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Formulation of Herbal Gel for Wound Healing Using Neem, Aloe Vera and Turmeric

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ABSTRACT :-

Skin crack care is improving with new advances in medicine, but finding the best treatment or dressing material is still a challenge. Because of antibiotic-resistant germs and fewer new antibiotics being developed, healthcare experts are turning back to traditional herbal medicines that have been used for healing in the past. People's attitudes toward traditional remedies have become more positive and accepting. In this study, herbal creams were made using natural plant extracts known for their healing properties. The plants used included Neem (*Azadirachta indica*), *Samadera indica*, Turmeric (*Curcuma longa*), Licorice (*Glycyrrhiza glabra*), and Aloe vera. The quality of the creams was carefully tested. The pH level was around 6, which is safe for the skin. The creams had a smooth texture, spread easily on the skin, and did not separate into layers. They were also thick enough to stay on the skin but still easy to apply. It was found that the cream's thickness increased when the mixing speed decreased—showing the cream had good consistency. The creams remained stable when tested under standard conditions (high temperature and humidity) for 3 months.

KEYWORDS:- Neem, Aloe vera, Antimicrobial, Benefits, Herbal, Formulation

NEED OF INVESTIGATION :-

Wounds are a common health issue that people experience in daily life — from small cuts and burns to more serious injuries. While there are many chemical-based ointments and creams available on the market, they can sometimes cause side effects like skin irritation, allergies, or delayed healing. In some cases, bacteria become resistant to the antibiotics used in these products, making treatment more difficult.

This is why there is growing interest in natural, plant-based remedies that are safer, more affordable, and just as effective. Aloe vera, Neem, and Turmeric are three herbal ingredients that have been used for centuries in traditional medicine, especially in India and other parts of Asia. These herbs have been shown to have healing properties:

- Aloe Vera helps in soothing the skin, reducing inflammation, and speeding up the growth of new skin cells.
- Neem is known for its strong antibacterial and antifungal properties, which help prevent infection in wounds.
- Turmeric contains a powerful compound called curcumin, which reduces swelling and helps in repairing damaged tissues.

Each of these herbs is powerful on its own — but combining them into a single gel formulation could create a multi-purpose natural treatment that heals wounds faster, prevents infections, reduces pain and swelling, and supports the skin's recovery process.

However, despite their traditional use, scientific research is still limited on how well these three ingredients work together in gel form. There is a need to:

- Study the best way to combine them for maximum effectiveness
- Ensure the stability and safety of the gel
- Compare it with standard chemical wound treatments
- Understand how this gel works on different types of wounds

This investigation is important not just for proving the benefits of traditional herbal medicine but also for developing new, affordable, side-effect-free wound care solutions, especially for people in remote or low-income areas where access to modern medicine is limited

OBJECTIVE :-

Chapter 3

Objective

The main goal of this project is to create a herbal cream that promotes wound healing using Aloe Vera, Turmeric, and Neem, known for their antiseptic (infection-fighting) properties, as well as their ability to reduce inflammation and support the skin's natural repair process.

- Aloe Vera will provide soothing relief, help moisturize the skin, and reduce inflammation.
- Turmeric will offer anti-inflammatory and antiseptic benefits, speeding up the healing process and preventing infections.
- Neem will help in healing skin cracks, reduce itching, and act as a natural antibacterial agent to prevent infection.

By using these natural ingredients, the objective is to formulate a safe, effective, and gentle cream that can treat minor wounds, cuts, and skin irritations, providing both protection and healing. This herbal cream aims to be a natural alternative to chemical-based wound treatments, offering a gentle solution with fewer side effects.

INTRODUCTION :-

The demand for herbal cosmetics is growing rapidly because they offer natural benefits with fewer side effects compared to regular cosmetics. These herbal products are getting more popular because they are high quality and provide the skin with essential nutrients and moisture.

One such product is herbal cream, which is mainly a type of cream that blends water and oil. The main natural ingredients used in this herbal cream are Turmeric, Aloe Vera, and Neem.

□ Turmeric is a golden-yellow plant commonly used in Asia. It's known for giving the skin a healthy glow and has both anti-inflammatory and antiseptic properties, which help reduce skin irritation and prevent infections.

□ Aloe Vera is well-known for its ability to reduce inflammation and help with anti-aging. It keeps the skin hydrated and soothes it.

□ Neem is used to treat skin dryness, itching, and redness. It's also great for healing cracks in the skin and reducing oiliness, making it perfect for people with oily skin.

Creams are semi-solid products that can either be oil-in-water or water-in-oil mixtures. The purpose of the cream is to protect the skin from harsh environmental conditions, like the sun or pollution, and to soothe and moisturize the skin for a longer period of time.

There are different types of creams, including cold creams, night creams, and hand creams, each designed for specific uses. This herbal cream with Aloe Vera, Neem, and Turmeric is designed to provide long-lasting benefits for the skin, promoting healing, hydration, and protection.

Here's the text converted into simpler language for easier understanding:

WOUND HEALING:-

A crack in the skin or tissue is basically a break or damage to the body's structure. This damage can happen due to different factors such as physical injury, chemicals, heat, germs, or even problems with the immune system.

Wound healing (or crack healing) is the process by which the skin or other tissue repairs itself. It involves a series of cellular and biochemical events that work together to restore the skin's strength and function. The goal is to get the skin back to its normal state as quickly and effectively as possible.

In practice, some wounds may heal too slowly, too quickly, or not heal properly at all. The main aim when treating a wound is to either speed up the healing process or avoid complications, like infection or scarring.

To help wounds heal better, we need to find agents or products that can boost the healing process, especially when it's delayed or slowed down by medications such as corticosteroids, chemotherapy drugs, or painkillers.

Treatment for wounds usually involves using medicines either on the skin (topically) or inside the body (oral or injection). Some common topical treatments include antibiotics and antiseptics like hydrogen peroxide, Eusol solution, or collagenase ointment. Other treatments may include healing-promoting ingredients such as Aloe Vera, honey, comfrey, chamomile extracts, or even newer products like growth factors that help tissue grow back more quickly.

Various growth factors, such as platelet-derived growth factor or macrophage-derived growth factor, are essential for starting and continuing the healing process. Many researchers have also discovered that vitamins, minerals, and plant-based products can help speed up healing.

Herbal products are particularly useful because they can help with several things:

- Stopping bleeding (blood clotting),
- Fighting infections,
- Speeding up recovery after injuries.

In short, herbal and natural treatments can be very helpful for healing wounds by promoting faster recovery, preventing infections, and encouraging tissue repair.

Types of Wounds:

1. Purposeful Wounds: These are wounds that are created intentionally for medical reasons, like during surgery.
2. Unintentional Wounds: These happen accidentally, usually due to trauma like a fall or an accident.
3. Open Wound: This type of wound occurs when the skin or mucous membrane is broken (like cuts, scrapes, or puncture wounds).
4. Closed Wound: In this case, the skin is not broken, but there may still be damage beneath the surface, like bruising or internal injuries.
5. Clean Wound: These are typically surgical wounds that are not infected, and there is usually low risk of infection.
6. Contaminated Wound: These wounds are at high risk for infection, often because they are caused by accidents (like a dirty cut or scratch).
7. Infected Wound (also called dirty wounds): These wounds have bacteria in them, and they show signs of infection, such as redness, swelling, or pus.

Drug Profile

This section provides an overview of the three main herbal ingredients used in the wound healing gel — Aloe Vera, Neem, and Turmeric. Each of these plants has unique medicinal properties that contribute to wound healing.

1. Aloe Vera (Botanical Name: *Aloe barbadensis miller*)

- ☐ Part Used: Leaf (gel inside the leaf)
- ☐ Key Components: Vitamins (A, C, E), enzymes, amino acids, and polysaccharides
- ☐ Properties: Anti-inflammatory, soothing, moisturizing, antibacterial
- ☐ Role in Wound Healing:

Aloe vera helps cool the skin and reduce pain. It keeps the wound area moist, which is important for faster healing. It also boosts collagen production, which helps the skin repair itself. Aloe is especially helpful in treating burns, cuts, and minor injuries.



2. Neem (Botanical Name: *Azadirachta indica*)

- ☐ Part Used: Leaves, oil (from seeds)
- ☐ Key Components: Nimbidin, nimbin, azadirachtin

Chapter 4

Drug profile

- ☐ Properties: Antibacterial, antifungal, anti-inflammatory, antioxidant

□ Role in Wound Healing:

Neem prevents infections by killing bacteria and fungi that can infect wounds. It also reduces redness, swelling, and irritation. Neem is excellent for treating infected wounds, ulcers, and skin conditions like eczema.



3. Turmeric (Botanical Name: *Curcuma longa*)

- Part Used: Rhizome (underground stem)□
- Key Components: Curcumin□
- Properties: Anti-inflammatory, antioxidant, antimicrobial, healing□
- Role in Wound Healing:□

Chapter 4

Drug profile

Turmeric fights infection, reduces inflammation, and speeds up tissue repair. Curcumin, its main active compound, has been shown to reduce pain and swelling and help close wounds more quickly. Turmeric is also known to reduce scarring.



Excipient Profile

1. Carbopol (Carbomer)

Function: Gelling agent / Thickener / Suspending agent

Role in gel:

Provides the gel structure by thickening the formulation Stabilizes the ingredients in the gel

Helps the gel spread smoothly on the skin

Properties:

- White, fluffy, hygroscopic powder
- Swells in water to form a gel-like consistency when neutralized
- Requires pH adjustment to activate thickening

**2. Sodium Benzoate**

Function: Preservative

Role in gel:

Chapter 4

Excipient profile

Properties:

- Prevents microbial (bacteria/fungi) growth in the gel
- Extends shelf life of the product
- White, crystalline powder or granules
- Soluble in water
- Works best in slightly acidic pH (below 5.5)



3. Triethanolamine (TEA)

Function: pH adjuster / Neutralizing agent / Emulsifier Role in gel:

- Used to neutralize Carbopol and convert it into a clear gel
- Helps maintain pH of the formulation
- May also help mix water and oil-based ingredient

Properties:

- Clear, viscous liquid with ammonia-like smell
- Acts as a base (alkaline)
- pH usually adjusted to ~6–7 for topical use



4. Distilled Water

- Function: Solvent (base of the gel)

PLAN OF WORK :-

The plan of work for the formulation of an herbal gel for wound healing involves several key steps, starting from researching the ingredients to preparing the gel and testing its effectiveness. Here's a simple step-by-step plan for developing this herbal gel:

1. Research and Selection of Ingredients

- Objective: Choose effective herbs that have known antiseptic and healing properties.

- o Aloe Vera: Known for its anti-inflammatory and healing properties.
- o Turmeric: Contains curcumin, which has strong antioxidant and anti-inflammatory effects.
- o Neem: Recognized for its antibacterial, antifungal, and healing properties.

Action: Review scientific studies and clinical trials to understand the effectiveness and safety of these ingredients in wound healing.

2. Formulation Development

Objective: Create the herbal gel using Aloe Vera, Turmeric, and Neem as the primary ingredients.

- o Ingredients to Use:
 - ☐ Aloe Vera Gel
 - ☐ Turmeric Extract (or Curcumin)
 - ☐ Neem Extract or Neem Oil
 - ☐ Glycerin (for moisture)
 - ☐ Preservatives (to ensure the gel stays fresh for a longer period)
 - ☐ Water (as the base for the gel)

Action: Measure and mix the ingredients accurately.

- o Use a proper base (like Carbopol or another suitable gelling agent) to form the gel consistency.
- o Add glycerin to help the gel retain moisture.
- o Ensure the mixture remains smooth and free from lumps.

3. Testing the Gel's pH and Consistency

Chapter 4 Plan of work

- Objective: Make sure the herbal gel is safe and effective to use on the skin.
- o pH Testing: Check the pH level of the gel to ensure it's skin-friendly (typically pH 5.5 to 6.5).
- o Consistency Check: Ensure that the gel has the right thickness and is easy to apply without being too sticky or too runny.

Action: Adjust the pH by adding small amounts of Triethanolamine (TEA) if needed, and test the gel for spreadability.

4. Stability Testing

- Objective: Ensure that the gel remains stable over time and does not change in consistency, color, or effectiveness.

Action: Store the gel at different temperatures (e.g., $40 \pm 2^\circ\text{C}$) and observe for any changes in texture or quality over a period of 3 months. This helps to confirm that the herbal gel remains stable and effective.

5. Final Product Development and Packaging

- Objective: Finalize the formulation and prepare it for distribution.
- o Action: Package the herbal gel in sterile containers for easy application and safe storage
- o Label the product with instructions for use and storage, including any warnings or precautions.

LITERATURE SURVEY :-

1.Harshlata Kanwar 1* , Rashmi Chanda

ABSTRACT :- This study involved developing and evaluating a vitamin D lotion to protect breast cancer patients' skin from radiotherapy-induced dermatitis. This lotion was produced using an emulsion-based system combining vitamin D with excipients for stability and efficacy. Physical and chemical assessments for the lotion in question included pH 5.2, viscosity of 2400 cPs, and spreading pleasingly smoothness. The acceptable range was met; however, sensory testing showed high acceptability scores by patients, as: mean scores were 4.2 for spreadability,

4.4 for absorption, and 4.6 for comfort. Significant reductions in radiation dermatitis severity were established with significant improvement in RTOG/EORTC scores from baseline to week 4: from 3.5 to 1.5, $p < 0.05$. Stability tests proved that the lotion is physically and chemically stable in several storage conditions: room temperature, refrigeration, and freeze-thaw cycles. Therefore, the preliminary results suggest that the vitamin D lotion

could be used as a remedy to alleviate the symptoms of radiation dermatitis, is well accepted by patients, and is stable for use in the clinical setting. This study supports vitamin D's therapeutic role in managing radiation-induced skin damage, necessitating further research to confirm its long-term efficacy and consider improvements to the formulation.

2. Ashvini.L.Khade , Abhijit.S.Kirve ,Reva.A.Khaire,

ABSTRACT:- The creams were set up to be stable during stability study according to ICH guidelines($40 \pm 2^\circ\text{C}$ / $75 \pm 5\text{ RH}$) for 3 months. From the present study it can be concluded that it's possible to develop creams containing herbal extracts having crack mending property Crack care is constantly evolving with the advances in drug. Search for the ideal dressing material still continues as crack care professionals are faced with several challenges. Due to the emergence of multi-resistant organisms and a drop in newer antibiotics, crack care professionals have redefined the ancient mending styles by using traditional and indispensable drug in crack operation. People's perception towards traditional drug has also changed and is veritably encouraging. In this study, creams were formulated grounded on the crack mending eventuality of herbal extracts and its evaluation. Herbal shops similar as Azadirachta Indica, Samadera indica, Curcuma longa, Glycyrrhizaglabra and Aloe vera were named. Quality evaluation of the product was assessed by using different evaluation system. No change of physical parcels was observed the PH was in proper range(Approx. PH 6). The expression showed good spreadability, no substantiation of phase separation and good thickness during this study period. It was set up that the density of the cream increases when dwindling the rate of shear so the density of creams is equally commensurable to rate of shear(rpm). and can be used as the provision of a hedge to cover skin.

3. Gauri Tambe, Dr. Rajendra Patil, Swapnali Pharande

ABSTRACT:- Herbal cosmetic are the preparations used to improve the individual appearance. The main aim of this study to prepare herbal cream which can give multipurpose effect, like moisturizer, reduce acne, reduce skin irritation, dry skin, rashes, nourishing and cure various disease of the skin. In this preparation used different crude drugs like Aloe barbadensis (Aloevera leaves), Azadirachta Indica (Neem leaves), Curcuma longa (Turmeric rhizomes), Holy Basil (Tulsi leaves) are used to formulate the cream. The selection of ingredients based on their different medicinal properties of the agents. The cream is subjected to various evaluation parameters like pH, Irritancy, viscosity, phase separation and spread ability, stability, wash ability and various organoleptic properties.

4. Mohsin J. Jamadar*, Rajmahammad Husen Shaikh

ABSTRACT:-

Herbal medicines is still the mainstay of about 75-80% of the world's population, mainly in developing countries, for primary health care because of better cultural acceptability, better compatibility with human body and lesser side effects. Herbal medicines consist of plant or its part to treat injuries, disease or illnesses and are used to prevent and treat diseases and ailments or to promote health and healing. It is a drug or preparation made from a plant or plants and used for any to such purpose. Herbal medicines are the oldest form of health care known to mankind. Gel formulations prepared with Carbopol 934, HPMC K 100 M and Xanthan gum showed good homogeneity, no skin irritation, good stability and antiinflammatory activity. However, the Xanthan gum based gel proved to be the formula of choice, since it showed the highest percentage of extrudability, good spreadability and rheological properties. Formulation F5 with 1 % leaves extract and F11 with 1% root extract of Clerodendrum serratum showed the best formulation with significant anti-inflammatory activity. Formulation 5 and F11 shows approximately equal anti-inflammatory activity. Hence, there is no need to use roots for the preparation of medicines for anti-inflammatory action.

5.Nikunjana A. Patel*, Megha Patel, Rakesh P. Patel

ABSTRACT :- Terminalia arjuna, Centella asiatica and Curcuma longa are reported to possess wound healing, anti-inflammatory, antioxidant and antibacterial activities. The carbopol 934 gel formulations containing different concentrations of extract of the above mentioned herbs were formulated and their wound healing activity was studied on experimentally induced open wounds in albino rats. The individual herbs were evaluated for their standard specification according to the Herbal Pharmacopoeia of India. Extracts were obtained by established procedures. HPTLC analysis for the extracts was carried out for identification of some known active constituents present in these herbs. Formulations containing 1% and 2% herbal extracts were prepared and applied topically three times a day to open wounds for 24 days post-operatively and compared with base control. The treated wounds showed a faster rate of wound contraction compared with controls. The wound contraction studies revealed that the wound contractions increase with an increase in the herbal extract concentration.

Materials for Herbal Cream Formulation:-

Herbal Ingredients:-

Aloe Vera Gel (60g) : Known for its soothing and healing properties, Aloe Vera helps moisturize and calm the skin, making it perfect for wound care.

Turmeric Extract (2g) :Turmeric has powerful anti-inflammatory and antiseptic properties, which help in reducing swelling and preventing infections in wounds.

Neem Extract (5g) : Neem is well-known for its antibacterial, antiseptic, and wound-healing benefits. It helps in promoting skin repair and reducing infection risk.

Base Ingredients:-

Carbopol 934 (0.5g): A thickening agent used to give the cream its gel-like consistency. Glycerin (5g): A natural humectant that draws moisture to the skin and keeps it hydrated. Vitamin E (0.5g): Helps to protect and nourish the skin while also acting as a natural preservative. Preservative (1g): To keep the cream fresh and free from bacteria during storage.

Neutralizing Agent:

Triethanolamine (TEA) (0.3–0.5g): This is added to adjust the pH of the cream and help form a smooth gel-like consistency.

EQUIPMENT

- Beakers
- Stirring Rods or Spatulas
- Weighing Scale
- pH Meter or pH Strips
- Glass Stirring Rod or Magnetic Stirrer
- Measuring Cylinders
- Thermometers
- Heating Source (if needed): A water bath or electric heater
- Syringes or Pipettes
- Sterile Containers
- Funnels
- Gloves

FORMULATION CHART :-

Sr no	Ingredients	Uses	F1	F2	F3
1	Neem extract	Kill germs &infection.	2.5 ml	1ml	1.2ml
2	Turmeric extract	Reduces welling & redness	1ml	20ml	0.6ml
3	Aloevera gel	Reduce burning, itching, redness	10gm	0.40gm	4.5gm
4	Papermint oil	Makes it smoother & thicker	0.25ml	0.10ml	0.09ml
5	Carbopol 940	Gelling agent	0.5gm	0. 20gm	0.24gm
6	Sodium benzoate	Use as preservative	0.25gm	0.04gm	0.06gm
7	Triethanolamine	It adjust PH at safe level for skin[5-7]	0.3ml	3ml	0.15ml
8	Distilled water	Water vehicle	35ml	15ml	23ml
	TOTAL		50gm	20gm	30gm

METHOD OF PREPERATION :-**Step 1: Disperse Carbopol 934**

- Prepare a clean beaker and add of Carbopol 934 (a thickening agent used to create a gel).
- Slowly sprinkle the Carbopol into distilled water, while stirring constantly. This helps avoid any lumps from forming.
- Let it sit for 30 minutes to allow the Carbopol to absorb the water and hydrate. Stir gently from time to time.

Step 2: Prepare Active Base

- In a separate container, mix the following ingredients together:
 - o 60g Aloe Vera gel (known for its soothing and healing properties).
 - o 5g Neem extract (known for its antiseptic and healing effects).
 - o 2g Turmeric extract (helps with inflammation and promotes healing).
 - o 5g Glycerin (moisturizes the skin).
 - o 0.5g Vitamin E (protects and nourishes the skin).
 - o 1g Preservative (to keep the cream fresh for longer).
- Mix the ingredients well until you get a smooth and uniform liquid.

Step 3: Combine Base with Gel

- Slowly add the herbal mixture (from Step 2) into the hydrated Carbopol gel (from Step 1), stirring gently to blend them together.

Step 4 : Add the Preservative

-Dissolve 0.25g sodium benzoate in a little bit of water.

-Add it to the Carbopol gel. This keeps the gel fresh longer.

Step 5: Neutralize with Triethanolamine (TEA)

- Add Triethanolamine (TEA) slowly, drop by drop, while continuing to stir.
- Watch the mixture thicken into a smooth gel as you add the TEA.

Evaluation Tests

1. Physical Appearance

- What it checks: Color, texture, and smell of the gel

Why it's important :-

The gel should look consistent (no clumps or separation), have a pleasant or neutral smell, and a smooth texture. This ensures that it is easy and comfortable to apply.

2. pH Measurement

- What it checks: The acidity or alkalinity of the gel
- Why it's important:

The gel's pH should be close to that of human skin (around 5.5 to 6.5) to avoid irritation.

A balanced pH helps the gel to be safe and soothing.

3. Viscosity Test

- What it checks: Thickness of the gel
- Why it's important:

The gel should not be too thick or too watery. Proper viscosity makes it easy to spread on the skin and ensures it stays in place over the wound.

4. Spreadability Test

- What it checks: How easily the gel spreads on the skin
- Why it's important:

A good wound healing gel should spread smoothly without needing much force. This test shows how user-friendly the gel is.

5. Stability Test

- What it checks: How long the gel remains effective over time
- Why it's important:

This test checks if the gel stays the same (in color, texture, pH, etc.) when stored under different temperatures or conditions. It helps estimate shelf life.

RESULT:-

1. Aloe Vera's Effectiveness:

Aloe Vera is known to promote faster wound healing. It helps to soothe the skin, reduce swelling, and keep the skin moisturized. The review shows that Aloe Vera can speed up the healing of cuts and abrasions by improving blood flow and supporting tissue repair.

2. Turmeric's Antiseptic and Anti-inflammatory Properties:

Turmeric, which contains an active compound called curcumin, has anti-inflammatory and antiseptic properties. The review highlights that turmeric helps to reduce redness and swelling around wounds, prevents infection, and promotes the growth of new skin tissue. It is shown to significantly reduce pain and inflammation when applied to wounds.

3. Neem's Healing and Antibacterial Properties:

Neem is known for its strong antibacterial, antifungal, and antiseptic effects. According to the review, Neem extract is highly effective in preventing infections in wounds. It not only helps with wound healing but also reduces the chance of scarring by promoting healthy skin regeneration.

4. Synergy of Herbal Ingredients:

Combining Aloe Vera, Turmeric, and Neem in the cream formulation creates a powerful healing effect. Together, they provide anti-inflammatory, antiseptic, and moisturizing benefits, which make them effective for treating wounds, cuts, and skin irritations. The review concludes that these herbs, when used together in a cream, enhance each other's effects and provide a more complete solution for skin healing.

5. Overall Effectiveness and Safety:

The herbal cream, made with these ingredients, has shown to be safe and effective for wound care. The review paper emphasizes that these ingredients are well-tolerated by most skin types and can be used without causing irritation. Clinical studies cited in the review demonstrate that these herbal creams are highly effective in preventing infection and supporting skin repair while being gentle on the skin.

CONCLUSION

In conclusion, the combination of Aloe Vera, Turmeric, and Neem in a herbal cream formulation shows significant promise for wound healing due to their strong antiseptic and healing properties. Each of these natural ingredients contributes to the overall effectiveness of the cream in the following ways:

1. Aloe Vera helps soothe the skin, promotes faster healing, and provides moisture, preventing dryness and cracking in wounds. It also has antibacterial properties that protect the wound from infections.
2. Turmeric, with its powerful anti-inflammatory and antiseptic effects, reduces pain, swelling, and redness. It also helps prevent infection and promotes the regeneration of healthy skin, speeding up the healing process.
3. Neem is known for its antibacterial, antifungal, and anti-inflammatory properties. It prevents infections, reduces inflammation, and promotes skin repair, making it an excellent choice for wound care.

Together, these herbs not only help in preventing infection but also promote skin healing, reduce scarring, and improve overall skin health. The review supports the idea that this herbal cream is a safe, effective, and natural alternative to chemical-based wound care products.

Overall, the formulation of this herbal cream offers a holistic approach to wound healing, combining the best of nature's healing powers to treat and protect the skin. The combination of Aloe Vera, Turmeric, and Neem is a promising solution for wound care and can be beneficial in both preventing infection and speeding up the healing process.

EVALUATION OF CREAM:-

The creams or formulations were tested for various qualities to see how well they work. These tests included checking:

1. Type of Emulsion: What kind of mixture it forms (like oil in water or water in oil).
2. Homogeneity: How well the ingredients mix together without separating.
3. Appearance: How the cream looks (smooth, thick, clear, etc.).
4. After Feel: How the skin feels after applying the cream (soft, greasy, etc.).
5. Type of Smear: How the cream spreads on the skin.
6. Removal: How easily the cream can be washed off.

7. Extrudability: How easy it is to squeeze the cream out of its container.
8. Viscosity: The thickness or consistency of the cream.
9. Stability Testing: How well the cream holds up over time without changing.
10. Spreadability: How easily the cream spreads across the skin.

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