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FORMULATION AND EVALUATION OF WOODFORDIA FRUTICOSA LEAVES VANISHING HERBAL CREAM FOR TOPICAL TREATMENT OF HERPES SIMPLEX VIRAL INFECTION

[1]Mr. Tarade Akash Santosh, [2]Dr. Wakale Vijaykumar S., [3]Miss. Shinde Reshma Uttam, [4]Miss. Matale Rutuja Kisan, [5]Mr.Mhaske Saurav Diliprao.

[1]UG Scholar, [2]Principal, [3]UG Scholar, [4]UG Scholar, [5]UG Scholar,

Matoshri Miratai Aher College of Pharmacy, Karjule Harya Tal- Parner, Dist- Ahmednagar Maharashtra.

ABSTRACT:

The aim of the present research work was to formulate and evaluate vanishing herbal cream. Herbal creams offer several Advantages over other creams. Vanishing cream are semi solids preparation used for reduces the chances of skin Problems and fights irrtancy. The main aim of the reaserch work is to prepare the Vanishing herbal creams using different herbs and the prepared vanishing cream are evaluated For the efficacy.

The herbs used in the preparation are dried Woodfordia fructicosa leaves powder ,The formulated vanishing creams are evaluated for the Various irritancy, wash ability ,pH, viscosity, phase separation, spread ability, compatibility Test .The results shown that all formulation gave satisfied results.

These vanishing cream are mainly used in herpes zoster disease, burning skin and other skin problems. vanishing cream are mainly prepared in woodfordia fructicosa leaves.

KEYWORD- woodfordia fructicosa leaves, Herpes Zoster Disease, Vanishing Herbal Cream, Burning Skin, Herbs.

INTRODUCTION

Herpes zoster disease skin anatomy:

The hallmark signs of chickn pox (varicella)and shingles (zoster)are itchy, painful skin lessions, caused by varicella-zoster virus(VZV). The development of the SCID-hu mouse model led to advancement over cell culture techniques to study VZV replication [1] . From its inception, the SCID-hu model has revealed interesting and sometimes unanticipated phenotypes of VZV mutants

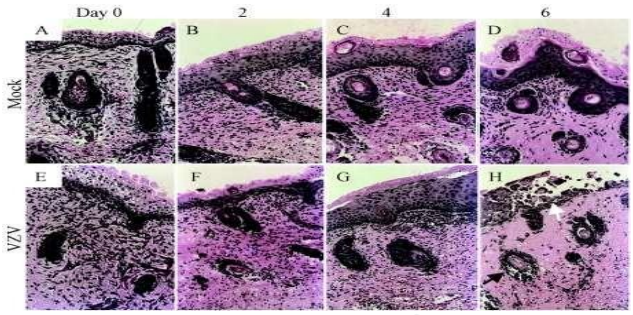


fig1: skin tissue were mock infected (a to d)or infected with vzv (e to h)

Definition:- Herpes zoster is a clinical manifestation of the reactivation of latent varicella zoster virus(vzv) infection.Herpes zoster results from reactivation of endogenous varicella-zoster virus (VZV) that haspersisted in latent form within sensory ganglia following varicella (chickenpox) [10-12] .Primary VZV

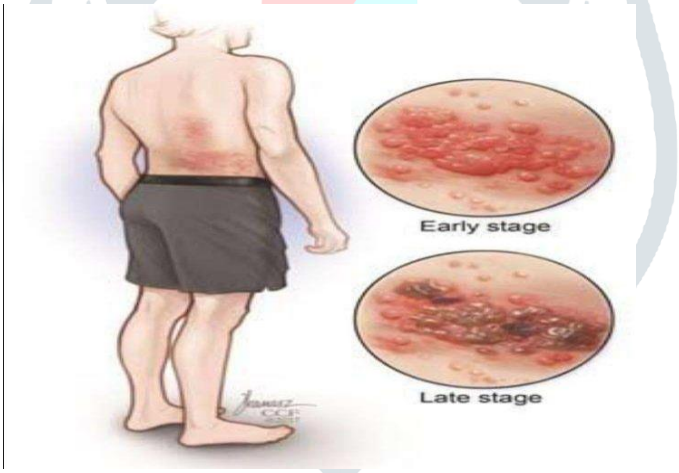


figure 2: stages of herpes zost

infections in zero negative individuals are known as varicella or chicken pox. Secondary or reactivated disease is known as shingles or herpes zoster[11] .

The goals of treatment for herpes zoster disease:-

- To decrease skin irritation.
- To decrease the aggravation.
- To forestall of skin inflammation.
- To decrease skin infection.

Treatment comprises to decrease inflammation of skin. Medicines of skin inflammation are basically modified to a patient's requirements.

Pathogenesis:-

 Consequently, latent VZV is present in The sensory ganglia of virtually every Older adult who was raised in the continental United States. Thus, almost Every older adult in the

United States Is at risk of developing herpes zoster[10,12,13].

 HZ is a viral infection caused by VZV following chickenpox [15], and is commonly observed in HZ middle-aged and elderly individuals[16] .

 middle-aged and elderly individuals [16] .

 VZV dissemination in the blood circulation is known as primary cell-associated viremia. It then reaches the reticuloendothelial organs to carry out further replication, which is known as secondary cell-associated viremia. T cells assist in the transport of VZV to the skin, where it forms the lesion, resulting in varicella, chickenpox, or infection [17] .

 VZV enters the body through the upper respiratory system and initially infects dendritic cells. Dendritic cells directly or indirectly offer a platform to VZV for human tonsillar CD4+ T cell infection. Later, VZV is distributed to lymphoid tissue to access the T cell environment and infect T cells. T cell infection drives the delivery of VZV from the lymphnode to the skin [16] .

 The VZV travels in a retrograde axonal manner from the skin to acquire latency in the sensory cranial and dorsal root ganglion [18] .

 Individuals exposed to chickenpox possess VZV DNA in their sensory.

 Infectious virions diffuse from the cells to the skin through neuronal ganglionic innervation

[19] . on of latent VZV in a single neuron initiates a cascade of herpes zoster infection

Reactivated virions drive replication in neuronal cells and progeny viruses are disseminated within the ganglion. It spreads to other neuronal cells and causes intense inflammation and necrosis [20] .

 As the virus enters the skin, it causes local inflammation, which results in the formation of an HZ rash or lesions on the skin, causing pain and itching[21] .

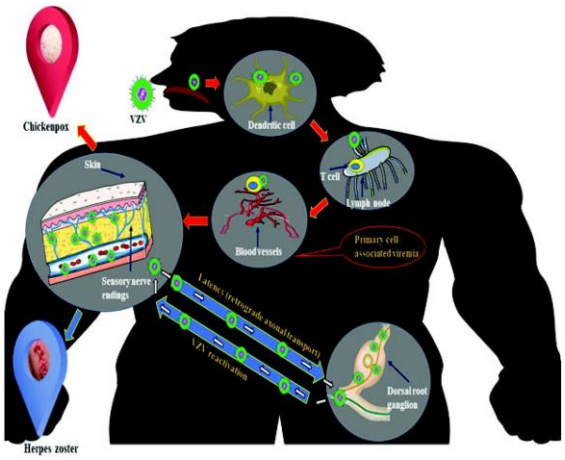


figure 3: pathogenesis of herpes zoster disease

Mechanism:-

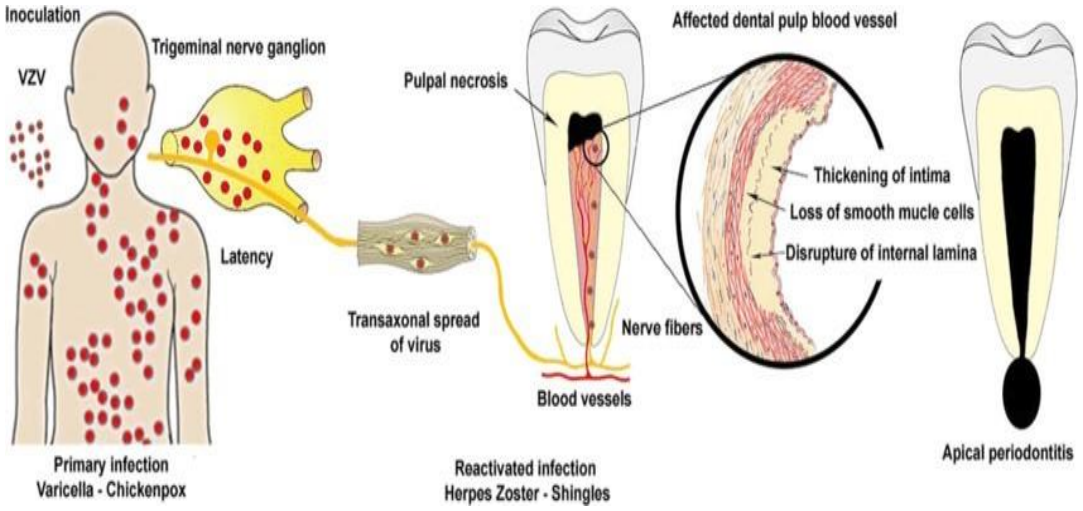


Figure no.4 mechanism

Etiology:-

Upon reactivation, the virus replicates in neuronal cell bodies, and virions shed from the cells which are carried down the nerve to the area of skin innervated by that ganglion. In the skin, the virus causes local inflammation and blistering. The pain caused by zoster is due to inflammation of affected nerves with the virus [22,23,24] .

Triggering factors:-

- Emotional stress
- Use of medications (immunosuppressants)
- Acute or chronic illness
- Exposure to the virus
- Presence of a malignancy

Epidemiology:-

The incidence of herpes zoster ranges from 1.2 to 3.4 per 1000 persons per year among younger healthy individuals while incidence is 3.9 to 11.8 per 1000 persons per year among patients older than 65 years. There is no seasonal variation seen with herpes zoster.Recurrences are most common in patients who are immunosuppressed.

Treatment:-

➢ Antiviral therapy hastens the resolution of lesions, decreases acute pain and helps to prevent post-herpetic neuralgia especially in elderly patients.

➢ Acyclovir 800 mg, five times daily for five days, valacyclovir 1 gm three times daily for five days, and famciclovir 500 mg three times daily for seven days are the antiviral drugs used to treat herpes zoster.

➢ Topical antibiotic creams like mupirocin or soframycin help to prevent secondary bacterial

infection. Analgesics help to relieve the pain.

➢ Occasionally, severe pain may require an opioid medication. Topical lidocaine and nerve blocks may also reduce pain [25,26,27] .

➢ **Conservative management :**

Antiviral: Acyclovir, famciclovir, valacyclovir within 72 hr of rash onset Corticosteroids : Prednisolone

Analgesics: NSAID's, Acetaminophen, opoids, TCA

Topical therapy: Lidocaine, 8% capsaicin, Acyclovir ointment. Combination therapy: Acyclovir + UVB, Acyclovir + Prednisolone

➢ **Treatment in pregnant women**

DOC: Acyclovir

➢ **Treatment in children**

Preadolescent

Benign: No treatment required

Severe or Ocular involvement: AcyclovirAdolescent: Acyclovir

➢ **Treatment in immunocompromised**

DOC/ Prophylaxis: Acyclovir

Alternative agents: Brivudin, Famciclovir, valacyclovir

Differential diagnosis:-

- Cellulitis
- Chickenpox
- Cnidaria envenomation
- Contact stomatitis
- Dermatologic manifestations of herpes simplex
- Ecthyma
- Erysipelas
- Erysipeloid
- Folliculitis
- Human cowpox infections
- Irritant contact dermatitis
- Insect bites
- Lichen striatus

LITERATURE REVIEW

1. M.N. Oxman et al.N.Eng J Med.2005.was Developed and evaluated The incidence and severity of herpes zoster and postherpetic neuralgic increase with age in association with a progressive decline in cell mediated immunity to varicella- zoster virus.

2. Helen Senderovich et al.was developed and evaluated The varicella zoster virus(VZV) can reactivate later in life as herpes zoster infection (HZI), a severe disease resulting in painful complications such as post-herpetic neuralgia(PHN).

3. Emily Baumrin et al. was developed and evaluated Herpes zoster (HZ) incidence is linked to immunosuppression. Patients with psoriasis or psoriatic arthritis(PsA) on systemic therapy might be at an increased risk for HZ.

4. Pratap K. Das et al.was developed and evaluated Woodfordia fruticose Kurz of the family Lythraceae is a plant of tropical and subtropical region with a long history of medicinaluse. A wide range of chemical compounds including tannins (especially those of macrocyclic hydrolysable class), flavonoids, anthraquinone glycosides, and polyphenols have been isolated from this species in recent times. Extracts and metabolites of this plant, particularly those from flowers and leaves, possess useful pharmacological activities.

5. Dinesh Kumar et al.was developed and evaluated Wodfordia fruticosa kurz is a widely use medicinal herb in different south East Asian countries since long back and plays a potential role in curing/ treating various ailments/ disorders like leprosy, toothache, leucorrhea, fever, dysentery, bowel disease.

6. K.R.Kirikar, B.D. Basu et al. pharmacognosy journal, vol 2, issue 18,Jan 2011,was studied the physiochemical properties such as loss on drying, total ash value ,water soluble ash value solubility, melting point, pH and extractive values and of flower were carried out.

7. Baker D.D, Alvika et al.was studied A wide variety of novel small-molecule natural products has recently been reported.

AIM AND OBJECTIVES

Aim: Formulation and Evaluation of vanishing herbal cream

Objectives:- The objective of this research work was to formulate the cream which does not causeany side effects or adverse reactions.

(1) Treatment of the acute viral infection,

(2) Treatment of the acute pain associated with herpes zoster and

(3) Prevention of postherpetic neuralgia

Antiviral agents, oral corticosteroids and adjunctive individualized pain-management modalities are used to achieve these objectives.

DRUG PROFILE

figure 5: woodfordia fruticosa kurz

Woodfordia fruticosa Kurz belongs to the family Lythraceae. The English names that are most frequently used for the plant are Fire flame bush and Shiranjitea. The plant is abundantly present throughout India, ascending up to an altitude of about 1500 mitre, and also in the majority of the countries of South East and Far East Asia like Malaysia, Indonesia, Sri Lanka, China, Japan and Pakistan as well as Tropical Africa [28] . Plant-derived drugs have been utilized by the majority of the world population for many years. Herbal drugs occupy an important place in both traditional and modern medicine [13,29] . It is commonly known as Fire flame bush, Dhavi, Dhaatkikephool, Shiranjitea, Thawi, and several other names [14] . Many chemical compounds including tannins, flavonoids, anthraquinone glycosides, and polyphenols are reported to be present in *Woodfordia fruticose* [30] .

HABITAT

W. fruticosa is present in South India, Mel ghat, Ravi eastern parts in Himalaya and in the Rajputana areas. However, it is extensively distributed all over north India moderately limited in south India [31] .

Crude drug name:-This plant is shrub, branched, beautiful, with acrobat stems, long spreading branches, 1-3-meter-tall, only just equal to 7 m. It is occasionally growing in gardens for its attractive flowers. Bark is reddish brown, fibrous bands; leaves are oblong, ovate-lanceolate; the

flowers abundant, bright red in color, paniculate-cymose; capsules are ellipsoid, seeds brown, smooth and ovate *Woodfordia fruticose* [32] .

PARTS USED

Leaves, fruits, flowers and gum[32] .

Crude drug name:-woodfordia fructicosa Linn

Common name:-

Hindi:-Ban-mahendi,Dhai,Dhatki,Dhatri,Dhaura. **Marathi**:-Dhalas,Dhayati,Shadia

English:-woodfordia fructicosa

Biological source:-It consist dried part of leaves and flowers of Woodfordia fructicosa Linn.

Family:-Lythraceae **Kingdom**:-plantae **Order**:-Myrtales **Genus:-**Woodfordia **Species**:-W.fructicosa

Binomial name:-Woodfordia fructicosa (L.)Kurz

Synonyms:-Acistoma coccineum Zipp.ex span.,Grislea micropetala Hochst.and Steud., Woodfordia floribunda Salib., Woodfordia tomentosa (Roxb.)Bedd.,Lythrum punctatum span.,Lythrum fructicosum L.

Chemical constituents:-many chemical components including tannin, flavonoids, anthraquinone glycosides,and polyphenols.

Geographical source:-This plant are widely distributed throughout the tropical and subtropical regions of India,shri Lanka,China, Malaysia,Indonesia,Japan and Pakistan.

Uses:- Ayurvedic and Unani System of medicine reports its use in traditional medicine in the treatment of various ailments such as diarrhea [33], allergy [33], dysentery, intestinal parasites, skin diseases, ulcer, epistaxis, worms, *etc.*[34,35] .

PLAN AND NEED OF WORK

Plan of work

- Collection
- Processing of raw materials
- Standardization of raw materials

a)morphological evaluation b)microscopic evaluation

- Development of vanishing cream
  - Extraction of herb
  - Formulation of cream
- Standardization of vanishing cream
  - Colour
  - pH determination
  - homogeneity
  - spread ability
  - viscosity

Need of Work

✓ Natural cosmetic are safest to use and effective as well as in comparison with other beauty products flooded in the market

✓ No side effects

✓ A product made from botanicals/herbs,or plant ,that are used to treat diseases or to maintain health are called herbal product

✓ Suitable for all skin type

✓ Most of the cosmetic products are initially tested on animals to ensure that they are safe and effective to use for human . however , natural cosmetics need not be tested on animals . these natural formulations are tested by ayurvedic experts in laboratories usingstate of art equipment with no animals involved.

✓ An individual with the skin of any types can use them and never have to worry about degrading skin condition.

✓ The natural content in botanicals dose not cause any side effect on the human body ;instead ,enrich the body with nutrients and other useful minerals .

✓ The herpes zoster disease is very painful disease in this disease no any proper drug are available this vanishing cream are very effective to herpes zoster disease.

✓ Natural cosmetic are not that expensive. In fact , they are easily available at low cost.

MATERIALS AND METHODS

Material:-

raw herb collection :-Raw herb are collected from khare -karjune,(A'nagar Dist)

Crude drug	Use
Woodfordia Fructicosa (leaves)	Antiviral
Coconut Oil	Anti-Bacterial, Anti-inflammatory, Anti-aging

Authentication:-

Fresh plant of woodfordia fruticosa were collected in the month of November 2021 from Khare -karjune district of Ahmednagar,India,It was authenticated through botanist and sample deposited in Herbarium of Balasaheb Jadhav Arts, Commers and science College, Ale.(ACC no:-861)

Extraction :-

- The leaves of W. fruticosa were washed and cleaned in running tap water and then air- dried for a period of one week at room temperature (25 ± 2 °C, RT). The dried leaves were ground into coarse powder by a mechanical grinder and then 400 g of leaves powder was soaked in 2 L of methanol (95%) for two weeks at RT with occasional stirring. The methanolic mixture was filtered through cotton plugs and then Whatman filter paper No.

1. The resulting mixture was concentrated in a rotary evaporator at reduced pressure and temperature (50 °C) to get the crude methanol extract (35.60 g; yield 8.9% w/w).

- soxhlet extraction :-dried leaves powder are collected of Woodfordia fruticosa.extracted with ethanol (50%)and kept 3hr and then filtered with silk cloth added in soxhlet extraction method.recorded and during treatment of different herbal preparations.

Method of Preparation

Steps carried out in the preparation of vanishing herbal cream were as follows.

- **Preparation of alcoholic extract of crude drugs:**above mentioned powdered crude drugs of4.5gm were taken into the conical flask and then 100ml. of ethanol was added to it, then the conical flask was capped with aluminum foil. Then this mixture was placed formaceration for 5 days.
- **Preparation of oil phase:** Stearic acid (17%), potassium hydroxide (0.5%), sodium carbonate (0.5%) was taken into one porcelain dish and this mixture was melted at 70O
- **Preparation of aqueous phase:** Alcoholic extract of crude drugs mentioned in step-1 (4.5%), Glycerin (6%), Water (71%) were taken into another porcelain dish and heated thismixture at 70O
- **Addition of aqueous phase to oil phase:** The aqueous phase was added to the oil phase with continuous stirring at 70O. Now, once the transfer was completed it was allowed to come at room temperature, all the while being stirred. Perfume (0.5%) was added at last just before the finished product was transferred to suitable container. Then cream was evaluated for various physical parameters
- **Formulation**:-

table1:composition of vanishing cream f1:-

Sr no.	**Ingredients**	**Quantity F1 (gm)**
1.	Alcoholic extract (Woodfordia Fructicosa leaves)	4.5
2.	Glycerine	6
3.	Triethanolamine	1
4.	Coconut oil	17
5.	Perfume	0.5
6.	Water	71

Composition of vanishing cream F2: –

Sr No.	**Ingredients**	**Quantity F2 (gm)**
1.	Stearic acid	17
2.	Potassium hydroxide	0.5
3.	Sodium carbonate	0.5
4.	Alcoholic extract(woodfordia fructicosa leaves)	4.5
5.	Glycerin	6
6.	Perfume	0.5
7.	Water	71

table2:-physicochemical constant of woodfordia fructucosa leaves

Parameters	**Result (%w/w)**
Total Ash	5.05
Acid insoluble ash	0.05
Loss on drying at 110^{0c}	14.35
Foaming index	4.6
Swelling index	0.0
pH	4.6
Stomatal index	14.29
Stomatal Number	4.6
Palisade Ratio	1.6
Extractive values	
Ethyl alcohol	52.94
Petroleum Ether	2.52
Chloroform	5.2
Carbon Tetrachloride	3.51
Ethyl Acetate	5.3
Acetone	17
Absolute alcohol	25.11

table3:-physicochemical parameters of woodfordia fruticosa

Extractives	Day light	UV 254nm	UV 366nm
Ethyl alcohol	Dark green	Dark herbage green	Blood red
Petroleum ether	Light yellow	Dark herbage green	Dull purple
Chloroform	Dull light green	Dark purple	Dull purple
Carbon tetrachloride	Amber	Light yellow	Yellow
Ethyl acetate	Dark green	Dark violet	Shiny pink
Acetone	Dark green	Dark purple	Shiny pink
Methyl alcohol	Herbage green	Dark purple	Dark purple
Distilled water	Amber	Herbage green	Dark green

Phytochemical constituents:-Leaves

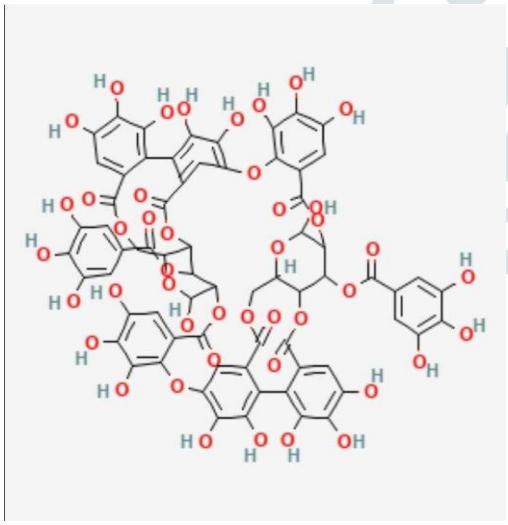
Oenothein-b, myrecetein-3-0 arabinopyranoside Quercertain-3-o-α-l-arabinoside, quercertain-3- o-6’’-β-d-galactopyranoside, Ellagic acid, polystachoside, pelargonidine-3, 5-diglucoside myricetin3galactoside, woodfruticosin (wood-fordin C). Octacosonol and sitosterol(6)

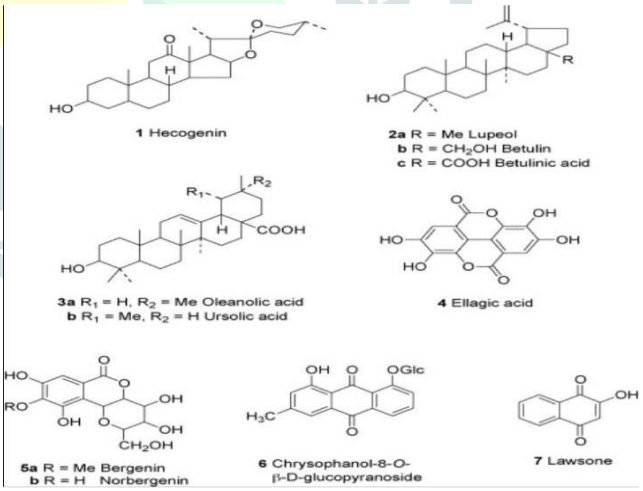
table4:-active constituents and their uses of woodfordia fructicosa leaves

Active constituents	Uses
Oenothein-b	Antitumour, antiviral, antibacterial, antioxidant,pro-inflammatory, anti-inflammatory,etc.
Myrecetein-3-alpha-l-arabinopyranoside	Inhibit the act of glucose-6-phosphatase, antibacterial, antioxidant,etc.
Ellagic acid	Prevent cancer and treat viral and bacterial infection
Pelargonidine	Used in food and industrial dye.
Woodfructicosine (woodfordin c)	Antitumour
Octacosonol	Used for athletic performance, Parkinson disease,amyotrophic lateral sclerosis,high cholesterol and atherosclerosis.
Sitosterol	Lowering cholesterol levels

Antiviral activity:-oenothein-b and ellagic acid components in Woodfordia fruticosa leaves showantiviral activity .

Chemical constituents:- Oenothein-b structure





CHEMICAL TESTS

- **Carbohydrate: Molisch Test:**

Take 2ml sample in dry Test tube. Take 2ml of distilled water in another tube as control. Add 2-3 drops of mollisch reagent to the solution. Gently pipette 1ml conc…… Observe colour change at the junction of two layers. Appearance of purple colour indicates the presence of carbohydrates.

- **Sugar: Fehling test:**

Add the sample in dry test tube .Distilled water should be kept in another tube as control .Fehling`ssolution to be added in the tubes. The tube must be kept in water bath. Make observation and record if here is any

development of red precipitate.

- **Protein:**

A) Millions test :

Take 1ml test solution in dry test tube . Similarly, take 1ml distilled water in another test tube as control. Add 1ml of Million`s reagent and mix well .Boil gently for 1minute. Cool under tap water .Now add 5drops of 1% sodium nitrate . Heat the solution slightly .Look for development of brick red precipitate.

B) Biuret test :

First, take 3 dry and clean test tubes . Now add 1 or 2 ml of the test solution , albumin and deionisedwater in the test tubes. Add biuret reagent(1-2 ml) in each test tube. Now shake the solution well and let it stand for 5 minutes. Finally ,observe how the colour changes.

- **Amino acid:**

A) Ninhydrin test :

Take 1ml test solution in dry test tube and 1ml distilled water in another tube as control. Pour few drops of 2% ninhydrin in both the test tubes. Keep the test tubes in water bath for5minutes. Look for the development of blue colour .

B) Tyrosine test:

Add 2-5 drops of Million`s reagent into 1ml test solution .Shake the contents and place the test tubes in boiling water bath. Development of red colour indicate presence of tyrosine.

- **Alkaloids: Dragendorff`s test:**

Take 2ml of the extract added 1ml of dragendorff`s reagent along side of test tube. Formation of orange or orange reddish brown precipitate indicated the presence of alkaloids.

- **Tannins and Phenolic acid :**
- **A)5%$FeCl_3$:**

Dissolve the sample in water plus ethanol .Add drops of dilute solution of ferric chloride($FeCl_3$).If the sample turns to red, green, purple, or blue colouration then it indicates the presence of phenols.

B) Lead acetate solution:

In a test tube , 2ml of amino acid solution is taken .To this, 2ml of NaOH is added , and the solution is boiled for a minute.Once the test tube cools down , a few drop of lead acetate are addedto the solution. the test tube is then observed for the formation of a precipitate.

- **Starch: Iodine test:**

Take control of 1ml of distilled water in another tube. Add about 2-3 drops of Lugol`s solution to both the tubes and mix them in a vortex . Observe the appearance of colour in the test tubes. Heat the test tube in the water bath until the colour disappears.

- **Saponin: Foam test:**

1ml solution of extract was diluted with distilled water to 20ml and shaken in a graduated cylinder for 15minutes. Development of stable foam suggest the presence of saponin.1ml extractwas treated with 1% lead acetate solution . Formation of white precipitates indicates the presence of saponins.

- **Flavonoids: Shinoda test :**

A few fragments of magnesium ribbon concentrated hydrochloric acid were added to the ethanolic extract. The appearance of red to pink colour after few minutes indicates the presence of flavonoids.

- **Mucilage: Ruthenium Red:**

50mg of dried mucilage powder was dissolved in 2ml of distilled water , mixed with few drops of Ruthenium red solution . Observed for pink colour indicates the presence of gums and mucilage.

Table 5: Chemical test

Sr no	**Natural product**	**Test perform**	**Result**	**Result**
			Water extract	**Alcohol extract**
1.	Carbohydrate	Molish test	+ve	+ye
2.	Sugar	Fehling test	-ve	-ve
3.	Protein	Millions test Biuret test	-ve -ve	-ve -ve
4.	Amino acid	Ninhydrin test Tyrosine test	-ve -ve	-ve -ve
5.	Alkaloids	Dragendroff's test	+ve	+ve
6.	Tannins and Phenolic acid	5%fecl3 Lead acetate solution test	+ve -ve	+ve -ve
7.	Starch	Iodine test	-ve	-ve
8.	Saponin	Foam test	+ve	-ve
9.	Flavonoids	Shinoda test	-ve	-ve
10.	Mucilage	Ruthenium red	-ve	-ve

Morphological Study:

figure 8 dried leaves of woodfordia fruticosa.

figure 1 powder of woodfordia fruticose

Microscopic study:-

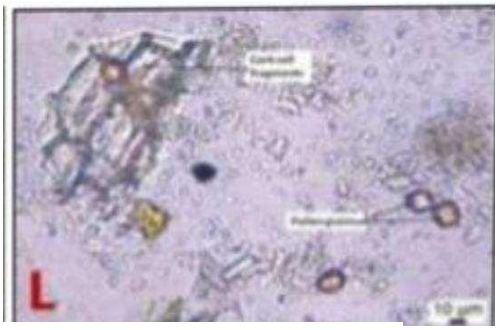


figure 10 microscopic study of driedleaf sample

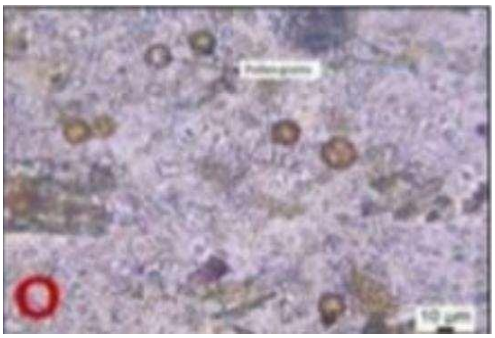


figure 1microscopical study of leaf powder sample

table 6 :quantitative microscopic characters of t.s of woodfordia fructicosa leaf character

	Length			Breadth		
	Min.	**Max.**	**Mean(±S.D)**	**Min.**	**Max.**	**Mean(±S.D)**
				S.D)		
Upper epidermis (midrib region)	5.85	9.09	7.17±0.32	3.24	6.42	5.08± 0.39
Upper epidermis (lamina region)	14.22	23.85	18.66±1.05	12.47	24.5	17.37±1.36
Lower epidermis (midrib region)	5.29	9.87	7.12±0.45	4.86	7.93	6.77±0.30
Adaxial cortical cell size	11.69	24.1	18.48±1.16	8.36	17.31	13.10±0.91
Abaxial cortical cell size	16.26	45.36	26.97±3.21	12.34	34.20	99.9±2.82
Trichome(curved)	25.10	94.24	50.32±6.88	8.86	18.65	11.66±1.13
Trichome (straight)	42.42	181.72	79.94 ± 16.22	17.93	43.88	29.65±2.22
Palisade thickness	59.10	73.45	65.28± 1.60			
Xylem length	65.75	114.09	93.11±5.13			
Xylem vessel diameter	10.24	29.56.	19.20±1.90			

ANALYSIS OF PHYSICAL PARAMETERS

Determination of organoleptic properties

The appearance of the cream was judged by its color, pearlscence and roughness and graded.

Determination of pH

Accurately weighed 5 g of the sample was dispersed in 45 ml. of water. The pH of the suspension was determined at 27°C using digital pH meter.

Determination of homogeneity

The formulations were tested for the homogeneity by visual appearance and by touch.

Determination of roboutness

It includes following,

Determination of spread ability

Spread ability may be expressed by the extent of the area to which the topical application spreads when applied to the affected parts on the skin. The therapeutic efficiency of the formulation also depends upon its spreading

value. Hence, it was found necessary to determine the spread ability of the formulation. For this purpose, ample (about 3gm) was applied in between two glass slides and they were pressed together to obtain a film of uniform thickness by placing 1000 gm weight for 5 minutes. Thereafter a weight (10gm) was added to the pan and the top plate was subjected to pull with the help of string attached to the hook. The time in which the upper glass slide moves over the lower plate to cover a distance of 10 cm is noted. The spread ability (S) can be calculated using the formula.

$$S= m \times L/T$$

Equation Where,Where,

S – Spread ability m- Weight tied to upper glass slide. l- Length moved on a glass slide t- Timetaken.

The determinations were carried out in triplicate and the average of three readings was recorded.

Determination of wetness

It was determined by applying cream on skin surface of human volunteer.

Determination of type of smear

It was determined by applying the cream on the skin surface of human volunteer. After application of cream, the type of film or smear formed on the skin were checked.

Determination of emolliency

Emolliency, slipperiness and amount of residue left after the application of fixed amounts of cream was checked.

Determination of viscosity

The viscosity determinations were carried out using a Brookfield Viscometer (DV II+ Pro model) using spindle number S- 64 at a 20 rpm at a temperature of 25°C. The determinations were carried out in triplicate and the average of three readings was recorded.

Determination of type of emulsion Dilution test

In this test the emulsion is diluted either with oil or water. If the emulsion is o/w type and it is diluted with water, it will remain stable as water is the dispersion medium" but if it is diluted with oil, the emulsion will break as oil and water are not miscible with each other. Oil in water emulsion can easily be diluted with an aqueous solvent, whereas water in oil emulsion can be diluted with an oily liquid.

Dye solubility test

In this test an emulsion is mixed with a water soluble dye (amaranth) and observed under the microscope. If the continuous phase appears red, it means that the emulsion is o/w type as the water is in the external phase and the dye will dissolve in it to give color. If the scattered globules appear red and continuous phase colorless, then it is w/o type. Similarly, if an oil soluble dye (Scarlet red C or Sudan III) is added to an emulsion and the continuous phase appears red, then itis w/o emulsion.

RESULT

Successive isolation of botanical Compounds from plant material is largely Dependent on the type of solvent used in the Extraction procedure.

- **Appearance**

The cream prepared was found to be of a yellowish green color and had pleasant odor.

- **pH**

The pH of cream was found to be 5.9, which is acidic value.

- **Homogeneity**

It was found that the cream was homogeneous and smooth and consistent in nature.

- **Ruboutness**

It was found that the cream was easily spreadable and moisturizes the skin surface of humanvolunteer.

- **Type of smear**

It was found that the cream produced non-greasy film on the skin surface.

- **Emolliency**

After observation, it was found that cream not left residue on skin surface after application.

- **Viscosity**

The viscosity of cream was found to be 27025cps.

- **Type of emulsion**

The cream was found to be of the O/W type emulsion by dilution and dye solubility test.

table no.7 physical parameter observation

Physical parameters	**Observations**
Appearance	Yellowish green color
pH	5.9
Homogeneity[A]By visual [B] By Touch	Homogeneous Smooth and consistent
Rubout [A] Spread ability [B] Wetness	Easily spreadable Moisturizer skin surface
Type of smear	Non- greasy
Emolliency	No residue left
Viscosity	27025cps.
Dillution test	O/W type emulsion
Dye solubility Test	O/W type emulsion

CONCLUSION

The vanishing cream of crude drugs with the best properties and having nutritional value was to be prepared by simple methods and less equipment are required. The prepared herbal cream also has antiviral and anti-inflammatory due to this it retards signs and symptoms of herpeszoster disease. Further studies are required for this vanishing herbal cream. It was found that this type of formulation of the vanishing herbal cream was not prepared earlier. Oil in water emulsion- based cream was formulated using natural ingredients and was evaluated. By combining all these ingredients it can be concluded that this cream can be used as a multipurpose cream and the ingredients mixed can produce synergistic effect of the other. Further Studies can be carried out on stability and skin irritancy test of the cream.

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