

Review Article on ‘Formulation and Evaluation of Cold Cream’

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Abstract: *Because they are so easy to apply and remove from the skin, creams have been regarded as necessary topical preparations in cosmetic items from the dawn of time. Pharmaceutical creams are applied to the skin for a variety of cosmetic reasons, such as moisturizing, cleaning, beautifying, and altering appearance. In addition, they can be used to treat cuts, burns, and other skin injuries in addition to shielding the skin against bacterial and fungal diseases. These semi-solid preparations are safe for use by the general public and society. Herbal cosmetics are goods that are used to improve and beautify human appearances. Herbal cosmetics are goods that are used to improve and beautify human appearances. The purpose of the current study was to develop and evaluate herbal cold creams with plant extracts derived from the water-in-oil method with the intention of nourishing and moisturizing the skin. The cold cream is made with turmeric extract and neem oil. The quality of the produced product was assessed using a variety of evaluation methods. There was no change in the cream formulation's physical properties. The cream formulation showed high homogeneity, pH, nongreasy qualities, consistency and spreadability, and no evidence of phase separation during the research study time. Stability measures revealed no appreciable change in the generated cream's viscosity, aroma, or appearance during the research period. The herbal extract with cold cream produces relaxing and cooling effects as the water in the emulsion gently evaporates.*

Keywords: Cold Cream

I. INTRODUCTION

Cosmetics are the items that are typically used to both purify and beautify the skin. The word "cosmetics" comes from the Greek word "kosmestikos," which meaning "to adorn." Since then, substances intended to enhance looks or skin beauty have been referred to as cosmetics. People have been beautifying their skin with polyherbal or herbal cosmetics since ancient times. An emulsion of water and oil is called cold cream. Compared to other semisolid dosage forms or formulations, cold cream provides a longer contact time at the application site. They make the skin appear elegant and less oily. The oil phase provides the skin with emollience. The purpose of the cold cream is to cool the body and replenish moisture to dry skin by removing waste products from the pores. It is simple to wash and remove with water. When applied to the skin, they cause no irritation. The skin gets more protection during the water phase. It becomes liquefiable at body temperature. Through the epidermis's pores, it enters the skin. It is said that the cold cream formulation was developed in the second century by the Greek physician Galen.

He created a concoction of rose petals, beeswax, and water. These were the principal ingredients in the moisturizing cream that he made. This skin treatment was also known by the common name, Galen's cream. In addition to moisturizing the skin, cold creams can be used to remove temporary tattoo marks that can be scraped off with a cotton ball. The production of children's face paint is connected to the applications of cold creams.

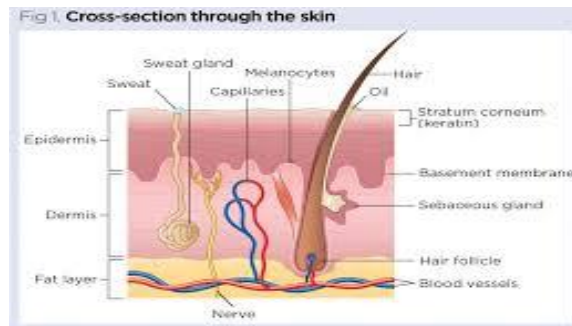
HUMAN SKIN PHYSIOLOGY:

Epidermis:

Depending on where on the body it is located, the stratified, keratinized squamous epithelium that makes up the epidermis—the skin's outermost layer—varies in thickness. The thickest layer is seen on the bottoms of the feet and the palms of the hands. There's no blood on the scene. The interstitial fluid of the dermis, which provides oxygen and nutrition and drains away as lymph, which covers the epidermis's deeper layers but avoids getting to the veins or nerve

endings.

Dermis: The dermis is robust and elastic. It is composed of connective tissue, and the matrix is made up of interwoven collagen and elastic fibers. The cause of stretch marks, sometimes referred to as persistent striae, is the rupture of the skin's elastic fibers during pregnancy and obesity. Collagen fibers, which also give the skin its tensile strength, hold water in place. Ageing collagen fibers give rise to wrinkles. Mast cells, macrophages, and fibroblasts are the main cell types found in the dermis. Beneath the outermost layer of skin exist areolar tissue and several grades of adipose (fat) tissue.



Human skin

• **Subcutaneous Gland:** The sebaceous gland is another essential site for the processing and control of androgen. All of the enzymes needed to convert cholesterol into adrenal hormones or steroid precursors, including dehydroepiandrosterone, are found in the skin. The sebaceous gland can also inactivate androgens by using hydroxysteroid dehydrogenase, an enzyme that is present as early as 16 weeks of foetal life. Generated in large quantities in the sebaceous glands, especially those on the face and scalp, is the type-1 isoform of 5-alpha reductase, which transforms testosterone into its most active form. The sebaceous gland is mostly controlled by hormones. Androgens bind to nuclear androgen receptors (AR) to regulate sebaceous gland activity. Many skin

HISTORY OF COLD CREAM PREPARATION :

Many druggists would manufacture rosewater cream and store it cold on ice before the first century to make it acceptable for use as a skin lotion. The Latin word "refrigeran" (meaning "making cold") refers to the cooling sensation that is produced when cold cream is applied because the water in it evaporates.

Galen, the famous Greek physician and chemist, lived and worked in Rome in the first century AD. is recognized for having invented the first cold cream. The measurements and method of preparation for the Galen cold cream formula have remained mostly unchanged over many generations.

It is perfect for preventing eczema in dry regions of the body, treating dry skin on the knees, foot, and elbows, and utilizing as a natural makeup remover. It is used by people to soothe sunburns, soften skin, and shield their faces from the cold. In addition to that. This product's lipids and water mix aids in moisturizing. The emulsion is of the "water in oil" variety, as opposed to the "oil in water type" vanishing cream emulsion, which gets its name from the fact that it seems to disappear when applied to skin.

A lubricating cream that contains lanolin and its derivatives, sometimes referred to as a night cream or massage cream, is an example of a cold cream.

Cold cream

An emulsion of water and specific fats called cold cream is used to remove makeup and soften skin. Usually, it includes perfumes and beeswax.

Fatty Cream is how the European Pharmacopoeia describes it.

All varieties of cold cream have a combination of water and oil. As you apply the cream to your skin, the water in it evaporates, leaving your skin feeling cold. It's most likely that this chilling effect inspired the term. Other names for cold cream include moisturizer and moisturizing cream. Emollient behavior is required from cold cream. It should be cold to the touch and remove any obstructive oil layer from the skin when applied.

Despite being an emulsion having a significant amount of fat and oil in it, When applied to the skin, it produces a cooling effect since the emulsion's water gradually evaporates. Cold cream serves as an example of a water-in-oil (W/O) emulsion.

The oil phase comprises the majority of cold cream. The cold cream is essentially a semi-solid preparation made with oil. CeratumRefrigerans, or Unguentum, are other names for cold cream.

It typically consists of water, mineral oil, beeswax, and borax. It is a cosmetic that frequently soothes and purifies the skin.possesses a thick, greasy substance.

It is what is described as a cleansing cream.

Ideal Characteristics of Cold Cream

- In general, diluting it is not advised.
- The optimal pH range for the cold cream is between 4.6 and 6.0.
- It should have the perfect consistency to make applying it and taking it out of the container simple.
- A cooling sensation should be felt on the skin after external application.
- Water needs to form a thin, waxy protective layer on the skin in order to stop it from evaporating from the surface.
- It should operate more quickly as an emollient to allow for the rapid expansion and softening of severely dry skin.
- Ointments typically include more oil.
- Creams can have several colors, such yellow, but their typical color is white to off-white (Nystatin Cream USP).
- Easily applied to skin;
- Devoid of particulate matter

USES OF COLD CREAM:

The purposes of cold cream are dictated by their functional constituents, which are the contents of the cream.

The main uses for cold cream are as follows: The main purpose of medicated cold cream is to treat skin as a topical medicinal dose form by preserving the skin's moisture balance and preventing dry skin conditions. This is among the most common uses for cold cream that isn't medicated.

- As a means of removing makeup and preparing for cleaning.
- To provide an emollient result
- To provide an oiled protective barrier on the skin. Provide an extra chemical barrier, similar to sunscreen ingredients.

FORMULATION OF COLD CREAM

GENERAL INGREDIENTS USED IN COLD CREAM

Ingredients	Quality taken(20gm)	Used of ingredients
Bees wax	3.2gm	Emulsifying agents
Borax	0.16gm	Emollient
Methyl parapen	0.02gm	Preservatives
Liquid paraffin	10ml	Laxative
Water	6ml	Diluents
Perfume	0.62ml	Fragrance

Procedure of Making Cold Cream:

To start, we weighed each ingredient.

Next, we add the 3.2 gm of weighed bees wax to the china disc, which serves as the basis in this case.

The 10ml of liquid paraffin is then added to the china disc



Bees wax

- After melting the beeswax and making it miscible with the liquid paraffin, we combined the two materials using a glass rod and heated the mixture in a water bath at 70°C
- The china disc was taken out of the water bath and set aside

HOT WATER BATH

We should keep in mind that the temperature of the combined solution should be up to 70°C and that it should be in a liquid state before adding the remaining ingredients to it. • Next, using a glass rod to stir, we combined the borax and water. • To get borax to dissolve in water, we boil the mixture in a water bath until it does We dropped the boric acid solution into the first solution after the borax had completely dissolved



- The following stage was adding the previously weighed 0.02 gm of methyl paraffin and mixing the solution with a glass rod until all of the paraffin's particles were fully dissolved.
- As a final touch, we added a drop or two of rose oil, which we utilised to smell the recipe.
- After that, we continually stirred the entire mixture using a glass rod until it took on a semi-solid form

Evaluation of cold cream

The following several test may perform to evaluate the quality of cold cream.

. Morphological Evaluation: This refers to the manual evaluation of an ice cream's physical characteristics based on its colour, flavour, and texture

- pH: In order to calibrate the pH meter, standard buffer solution was used. With the aid of a digital pH meter, weigh 0.5 g of cream and dissolve it in 50.0 ml of purified water.



- Test for Spreadability : The cream sample was placed in between the two glass slides and compacted to a uniform thickness by applying weight for five minutes before adding more weight to the weighing pan. The spreadability was measured by the amount of time the upper glass slide travelled across the lower slide.

- Stability Test: A month-long stability test was conducted on the developed formulation by storing it at various temperatures. While being maintained at various temperatures, including room temperature and 40°C, the packed glass vials of formulation were examined for physical traits such as colour, aroma, pH, consistency, and feel.
- To Test for Irritability, : mark a 1-square-centimeter region on the left dorsal surface. The cream was applied to the designated region, and the duration was recorded. The presence of irritation was monitored for up to 24 hours at regular intervals.
- Homogeneity: The homogeneity was examined visually and tested

II. CONCLUSION

Based on the aforementioned data, the produced cream showed high homogeneity, spreadability, pH, non-greasy, and no phase separation during the research period. Cold cream's functions include cooling the body, moisturizing dry skin, and clearing debris from pores. It's easy to moisten, clean, and store. They don't irritate skin when applied. The water phase provides extra protection to the skin.

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