

Preparation of a Functional Cosmetic Containing Natural Herb for many Dermatological Applications



(This report presented in partial fulfillment of the requirements for the degree of Bachelor of Pharmacy)

A project submitted by:

Md.Owahed Ferdous

ID: 143-29-687

Batch: 12th

Department of Pharmacy

Faculty of Allied Health Sciences

Daffodil international university

Date of Submission: 08-09-2018

APPROVAL

This is notified that a Project report, **Preparation of a Functional Cosmetic Containing Natural Herb for many Dermatological Application**, submitted by 143-29-687 to the Department of Pharmacy, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Pharmacy and approved as to its style and contents.

BOARD OF EXAMINERS

Md. Mustafezur Rahman

Assistant Professor and Head

Department of Pharmacy

Faculty of Allied Health Science

Daffodil International University

Internal Examiner

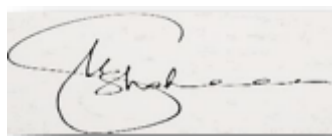
Internal Examiner

External Examiner

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I hereby declare that, this project report is done by me under the supervision of **Prof. Dr. Sharif Mohammad Shaheen**, Department of Pharmacy, Daffodil International University, in partial fulfillment of the requirements for the degree of Bachelor of Pharmacy. I am declaring that this Project is my original work. I also declare that neither this project nor any part thereof has been submitted elsewhere for the award of Bachelor or any degree.

Supervised By:

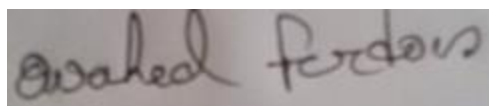


Prof. Dr. Sharif Mohammad Shaheen

Department of Pharmacy,

Daffodil International University

Submitted By:



Md .Owahed Ferdous

ID: 143-29-687

Batch: 12th

Department of Pharmacy,

Daffodil International University

ACKNOWLEDGEMENT

Praise to Almighty Allah who has given me strength, patience and ability to make this project possible and for his providence, grace and mercy upon my life.

It's my pleasure to express my heart-felt gratitude and indebtedness to my reverend teacher and research supervisor **Prof. Dr. Sharif Mohammad Shaheen, Professor**, Department of Pharmacy, Daffodil International University for his mastermind direction, dexterous management, adept analysis, keen interest, optimistic counseling and unremitting backup, helpful guidance, valuable comments, sympathetic advice and unparalleled encouragement, constructive suggestions and never-ending inspiration throughout the entire period of my research work.

I thankfully acknowledge indebtedness to **Md. Mustafezur Rahman**, Head of the department of pharmacy, Daffodil International University for his kind cooperation and encouragement to work on the project work very precisely & perfectly to the entire time of work.

I offer my special indebtedness and gratitude to my teachers Professor Md. Mijanur Rahman (Adjunct faculty), Sharifa Sultana (Senior Lecturer), Mrs. Farhana Israt Jahan (Senior Lecturer), Sabiha Kamal (Lecturer) and Department of Pharmacy, Daffodil International University, for valuable suggestions and inspiration during the course of my research work.

I would like to offer my thanks to other staffs of Department of Pharmacy, Daffodil International University specially Md. Yonus (Lab assistant).

Definitely I would like to thanks all of my well-wishers who help me directly or indirectly to prepare this project.

Md Owahed Ferdous

Dedicated to

**My beloved parents and my teachers and
my friends**

Abstract

In order to formulate a new functional cosmetic of natural herb origin, here Hibiscus (*Hibiscus rosa sinensis*) originated functional cream was prepared. Hibiscus is famous for Antioxidant, Antimicrobial, Antidiabetic, Antiulcer, Hepatoprotective, Antifertility, and Anti-inflammatory properties, which can be used in the treatment of many diseases. And the cream was challenged against many dermatological disorders like Apotic dermatitis, Anti-fungal Anti-infection, acne and accidental bleeding. The dermatological disorders are experimented in animal model and volunteer human model. Surprisingly we found various positive healing affects when we applied the cream to the animal and volunteer subjects, having dermatological problems. Acne, Infection, Apotic dermatitis, had been cured after 10 – 12 days of 3 times a day applications. Accidental bleeding had been stopped just after application of the cream to the sites. We found our functional skin products much more effective than normal marketed products because natural herb based cosmetic is free of synthetic steroids, which are usual prescription during such a problem. A herb can changes skin without any side effects that's why people concern about using herbals formulations. Our data promisingly indicate the commercial use of our preparation as functional cosmetic, which was originated from nature and can be treated as one approach of science to business.

Keyword: Hibiscus Rosa saneness, Accidental bleeding, Anti-infection, Dermatological disorder.

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CHAPTER- ONE

INTRODUCTION

1.1 INTRODUCTION

1.1.1 Cosmetics and benefits of cosmetics

Cosmetics are products that are used to enhance or alter the [appearance](#) of the face or [fragrancy](#) and texture of the body. Most of the cosmetics are designed for use of applying to the face, hair, and body. They are generally mixing of [chemical compounds](#) , some being derived from natural sources (such as [coconut oil](#)), and some being artificial.^[1] Common cosmetics include [lipstick](#), [mascara](#), [eye shadow](#), [foundation](#), [skin cleansers](#) and [body lotions](#), [shampoo](#) and conditioner, [hairstyling products](#) ([gel](#), [hair spray](#), etc.), [perfume](#) and [cologne](#). Cosmetics applied to the face to enhance its appearance are often called make-up or makeup.

In the U.S., the [Food and Drug Administration](#) (FDA), which regulates cosmetics, defines cosmetics as "intended to be applied to the human body for cleansing, beautifying, promoting attractiveness, or altering the appearance without affecting the body's structure or functions. [2]

1.1.2 Functional Cosmetics:

Functional cosmetics as products that aid in brightening skin, improving wrinkles in skin, tanning skin gently or protecting skin from sun's ultraviolet radiation. Functional cosmetics are subject to more stringent evaluation than general cosmetics. Based on the definition three kinds of products are confirmed as functional cosmetics: anti-aging products, whitening products and sunscreens.[3]



Figure 1.1: Functional Cosmetics for natural use

1.1.3 Herbal Cosmetics:

Thy ingredients shall be thy medicine.” Hippocrates. In Hippocrates’ time, herbs have been the official medicines. Throughout the ages, people in every subculture have taken herbs for their healing blessings in the equal way we take garlic or eat bananas, for the vital nutrients these herbs provide, and their one of a kind restorative fee to the human body [4]. Theophrastus (371-287 BC) headquartered botanical science with his books “De Causis Plantarum”—Plant Etiology and “De Historia Plantarum”—Plant History. In the books, he generated a classification of greater than 500 medicinal plant life considered at the time. Among others, he referred to cinnamon, iris rhizome, false hellebore, mint, pomegranate, cardamom, aromatic hellebore, monkshood, and so forth. In the description of the plant poisonous action, Theophrastus underscored the fundamental feature for humans to emerge as accustomed to them via a gradual extend of the doses. Owing to his consideration of the cited topics, he gained the epithet of “the father of botany,” given that he has high-quality deserves for the classification and description of medicinal plants [5]. In popular use, herbs are vegetation with savory or fragrant residences that are used for flavoring food, in medicine, or as fragrances. Culinary use usually

distinguishes herbs from spices.



Figure1.2:Natural ingredients for herbal cosmetics

Herbs refer to the leafy green or flowering components of a plant (either fresh or dried), while spices are normally dried and produced from other parts of the plant, inclusive of seeds, berries, bark, roots and fruits. In botanical English, the word "herb" is also used as a synonym of "herbaceous plant". Herbs have a variety of uses which includes culinary, medicinal, and in some cases, spiritual. General utilization of the term "herb" differs between culinary herbs and medicinal herbs. In medicinal or non secular use any of the parts of the plant would possibly be considered "herbs", consisting of leaves, roots, flowers, seeds, root bark, inner bark (and cambium), resin and pericarp [5]. These natural flowers have been playing a fundamental function in the exercise of healthcare since mankind first commenced to deal with illness. Medicinal flowers or natural plant life are formed of the very basis and foundation stone of medicinal drug and treatment of disease. The Herbalism is a standard medicinal or folk medicinal drug practice based on the use of plants and plant extracts. Traditional medicine is “the knowledge, abilities and practices based on the theories, beliefs and experiences indigenous to one of a kind cultures, used in the upkeep of fitness and in the prevention, diagnosis, enchancement or treatment of bodily and intellectual illness” (World Health Organization).[6]

1.1.4 Herbal Medicine in Bangladesh:

Bangladesh has very rich in Bio-diversity. It has more than 500 medicinal plants species (Yusuf *et al.*, 1994).

Plants and man are inseparable. Plants existed on the earth in the geological past from the early history of the earth. The use of plants to alleviate human suffering is as old as the evolution of human civilization itself. From the early stages of human civilization, plants, especially medicinal plants have played a pioneering role for the welfare of human beings. Recently, dramatic changes have taken place in the primary health care system of world population through the development of science, technology and medical science, but till to day 400 cores of people of the world are totally dependent on herbal medicine. It is revealed that even in the developed countries 25%, of the prescribed drugs come from plant sources and herbal medicines are used by about 75-80% of the world's population for primary health care because of their better cultural acceptability, better compatibility with human body and lesser side effects.. WHO consultative body of medicinal plants has formulated a definition of medicinal plants in the following way “A medicinal plant is any plant which in one or more of its organs, contains substances that can be used for therapeutic purposes or which is a precursor for synthesis useful drugs” (Sofowora,1982).



Figure1.3: Some Herbal Medicinal Plant

In Bangladesh there are about 297 Unani, 204 Ayurvedic and 77 Homeopathic drug manufacturing industries where the medicinal plants are extensively used in both raw and semi-processed forms of medicine in various pharmaceutical dose formulations. These plants also serve as important raw materials for many modern medicinal preparations. The market value of drugs produced by these industries from medicinal plants is about Tk. 300 crores. (The Daily Jugantor, 21 June, 2003)

Besides, village Kobiraj, street Vendors and Tribal people also use a large number of medicinal plants for the treatment of various diseases. There is no actual figure how many medicinal plants are used in Bangladesh.[7]

1.1.5 Skin, Layer of Skin and Function of Skin

The skin is the largest organ of the body with 10% of body mass and the total amount of the skin ranges from about 2500 cm² at birth to 18,000 cm² in the adult and weight about 4.8 kg in men and 3.2 kg in women and pH of 5.5.

Skin Layers:

Skin consists of three tissue layers:

- Epidermis
- Dermis
- Endodermis

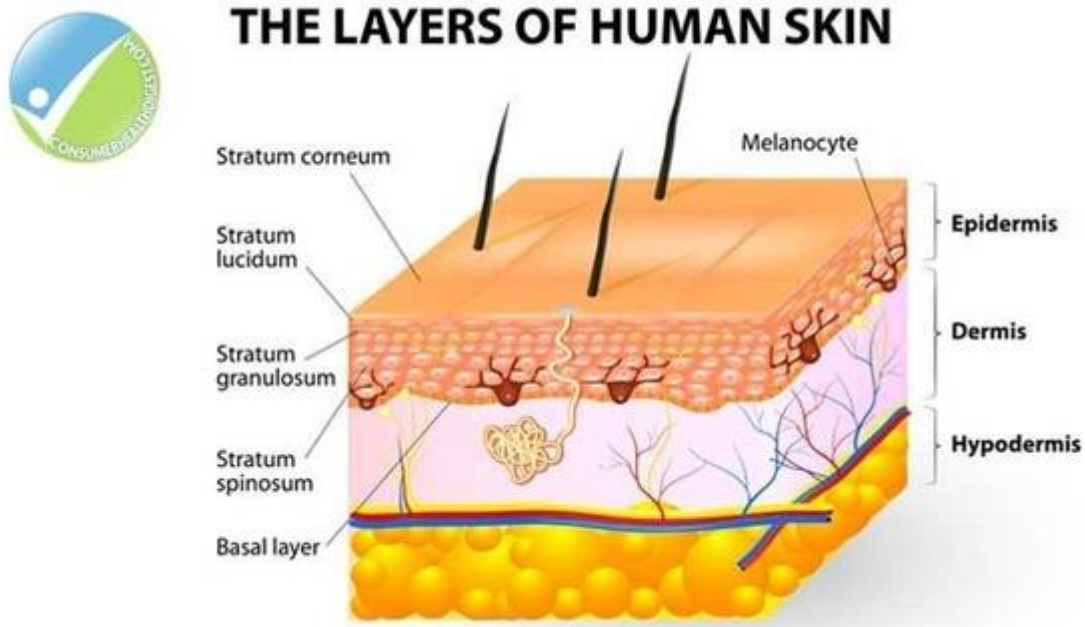


Figure1.4: Skin Layer

1.Epidermis: The **epidermis** is the outer layer of the three layers that make up the [skin](#), the inner layers being the [dermis](#) and [hypodermis](#). [8] The epidermis layer provides a barrier

to [infection](#) from environmental [pathogens](#) and regulates the amount of water released from the body into the [atmosphere](#) through [transepidermal water loss](#).¹

Dermis:

Below the basal layer of the epidermis, dermis is situated. True skins or dermis contains-

- 1) A network of blood vessels,
- 2) Hair follicles,
- 3) Sweat gland,
- 4) Sebaceous glands

Hypodermis:

- This layer is situated just below the dermis layer.
- The subcutaneous fat provides a mechanical and a thermal barrier.
- It synthesizes and store readily available high energy chemicals.

It also gives insulation and physical protection to the underlying structures

Condition of skin;[9]

- Rash: Any change in the skin's appearance that can be called a rash. Many rashes are from skin irritation and others rashes result from medical conditions.
- Dermatitis: A normal term for inflammation of the skin. The most common form is atopic dermatitis

Acne: It is most common skin condition that affects over 85% of people .

- Rosacea: A incurable skin condition causing a red rash on the face. Rosacea may look like acne, and is poorly understood.
-

- Warts: A virus infects the skin and causes the skin to grow excessively, creating a wart. Warts may be treated by chemicals, or removed by a physician.
- Melanoma: it is very dangerous skin cancer, that results from sun damage and other causes. A skin biopsy can identify melanoma.
- Tinea versicolor: A benign fungal skin infection creates pale areas of low pigmentation on the skin.



Fig 1.5: Some Skin infection condition like as acne, skin rashes, fungal infection, inflammation etc

Function of skin:

The dermis provides the mechanical properties of the skin with epidermis playing a minor part. Skin is elastic in nature which provides mechanical support on movement of the body.

- **Microbial barrier:** The stratum corneum provides a microbial barrier. Skin gland secret short chain fatty acids that inhibit bacterial and fungal growth. Nitric oxide produced in sweat helps to prevent infection from skin pathogens.
- The **acid mantle** is a very fine, slightly **acidic** film on the surface of the skin acting as a barrier to bacteria, viruses and other potential contaminants that might penetrate the skin
- **Chemical barrier:** Skin consists the entry of unwanted molecule from outside while controlling:
 - The loss of water
 - Electrolyte balance
- **Radiation barrier:** For skin exposed to sunlight, ultraviolet light of 290-400 nm is the most damaging. Ultraviolet light stimulates melanocytes to produce melanin, which partially protects the skin as well as whole body.
- **Heat barrier and temperature regulation:** The skin is responsible for the maintenance of the body temperature at 37°C. To conserve heat the peripheral circulation shut down to minimize the surface heat loss.
- **Mechanical shock:** Protect the body against the mild mechanical shock .
- Receive information from environment and transfer it to the brain.
- Recovers calorie content and maintains vitamin synthesis.

1.1.6 Advantages of Using Natural Cosmetics

Natural cosmetics are the update craze in the field of charm and fashion. These break with are gaining more and more popularity as women as pray organic or more natural component in their make up.

Women are constantly on the lookout for best products and natural cosmetics occurred to be one of them. People always said that natural is better . No wonder, more and more women are turning to natural cosmetics for their beauty part and parcel. Even peak manufacturers are uses natural ingredients to maintain with the need for more natural cosmetics in the market nowadays

1. **All natural:** Natural cosmetics tell for themselves. Just like their character exposes that are all naturals, that the components used is not chemically or artificially made. Recent, plant and flower extracts are used. They also contain **Vitamin E** that keeps up skin healthy and peppy.

2. **Safe to use:** Compared with various beauty products, natural cosmetics are safer to use. They are **hypo-allergenic** and proven by dermatologists to be safe that is uses anytime, anywhere. While they are made of natural ingredients, you do not have to think about getting a botch or experience skin itchiness.

3. **Fits your budget:** Mind you but natural cosmetics are cheap. in a point of fact, some products are more affordable than artificial products. They are given at commission prices and are sold for an inexpensive price during sales. Just be rich enough to look for great deals.

4. **Not tested on animals:** Few cosmetics are tested for animals to confirm that they are out of danger and most effective to use. However, natural cosmetics are not one of them. These natural beauty products are tested by experienced person in laboratories using many equipments with no animals involved.

5. **No side effects:** The artificial beauty products that can cause irritate your skin, and cause acne. Block your pores and make your skin arid or oily. With natural cosmetics, you do not need to worry about these. The natural ingredients used surely no side effects; you can use them anytime you wanted.[10]

1.1.7 General Information

Hibiscus Rosa silences is commonly known as Red Hibiscus. They have big shrubs and have a changeable structure. It can be upright or wide and spread. The tree grows up to 4.7 meters. All the reality of flowers Hibiscus has probes (parts that produce pollen), and style is associated with Vincent Khristi and V. H. Patel 108 along the columns made from the center of the spreading

petals. The red variant of Hibiscus flowers is very large and can be up to 15 cm long. Latices can be smooth or crested, individually or twice depending on cultivated varieties. Anther, which is a part of the Pollen part, can be seen partially to the column and the five round stigmatic parts (which appear on the fertile soil of the pollen) are visible on the top of the column.

Hibiscus leaves are oval shaped (extend to base, not top) and grow from 5 to 15 long circles distributed alternately to branches. The leaves can be varied or dark green, and the margins are with light leaves. The product of Red Hibiscus is a dry, five-packed capsule containing up to three seeds, each of which forms a kidney and a length of 2.5 cm.[11]

Synonyms

- **Sanskrit:** Japa , Japapushpa, Raktapushpi, Japakusuma, Arkapriya, Aruna, Harivallabha, Japapushpa, Java, Joba, Ondrakhya, Pratika, Raktapushpi, Trisandhya
- **Hindi:** Jasut, Jasun, GU dhal, Gurhal
- **English:** Chinese hibiscus, Chinese rose, Rose of China, Shoe Flower
- **Bengali:** Joba, Javaphul, Jaba
- **Gujarati:** Jasuva, Jasus
- **Kannada:** Daasavala, Kempu daasavala, Kempu pundrike
- **Malayalam:** Ayamparathi, Chembarathi
- **Telugu:** Java pushapamu, Dasana
- **Tamil:** Separuti, Arattam, Mandaram, Sapattuppu, Sembarattai, Sevarattai
- **Oriya:** Mondaro
- **Assam:** Joba
- **Punjabi:** Jasun
- **Siddha:** Semparuthi
- **Unani:** Gul-e-Gurhal
- **Arabic:** Angira
- **Persian:** Angira[12]



Figure 1.6: Leaf of *Hibiscus rosa sinensis*

1.1.8 Photochemistry:

Hibiscus Rosa sinensis is a well studied plant. The report suggested that it contains Tannins, Flavonoids, Steroids, Alkaloids, Saponins, Total phenols, Total flavonoids, Total proanthocyanidin. It has been also reported that it contains majorly Anthocyanins and flavonoids; cyanidin-3,5-diglucoside, cyanidin-3-sophoroside-5-glucoside, quercetin-3,7-diglucoside, quercetin-3-diglucoside. The other compounds are also present like cyclopeptide alkaloid (Khokhar and Ahmad [13]), cyanidin chloride, quercetin, hentriacontane (Jadhav et al. [14]) and vitamins: riboflavin, ascorbic acid and thiamine. The leaves and stems contain β sitosterol, stigmasterol, taraxeryl acetate and three cyclopropane compounds and their derivatives. The *Hibiscus* flowers contain cyanidin diglucoside, flavonoids and vitamins, thiamine, riboflavin, niacin and ascorbic acid. *H. Rosa sinensis* extract is a source of many potentially active antioxidants and anticancer constituents such as quercetin, glycosides, riboflavin, niacin, carotene, malvalic acid, gentisic acid, margaric acid and lauric acid (Hemens et al. [15]; Weisburger [16]; Block et al. [17]; Makita et al. [18]; Ross [19]; Woutersen et al. [20]).

The Phytochemicals of the ethanolic extract of the flowers of *H. Rosa silences* also analysed by GC-MS and they reported Propanol, 3,3'-dithiobis(2,2-dimethyl- SS)- or (RR)-2,3-hexanediol, 2-Hydroxy-2-methylbutyric acid, n-Hexadecanoic acid, Heptanoic acid, 2-ethyl- Trans-(2-Ethylcyclopentyl) methanol, 3-N-Hexylthiolane, SS-dioxide Hexanedioic acid, bis(2-ethylexyl) ester, 1,2-Benzenedicarboxylic acid, diisooctyl ester, 1,3-Benzodioxole, 5.5' - (tetrahydro-1H,3H-furo(3,4-c)furan-1,4-diyl)bis-, (1S-(1 α ,3 α ,4 β ,6 α)-Squalene, 2R-Acetoxymethyl-1,3,3-trimethyl-4t-(3-methyl-2-buten-1-yl)-1-cyclohexanol (Bhaskar et al. [21]). The roots of *H. sinensis* contains sterols, carbohydrates and glycosides, phenolic compounds and tannins, triterpenoids, saponins, mucilage and flavonoids (Kumari et al. [22])

1.1.9 Scientific classification of hibiscus Rosa silences:

All plants are scientifically classified into main 7 levels. These levels are Kingdom, Division, Class, Order, Family, Genus and Species. A genus comprise of many species and botanical name consists of Genus (uppercase) followed by Species (lowercase). Genus consists of many species which are closely related and have lots of similarities. Species is the lowest level and represents the group of same plant.

The botanical name of GU dhal is *Hibiscus rosa-sinensis*. It belongs to plant family Malvaceae.

Malvaceae includes herbs, shrubs, or less often trees. It consists of about 82 genera, 9 subfamilies and more than 1,500 species, distributed more abundantly in warm and temperate regions. There are about 22 genera and 125 species of this family in India. Plants of the family bears flowers which are often showy and beautiful. They mostly have five petals and sepals and a filament. Members of the Malvaceae family are important as many of them are used as vegetable, spices, ornamental plants and as a fiber crops (particularly cotton, *Gossypium*). They bear beautiful flowers and grown in the gardens. Some of the economically important plants belonging to Malvaceae are, The cotton plant (*Gossypium* sp.), Corchorus (Jute), Okra (*A. esculentus*), Bombax (Silk cotton tree), Marshmallow (*Althaea officinalis* Linn.) and Sida.[23]

1.1.10 Taxonomical classification of plant.

Kingdom : Plantae – Plants

Subkingdom : Tracheobionta – Vascular plants

Superdivision :Spermatophyta – Seed plants

Division :Magnoliophyta – Flowering plants

Class: Magnoliopsida – Dicotyledons

Subclass: Dilleniidae

Order : Malvales

Family :Malvaceae – Mallow family

Genus : *Hibiscus* L. – rosemallow P

Species :*Hibiscus rosa-sinensis* L. – shoeblackplant [24]

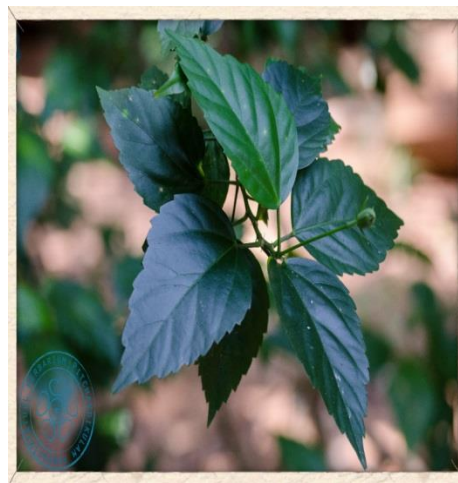


Figure1.7: Hibiscus leaves

1.1.11 Therapeutic Potential of Hibiscus Rosa saneness

The natural plant products are widely used nowadays because of increasing the burden of diseases. Hibiscus Rosa silences Linn. (Family Malvaceae) is a plant which is widely distributed throughout the world. Its leaves, barks, roots and flowers have been used in the Indian traditional system as medicine to treat various diseases. Various research studies proved that the different parts of Hibiscus Rosa silences plants possesses Antioxidant, Antimicrobial, Antidiabetic, Antiulcer, Hepatoprotective, Antifertility, Antigenotoxic and Anti-inflammatory properties, which helps in treatment of many diseases. Hibiscus Rosa silences has been used in many herbal mix and drinks. Many research studies conducted in animal modal evaluate Hibiscus Rosa silences flowers and leaves as antidiabetic and antioxidant compounds. This review attempt to highlight the therapeutic application of Hibiscus Rosa silences.[25]

1.1.12 Important Medicinal Properties of Hibiscus rosa-sinensis:

Hibiscus rosa-sinensis is rich in medicinal properties. Understanding these traits will help us make better use of this plant. This also indicates the conditions in which we should avoid it. For example, it is not advisable to use Hibiscus rosa-sinensis internally as you try to have your baby due to its antifertility, anti-spermatogenic and contraceptive properties. It should not be used during pregnancy because it is an unsuccessful process.

Below are the healing properties along with the meaning[26]

1. **Abortifacient:** Causing abortion.
2. **Antifertility:** Tending to reduce or destroy fertility
3. **Anti-estrogenic:** It blocks the production or use of estrogen or prevents their effects. Estrogens are hormone families that promote the development and maintenance of female sexual characteristics.
4. **Anti-implantation:** Prevent implantation or attachment of the fertilized egg to the uterine lining.
5. **Anti-ovulatory:** Suppressing ovulation.
6. **Anti-inflammatory:** Reducing inflammation by acting on body mechanisms.

7. **Anticonvulsant:** Prevent or reduce the severity of epileptic fits or other convulsions.
8. **Antioxidant:** Neutralize the oxidant effect of free radicals and other substances.
9. **Antispasmodic:** Used to relieve spasm of involuntary muscle.
10. **Anthelmintic:** Antiparasitic, expel parasitic worms (helminths) and other internal parasites from the body.
11. **Anti-hyperglycemic:** Counteracting high levels of glucose in the blood.
12. **Contraceptive:** Serving to prevent pregnancy.
13. **CNS depressing:** Depression of the central nervous system that can result in decreased rate of breathing, decreased heart rate, and loss of consciousness.
14. **Diuretic:** Promoting excretion of urine/agent that increases the amount of urine excreted.
15. **Depurative:** Purifying agent.
16. **Emmenagogue:** Stimulates or increases menstrual flow.
17. **Hypotensive:** Lowers blood pressure

1.1.13 Medicinal uses of Hibiscus rosa-sinensis

Flowers decoction is very useful in bronchial catarrh. Infusion of flowers petal acts as refrigerant drink in fever and acts as demulcent in cough and useful in strangury, cystitis and other genito-urinary problem.

The flowers and leaves are great remedies for hair problem like hair loss and hair greying. The flowers fried in butter is very effective for excessive menstruation. The leaves of the plant are used in fatigue and skin disease. Flowers can be taken in dose of 10-20 grams.

Abortion

Eating 10 flower buds daily cause abortion.

Alopecia, Hair fall and dandruff

1. For hair fall and dandruff, Take 10-15 leaves or flowers of gudhal and 100 gm of coconut oil and cook at very low flame as coconut oil may catch fire at high flame, cook till the leaves are completely cooked then drain it and keep thus formed oil in bottle and use it. Or
2. Flower bud paste is applied regularly one hour before going to bath is useful. Or
3. Flower paste is applied on the head. Or

4. Take juice of fresh flowers + olive oil, in equal amount and cook on fire till only oil is left. Apply this oil on scalp.

1- Anemia: Drink decoction of its leaves with water

2- Boils and swellings:The leaves and young flower buds are used as a poultice.

4- Cough: Take 5-10 gm of root and boil in 400 gm of water till water reduces to $\frac{1}{4}$ drain and drink

5. Fevers, coughs and venereal diseases:A decoction of the roots is given.

6- Intestinal worms:Leaf chutney is given.

7- Indigestion and acidity:Take 3-4 leaves with water it removes toxins from body.

8.Leucorrhea

- For leucorrhea, Take 3 flowers empty stomach with a glass of water in morning. Or
- 5 gm leaf powder is given, twice a day.

9- Menstrual bleeding:In excess menstrual bleeding drinking Hibiscus tea with cinnamon is very effective. It also provides supplemental iron in menorrhagia, as low serum iron causes the blood vessels in the uterus to lose their capacity to constrict which increase menstrual bleeding. Or 3-5 Red flowers ground in water are given.

10- Mouth ulcers:Chew 3-4 leaves of GU dhal.

11- To start periods;Flower ground with sesame oil is given.

12- Vitiligo: Eat 5 flowers twice a day for two years or more.

13- Warts, carbuncles, ringworm

1. Leaf paste with rice is applied. Or Leaf paste with lime juice is applied.

14- Weakness: Eat gulkand of gudhal flower. For making gulkand take flowers and put them with equal amount of Mishri (candy sugar) in jar and keep it daily in sun. After few days gulkand would be ready to eat and take it 1-2 spoon daily.[27]

Objective of this work

The aim of the project to innovation the real estimation of functional cosmetics of herbal origin. People return to more relief on using herbal as natural products as a cosmetics. In this ponder convention basically discovered the truth of shoddy cost and most normal and profitable

items which doesn't exist at the forefront of one's thoughts to work with it. Plants, herbs, and ethnobotanicals have been utilized since the beginning of mankind and are as yet utilized all throughout the world for health promotion and treatment of disease. Plants and natural sources form the basis of today's modern medicine and contribute largely to the commercial bioactive drug like cosmetics preparations manufactured today. Around 25% of medications recommended worldwide are gotten from plants. All things considered, herbs, medications, are frequently used in health care. For a few, herbal medicine is their preferred method of treatment. For others, herbs are utilized as assistant treatment to regular cosmetics. However, in many developing societies, traditional medicine of which herbal medicinal cosmetics is a core part is the only system of health care available or affordable. Despite the reason, those using natural pharmaceuticals ought to be guaranteed that the items they are purchasing are sheltered and contain what they should, regardless of whether this is a specific herb or a specific measure of a particular herbal component. In this division of research can expedite numeric changes on herbal as functional beauty care products items. More research more functional medicine like natural treatment create step by step for people to to beat less using natural products.

CHAPTER –TWO

METHODOLOGY

Methodology

2.1 Collection of Experimental materials:

Every one of the synthetic substances and reagents utilized were from advanced research analysis lab of department of pharmacy of Daffodil International University. filter papers, funnel, Beakers, foil papers, spatula, bowl container, burette stand, weight balance, magnetic stirrer,

ingredients and every single exploratory instrument were utilized from advanced research lab of our department of pharmacy in Daffodil International University. A few materials figure appears



Figure2.1: Some instrument in laboratory

2.2 Accumulation of plant material:

The Hibiscus Rosa saneness leaf are collected from a garden. These leaves are main ingredient in the formulation.



Figure2.2: Hibiscus Rosa saneness leaves

2.3 Accumulation of formulation materials:

Stearic Acid, Cetyl alcohol , Glycerin , KoH , Propyl Paraben ,propyl paraben all experiment materials were collected from Daffodil International University cosmetology lab.

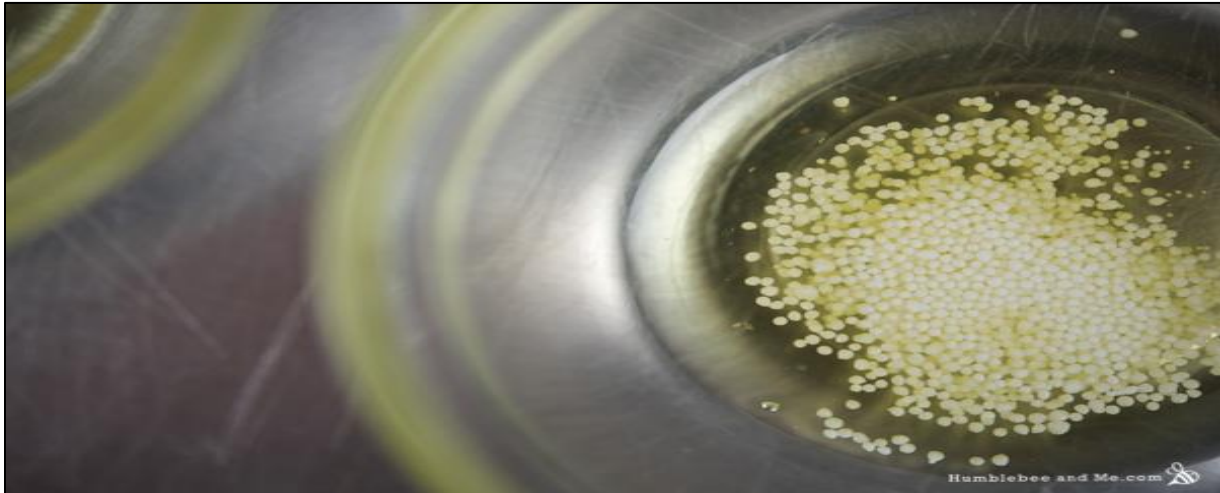
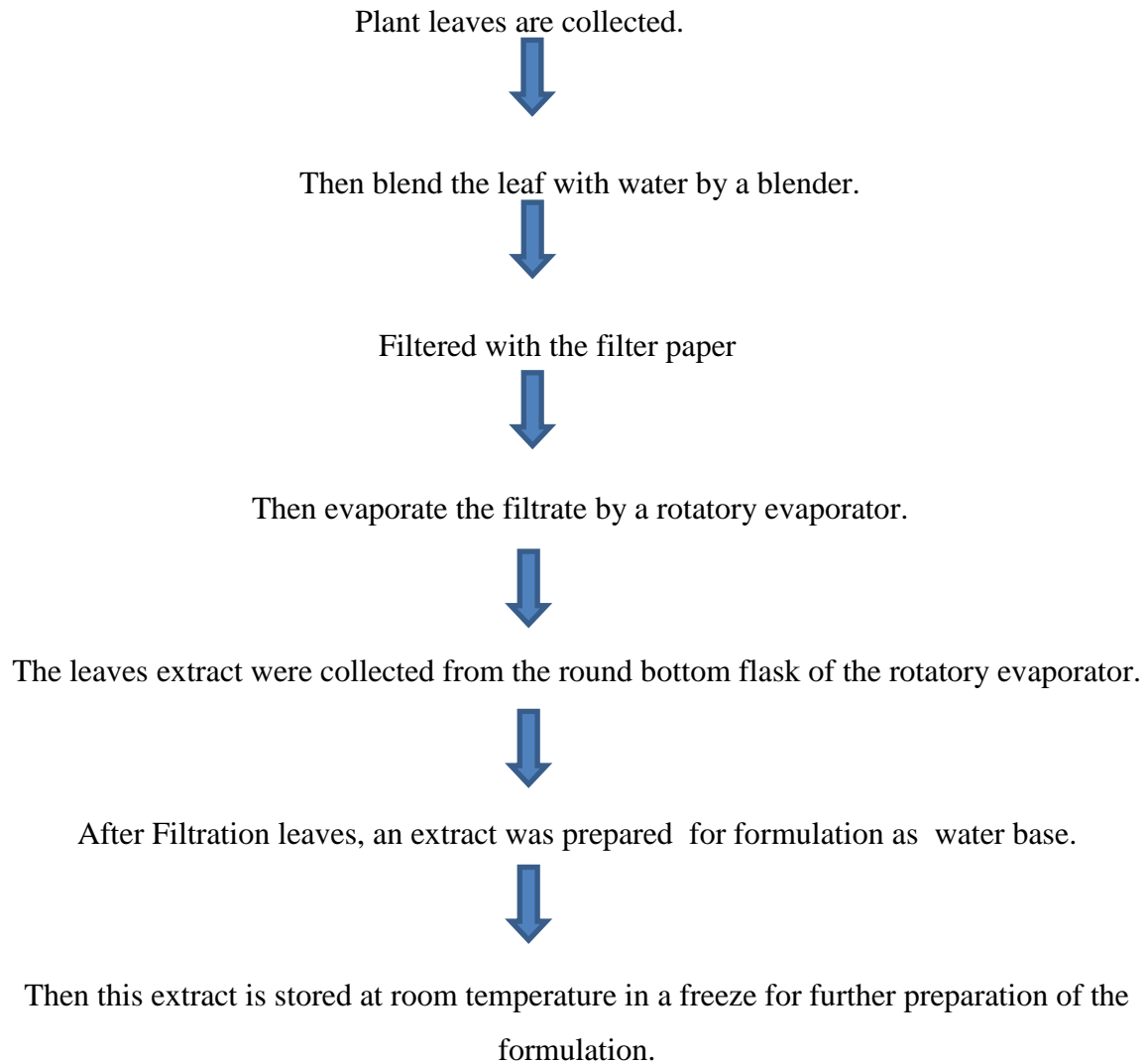


Figure2.3: Chemical reagent on laboratory

2.4 Preparation of Hibiscus Rosa saneness leaves extract:



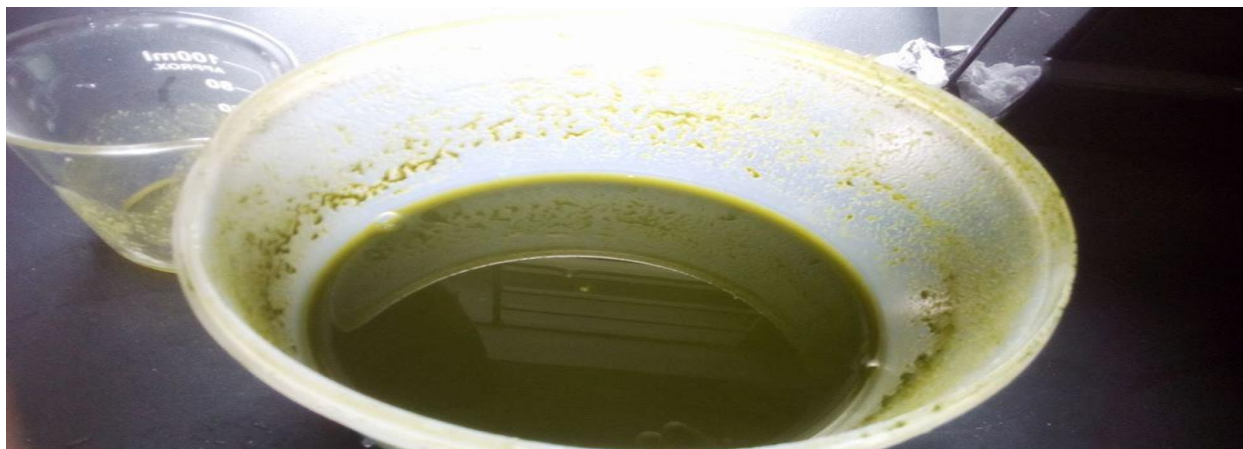


Figure2.4: Extract preparation

2.5 Preparation of herbal Cream:

These herbal products are the new procedure for efficacy in herbal preparations for the first time in Bangladesh

So this concept of these bioactive components such as Hibiscus rosa-sinensis makes people to bring the spirit healthier and more conscious about these innovative formulas about use their skin

Ingredients

Amount (%)

Stearic Acid	8.2%
Cetyl alcohol	4%
Glycerin	43%
KoH	0.4%
Extract	45%
Propyl Paraben	0.04%

2.5.1 Procedure:

The oil soluble ingredients are mixed and heated to 70 degree Celsius in a beaker. This makes the oily phase. The extract are used as a water phase. Then Oily phase is transferred to aqueous phase in small portions with continuous stirring in manner that a homogenous emulsion is formed. Now, once the transfer is complete it is allowed to come at room temperature all the while being stirred. Perfume is added just before the finished product is transferred to suitable container for consumer.



Figure2.5: Preparation of cream

2.6 Data Analysis:

2.6.1 Analysis of pH scale of preparations:

We know that our skin pH- is 5.5-6. The pH-value of a new formulation can also show analytical data by a test. Many skin formulations that affect skin which does not enjoyable or not marketed anymore. The value of pH in most cases on herbal derm preparations for his bioactivity on the skin. The changes of pH-value then skin may be changes or adverse effects also can show few defects on products. This test is very important to remove any type of skin affected. Skin is the biggest organ of the body & skin sensitivity is most significant to focus on any type of applying various products. For this reason, this test for the better use of human skin.

Below pH-value of figures for this test preparations.



Figure2.6 : Measurement pH value

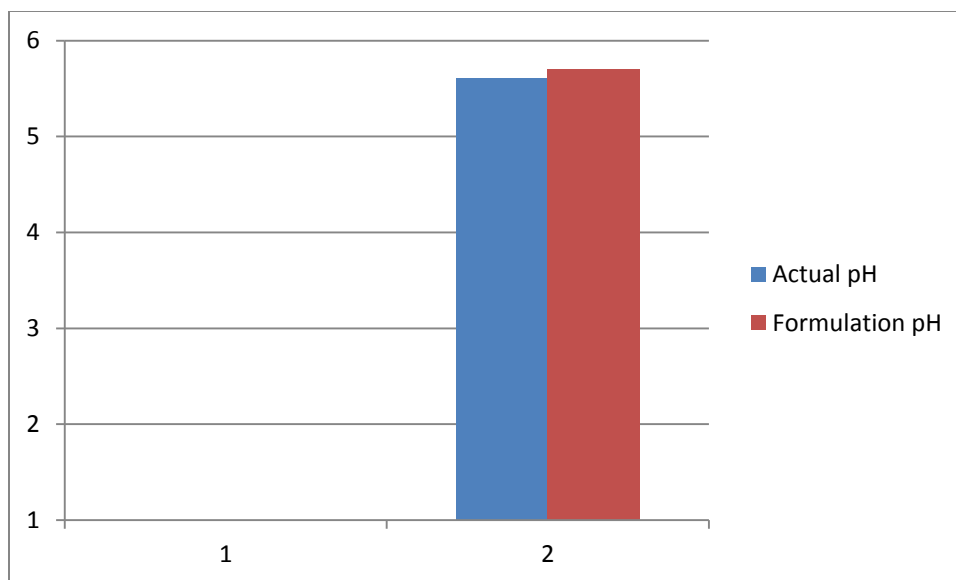


Figure 2.7 : Compare pH Value with standard

2.6.2 Peel strength consistency test preparations:

This test is performed for the thickness test of all preparations. More consistency more coordination and become more stable form were found through this test performance. An analytical data also can show below of this test. Theoretical data also shows the effectiveness and thickness of the formulations.

Peel strength is generally used to measure the bond strength of a material, typically an adhesive.

Peel strength is the average load per unit width of bond line required to separate bonded materials where the angle of separation is 180 degrees.

These herbal preparation perform well by consistence or thickness experiment. Herbal formulations of Hibiscus Rosa saneness are ready to get very well the strength of thickness on human skin.

CHAPTER-THREE

RESULTS & DISCUSSION

3.1 Result and Discussion:

The objective of this study is to identify the available functional cosmetics from the available naturally origin of herbs. All valuable work has facilitated all trials as well as all data analysis has been markedly marked and smoothly done at a specific time, and also concentrations as a technical method. The purpose of this study is mainly focused on availability on medical Herbal cosmetics without any side effects. These herbaceous plants such as Hibiscus Rosa saneness had more than enough antifungal and most important effect who need much more for the all human body was antioxidant property. As an excellent way to these plants manufactured formulations as a unique form of emulsion base.

Checking all the data analyzes and the most important study of mice inflammation and human skin for more and more innovative futures as formulations of these products.

All herbal-based preparations offer more than enough of this study in progress.

We look forward to the best wishes for these future best products of herbal products.

3.1.1 Formulation apply on Human Skin:

Hibiscus Rosa saneness which were thrown away everyday by all people all around the world. Notmore people know about the herbal activity on one's skin as a bioactive medicated treatment. Hibiscus Rosa saneness were active on most vitamins and minerals and also in phytochemicals those were action on skin problems. Most common herbaceous plant active in different site through the world as fertilizer most commonly, then shoes polisher,whitening of teeth, etc. Naturally hibiscus Rosa saneness were uses on various ways on skin and some people to do so it regularly. But people know about that these formulations could be more accurately results on skin defects or problems. That's the reason to do something new as innovative way of formulation upon these common herbaceous plant known to people as well as all. Natural way of treatment were take time as much as people uses them. But marketly herbal products were more active to treat a diseases. These were formulated for the first time as a functional cosmetics related. So further study could give better way to do some more active works on herbal products.

The results of human skin over-skin dryness were regularly effected the following



Figure 3.1: Dryness of human skin activity

This activity includes 3 hours of skin dryness. People, according to people's model, in addition to irritation, because of the well-known formulas, there are no symptoms such as symptoms. This formulation can be the best in this winter season. The results of skin dryness reduction mainly include all sources for formula medicines. Product preparation.

3.1.2 Formulation apply on Mice tail as Antinfection:

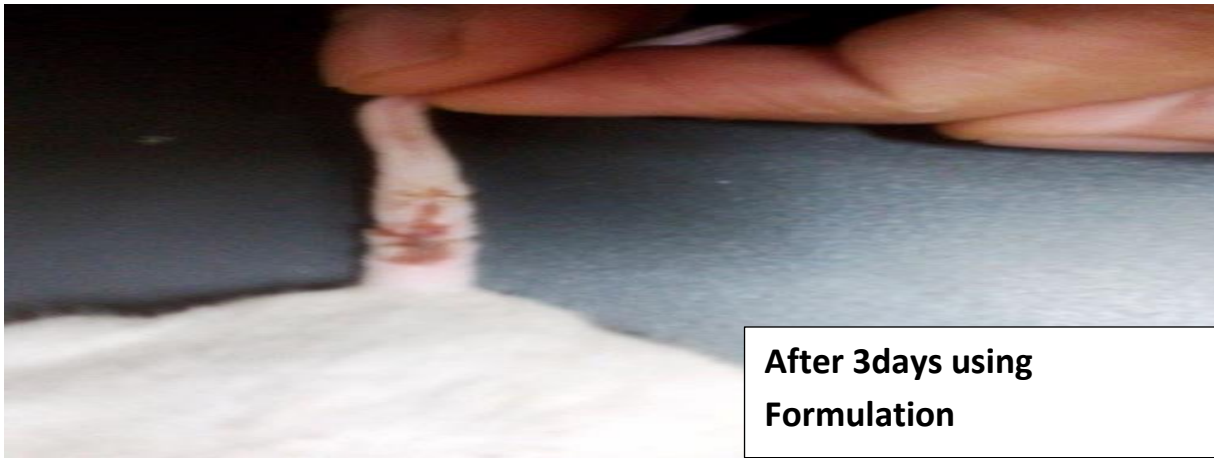
Significant analysis of common herbaceous plants to make better formulas to be used as herbal or functional dairy herbs. Their significance. Herbal preparations were changed in cosmetic herbs. Above the formulations, the mouse tail appears as a positive control like infection skin test. Medicated medications such as formulations were a great demand for functional effects rich day by day. These innovative formulation studies provide good results mice tail inflammation accurately. The formulas show an anti-inflammatory effect mice tail on edema. As follows:

Observation:

First Day



**After 3days using
Formulation**



**After 4 days using
Formulation**

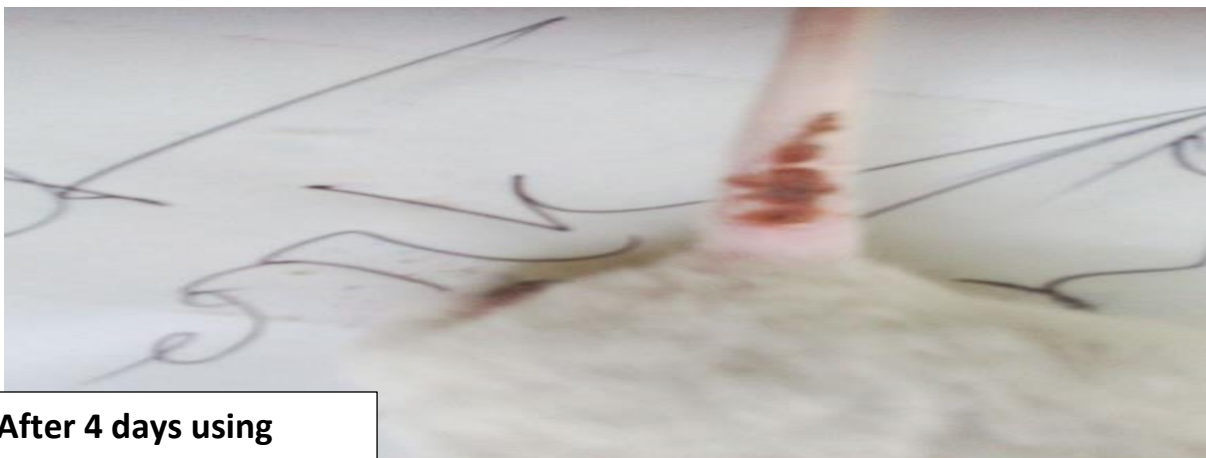




Figure3.2: Anti infection of Hibiscus cream

3.1.3 Formulation apply on mice tail as Astringent:

This plant have astringent property because after application hibiscus leaves cream stop bleeding within few swcond and also prevent inflammation of the skin.

Observation:



Here cutting the mice tail



After 50sec using formulation



Stop Bleeding

Figure 3.3: Accidental bleeding of Hibiscus cream

3.1.4 Formulation apply on Human Skin as Acne:

Acne is a chronic, inflammatory skin condition that causes spots and pimples, especially on the face, shoulders, back, neck, chest, and upper arms

Observation:



First Day using Formulation



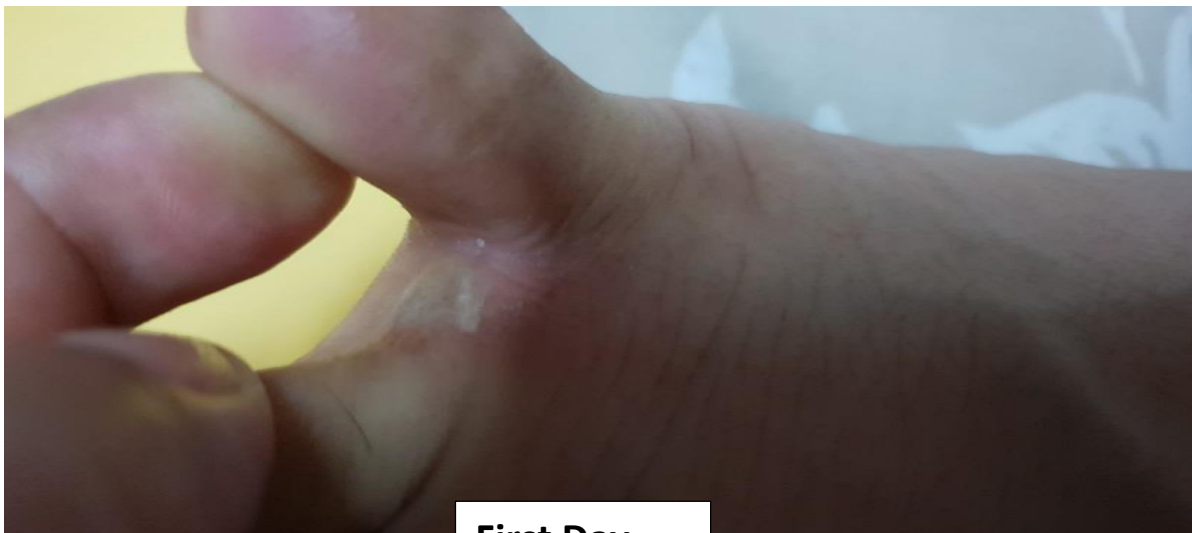
After 4 days using formulation

Figure3.4: Anti acne study of Hibiscus cream

3.1.5 Formulation apply on Human Skin as Anti fungal:

Fungal infections are common throughout much of the natural world. In humans, fungal infections occur when an invading fungus takes over an area of the body and is too much for the immune system to handle.

Observation:



First Day



Figure3.5: Antifungal study of Hibiscus cream

The plant show antifungal activity when we use this cream outer the skin layer.

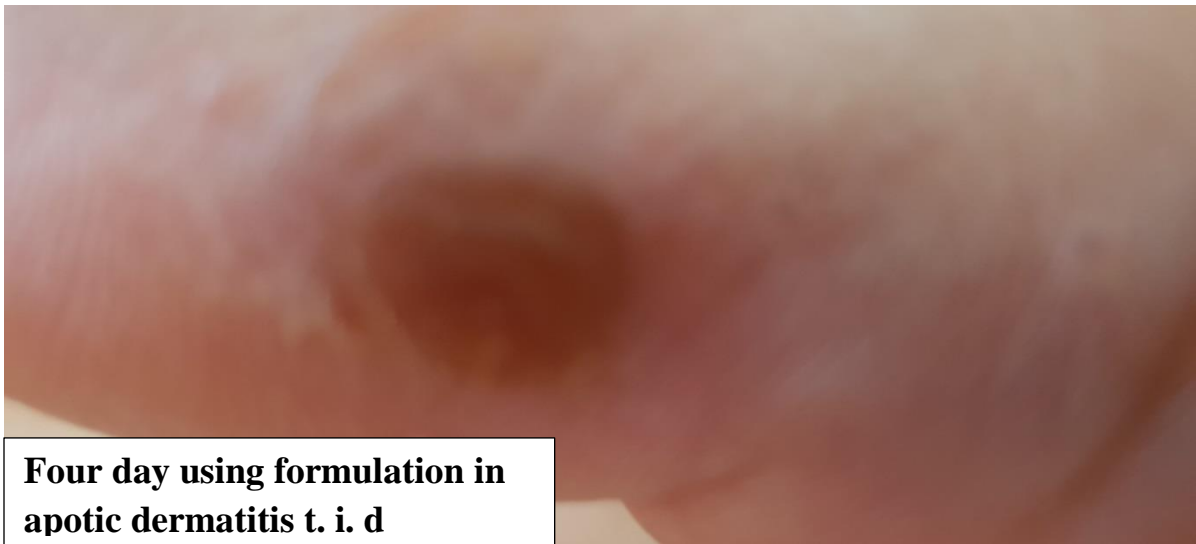
3.1.6 Formulation apply on human skin as apotic dermatitis:

Atopic dermatitis (eczema) is a condition that makes your skin red and itchy. It's common in children but can occur at any age. Atopic dermatitis is long lasting (chronic) and tends to flare periodically. It may be accompanied by asthma or hay fever.

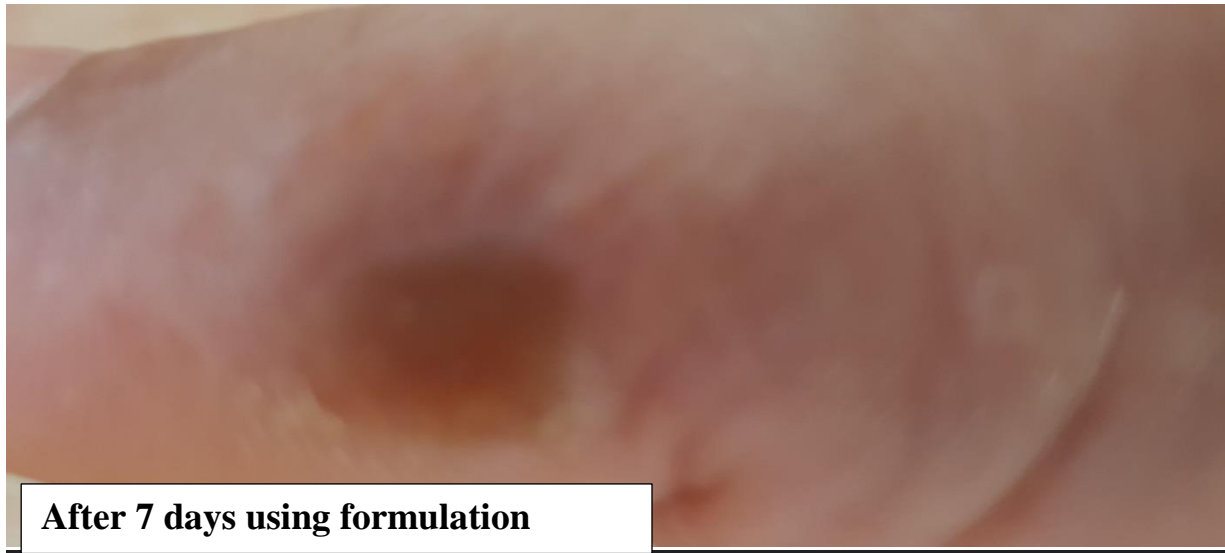
Observation:



First day using formulation



Four day using formulation in apotic dermatitis t. i. d



After 2 days of interval using t. i.d

Figure3.6: Apotic dermatitis study of Hibiscus cream

For apotic dermatitis commercially lots of synthetic steroid drugs are present but if patient take this steroid drugs that show severe side effect. This is natural herbs safe for healing of the apotic dermatitis.

Many people hopeful to using on herbal products but sometimes there hope don't work timely and become less using of popular herbal products. But if do something exceptional work on using most common and cheapest herbal plants to do something newer than ever using on various purpose upon study on it as an effective way people can uses much better products on their skin without any fears. Over millions herbals products were found to be perfect for using on skin but some are bioactive to give results perfectly and take place on people minds

More valuable products give more valuable markets upon best using on herbal bioactive products like many other brands products but commercially active at less cost and more available products can also actively work on people skin thoroughly each day work and also functionally active. So target on people skin these formulations definitely upon activity can further changes on markets of herbal products.

CHAPTER –FOUR

CONCLUTION

Conclusion:

Here we developed a novel functional cosmetics of herb origin (hibiscus Rosa saneness) which has got anti fungal activity, accidental bleeding, bacterial infection, apotic dermatitis anti acne properties. Because Hibiscus is very famous for Antioxidant, Antimicrobial, Antifertility, Antigenotoxic and Anti-inflammatory properties, which helps in treatment of many diseases.

Here we used Hibiscus functional cream which also showed the Anti apotic dermatitis, Anti acne and as astringent in accidental bleeding .However further clinical trial necessary for more authentic conformation

Chapter Five

Referennce

Referance

- 1) Schneider, G., Gohla, S., Schreiber, J., Kaden, W., Schönrock, U., Schmidt-Lewerkühne, H., ... & Diembeck, W. (2000). Skin cosmetics. *Ullmann's Encyclopedia of Industrial Chemistry*.
- 2) Hu Jinlian (The Hong Kong Polytechnic University, Hong Kong)“Adaptive And Functional Polymers, Textiles And Their Applications”, World Scientific, Feb 10, 2011 - Technology & Engineering, Available at: (<https://www.fda.gov/Cosmetics/GuidanceRegulation/LawsRegulations/ucm2005209.htm>).
- 3) Lewis, C. (1998). Clearing up cosmetic confusion. *FDA consumer*, 32(3), 6-11.
Herbs as Medicines, Boswellia, Soulful Healing, “Well-being for your mind, body and soul”, Available at: (<https://soulfulhealing.wordpress.com/herbs-as-medicines/>).
- 4) “Historical review of medicinal plants”, Biljana Bauer Petrovska, *Pharmacogn Rev.* 2012 Jan-Jun; 6(11): 1–5, Pelagic V. Pelagic folk teacher. Beograd: Freedom; 1970. pp. 500–2, Katic R. La medicine en Serbie au moyen age. Beograd: Scientific work; 1958. pp. 7–36, Bazala V.
- 5) The historical development of medicine in the Croatian lands. Zagreb: Croation publishing bibliographic institute; 1943. pp. 9–20, Nikolovski B. Essays on the history of health culture in Macedonia. Skopje: Macedonian pharmaceutical association; 1995. pp. 17–27.
- 6) Green Herb International Official Website, Available at: (<http://www.greenherbuganda.com/>)
- 7) Abdul Ghani, *Banglapedia - the National Encyclopedia of Bangladesh*(2014), Medicinal Herb, Available from: http://en.banglapedia.org/index.php?title=Medicinal_Herb
- 8) TORTORA GJ. AND GRABOWSKI SR. (1993) PRINCIPLES OF ANATOMY AND PHYSIOLOGY. HARPERCOLLINS COLLEGE PUBLISHERS.

- 9) Matthew Hoffman, Human Anatomy (2014), skin condition? Available from:
<https://www.webmd.com/skin-problems-and-treatments/picture-of-the-skin#1>
- 10) Dr. L.H. Hiranandani College of Pharmacy Ulhasnagar-3, Maharashtra, India. Laxmi S Joshi and Harshal A Pawar, "Herbal Cosmetics and Cosmeceuticals: An Overview". Published February 16, 2015. Natural Products Chemistry & Research.
- 11) Anupama, Daily life experience of ayurvedic medicines, complementary therapies (2012), general information of plant? Available from:
<https://www.bimbima.com/hair-care/medicinal-use-of-gudhal-or-hibiscus-rosa/1825/>
- 12) Anupama, Daily life experience of ayurvedic medicines, complementary therapies (2012), synonyme of the plant? Available from:
<https://www.bimbima.com/hair-care/medicinal-use-of-gudhal-or-hibiscus-rosa/1825/>
- 13) I. Khokhar and I. Ahmad, Studies in medicinal plants of Pakistan: a new cyclopeptide alkaloids from the flowers of Hibiscus Rosa silences, Science International (Lahore) 4(2) (1992), 147-150.
- 14) V. M. Jadhav, R. M. Thorat, V. J. Kadam and N. S. Sathe, Traditional medicinal uses of Hibiscus rosa-sinensis, J. Pharm. Res. 2(8) (2009), 1220-1222.
- 15) C. H. H. Hemens, M. J. Stampfer and W. Willett, Micronutrients and cancer chemoprevention, Cancer Detection and Prevention 7 (1984), 147-158.
- 16) H. Weisburger, Nutritional approach to cancer prevention with emphasis on vitamins, antioxidants, and carotenoids, Am. J. Clin. Nutr. 53(1) (1991), 226S-237S.
- 17) G. Block, B. Patterson and A. Subar, Fruit, vegetables, and cancer prevention: a

- review of the epidemiological evidence, *Nutrition and Cancer* 18(1) (1992), 1-29.
- 18) H. Makita, T. Tanaka, H. Fujitsuka, N. Tatematsu, K. Satoh, A. Hara and H. Mori, Chemoprevention of 4-nitroquinoline 1-oxide-induced rat oral carcinogenesis by the dietary flavonoids chalcone, 2-hydroxychalcone, and quercetin, *Cancer Research* 56(21) (1996), 4904-4909.
- 19) I. A. Ross, *Medicinal Plants of the World: Chemical Constituents, Traditional and Modern Medicinal Uses*, 2001.
- 20) R. A. Woutersen, M. J. Appel and A. Van Garderen-Hoetmer, Modulation of pancreatic carcinogenesis by antioxidants, *Food and Chemical Toxicology* 37(9),(1999),981-984
- 21) A. Bhaskar, V. Nithya and V. G. Vidhya, Phytochemical screening and in vitro antioxidant activities of the ethanolic extract of Hibiscus Rosa silences L, *Annals of Biological Research* 2(5) (2011), 653-661
- 22) A. A. G. Kumari, A. Palavesam, J. A. J. Sunilson, K. Anandarajagopal, M. Vignesh and J. Parkavi, Preliminary phytochemical and antiulcer studies of Hibiscus Rosa silences Linn. Root extracts, *International Journal of Green Pharmacy (IJGP)* 4(1) (2010).
- 23) Anupama, Daily life experience of ayurvedic medicines, complementary therapies (2012), Scientific classification of hibiscus rosasinensis? Available from: <https://www.bimbima.com/hair-care/medicinal-use-of-gudhal-or-hibiscus-rosa/1825/>
- 24) Daily life experience of ayurvedic medicines, complementary therapies(2012), Taxonomical classification of plant? Available from: <https://www.bimbima.com/hair-care/medicinal-use-of-gudhal-or-hibiscus-rosa/1825/>

- 25) Vincenta Khristi and V. H. Patel, International Journal of Nutrition and Dietetics (2016), THERAPEUTIC POTENTIAL OF HIBISCUS ROSA SINENSIS: A REVIEW? Available from: <http://www.pphmj.com/abstract/10489.htm>.
- 26) Anupama, Daily life experience of ayurvedic medicines, complementary therapies(2012), Important Medicinal Properties of Hibiscus rosa-sinensis? Available from: <https://www.bimbima.com/hair-care/medicinal-use-of-gudhal-or-hibiscus-rosa/1825/>
- 27) Anupama, Daily life experience of ayurvedic medicines, complementary therapies(2012), Medicinal uses of GU dhal – Hibiscus rosa-sinensis? Available from: <https://www.bimbima.com/hair-care/medicinal-use-of-gudhal-or-hibiscus-rosa/1825/>

