moisturization and cool effect to the skin.
4. It is used to prevent dehydration and ageing of skin.
5. Cold cream is emulsion they keep skin safe from environment.
6. cold cream is a formulation provide nourishment to the skin.
7. It is used for cleansing purpose to remove makeup.
8. It helps to maintain moisture balance of skin.
9. Herbal cold cream avoid the side effect to the skin.
10. Provide chemical barrier with sunblock ingredient

Ideal properties :-

1. It should not normally diluted.
2. pH of cold cream must be optimum from 4.6 to 6.0
3. It should be physically and chemically stable.
4. It should be sterile.
5. Excipients are compatible with each other.
6. Cold cream should be easily removeable with water.
7. The cream should contain effective preservatives.
8. Cold cream should have reasonable shelf life.

Role of Ingredients :

1. Mint –

Mentha arvensis L. belongs to the family Lamiaceae and is typically known as Pudina. Mint leaves also contain salicylic acid and vitamin A they prevent stressful breakouts. Mint leaves gives cooling effect to the skin and have antibacterial property.



2. Coconut oil –

Coconut oil used to provide moisturisation and nourishment to the skin. They have anti-inflammatory and antioxidant property.



3. Turmeric –

Turmeric used to reduce signs of ageing and protect skin from sun damage. Used for brightens skin tone.



4. Honey –

Honey provide nourishment to the skin and making it soft and have antioxidant property.



5. Rose water –

Anti inflammatory property can reduce skin redness. water maintains the skin natural pH balance.



6. Beeswax –

Beeswax act as a emulsifying agent. They heals and softens skin also have antibacterial nature.



7. Borax –

Borax combined with wax and used in many cosmetic products and act as stability agent.



8. Methyl Paraben –

Methyl Paraben used as a preservative



9. Liquid Paraffin –

Used as a soothing agent



Method of preparation :

1. Extraction of mint leaves –

Fresh leaves of *Mentha Arvensis* L. Were collected from home garden then the leaves are dried under sunlight for 7 to 8 days. 70 gm of dried leaves was crushed into powder then the 25 gm of powder form of mint was extracted by Soxhlet extraction method using methanol. 125 ml of methanol was used as solvent. The apparatus was continuously heated using a heating mantle. The sample was placed in extraction thimble. The solvent used for extraction process, which undergoes several cycles for about 3 to 4 hours was collected and then obtained solvent was concentrated by thermostatic water bath at 65°C temperature.

2. Herbal cold cream preparation –

- Take required quantity of Bees wax and liquid paraffin in porcelain dish.
- Heat mixture in water bath for melting purpose. Remove dish from water bath.
- Take Borax and distilled water in beaker. Heat this solution in water bath for about 75°C.
- These borax solution add dropwise in porcelain dish with continuous stirring, add methyl paraben.
- Then add herbal ingredient like mint, coconut oil, honey, turmeric, and add Rose water for fragrance.
- And herbal cold cream was obtained.

FORMULATION TABLE :

Ingredient	Quantity		
	F1 15g	F2 20 g	F3 25g
Bees wax	2.25 g	3 g	3.75 g
Borax	0.04 g	0.05 g	0.06 g
Liquid paraffin	7.5 g	12 g	12.5 g
Methyl Paraben	0.0015 g	0.002 g	0.0025 g
Coconut oil	0.7 ml	0.8 ml	1 ml
Pudina	2 g	2.2 g	2.5 g
Honey	1 ml	1.1 ml	1.3 ml
Rose water	1 ml	1.2 ml	1.4 ml
Turmeric	0.5 g	0.6 g	0.8 g



EVALUATION OF CREAM

1. Irritation test –

Mark an area (1 sq.cm) on the left hand the cream was applied to the specified area and time was noted and Irritancy was checked up to 24 hours.

2. Physical evaluation –

- Colour
- Odour
- Texture
- State, are observed

3. Washability –

The cream was applied on hand and observed under running.

4. pH –

The pH Meter was calibrated with the help of standard buffer solution. Weigh 0.5 gm of cream dissolve in 50 ml distilled water and pH was measured with the help of digital pH meter.

5. Spreadability –

Cream placed between two slides and time taken. Formula = $M \times L/t$ Where, M – weight of sample L – glass of length T – Time taken

6. Greasiness –

Cream was applied on the skin surface in the form of smear and check smear was oily/greasy like.

7. Phase separation –

Cream kept in close container at temperature 25-1000 C away from light and check for 24 hrs.

8. Homogeneity –

Homogeneity was judge by visual appearance/touch.

Labelling information :

HERBAL COLD CREAM		25 gm
Content –	Mint – 2.5gm Honey – 1.3ml Borax – 0.06gm Beeswax – 3.75gm Coconut oil – 1ml Turmeric powder – 0.8gm	Mfg. Batch No – Mfg. Lic No. – Mfg. Date – Exp. Date – Use : Provide deep moisturisation and cools body
Precaution – Avoid contact with eyes.	Direction : After cleaning apply the cream over hand and body.	
Storage – It should not be stored in refrigerator.		
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RESULT AND DISCUSSION :

Following evaluation test performed to ensure nature of prepared cold (Herbal) cream.

1. Irritation test –

F1	F2	F3
No	Slightly Irritation	No

2. Physical evaluation –

Character	F1	F2	F3
Colour	Faint Yellow	Faint Yellow	Faint Yellow
Oduor	Pleasant	Pleasant	Pleasant
Texture	Less smooth	Less smooth	Less smooth
State	Semisolid	Semisolid	Semisolid

3. Washability – (easily washable/No)

F1	F2	F3
No/Oily texture	Easily washable	Easily washable



4. pH –

F1	F2	F3
5.4	6.83	6.66



5. Greasiness – (less greasy/No)

F1	F2	F3
No	Less greasy	Less greasy

6. Phase separation – (Yes/No)

F1	F2	F3
Yes	No	No

7. Spreadability – (easily spread/No)

F1	F2	F3
Easily spread	No/difficult to spread	Easily spread



8. Homogeneity – (Good/Bad)

F1	F2	F3
Bad	Good	Good

CONCLUSION :

By using different herbal ingredients like mint, coconut oil, honey, turmeric powder, rose water, the cold cream show the different effect and herbal

ingredients show specific activities like mint show antibacterial activity and honey provide nourishment to the skin. The prepared cream mainly depends upon the mint extract because they provide cool effect to the skin. Based on the result and discussion, the formulation F1, F2 and F3 show differences in their evaluation parameter like pH range of cold cream are 5.6 to 6.8 But F1 having 5.4 and F2 having 6.83 means more and less pH respectively. But F3 show correct pH i.e. 6.66. however F3 show the best result.

Phytochemical Test :

The analysis of presence of main group of natural constituents present in plant extract was done using different reagent. Phytochemicals such as Phenol, Tannin, Glycoside, Flavonide, Alkaloid etc. were qualitative determined as following :



Test	Observation
1. Phenol & Tannin – 2 drop of extract + 2 ml FeCl ₃	Black Colour formation
2. Glycoside (keller kilianin) – 2 ml mint extract + 2 ml Glacial acetic acid + few drop FeCl ₃ + 1 ml conc. sulfuric acid.	Brown ring formation
3. Carbohydrate – 1 ml of mint extract + 1 ml Benedict reagent + Heat (2 min)	Green Colour formation
4. Mayer reagent – 2 drop of mint extract + few drop of mayer reagent	Formation of yellow ppt/Turbidity
5. Terpenoid – 5 ml of mint extract + 2 ml of chloroform + 3 ml of conc. Sulphuric acid.	Formation of reddish brown Colour
6. Flavonoids (Shinoda test) – 1 ml mint extract + 1 ml 10 % lead acetate.	Formation of yellow ppt
7. Dragendroff reagent – 2 drop of mint extract + 3 drop of Dragendroff reagent.	Formation of white ppt

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