



# “FORMULATION AND EVALUATION OF HERBAL BLOOD PURIFIER TONIC”

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## Abstract:

The increasing demand for natural and safe alternatives to synthetic medicines has led to a growing interest in herbal formulations. This study focuses on the formulation and evaluation of a polyherbal blood purifier tonic utilizing Neem (*Azadirachta indica*), Bhumi Amla (*Phyllanthus niruri*), Papaya fruit (*Carica papaya*), Honey, and Lemon juice (*Citrus limon*). These ingredients are traditionally known for their detoxifying, antioxidant, hepatoprotective, and immunomodulatory properties. The formulation was prepared using aqueous extracts of the herbs and fruit juices, blended in specific ratios to optimize palatability and therapeutic potential. Preliminary phytochemical screening confirmed the presence of flavonoids, alkaloids, tannins, and phenolic compounds. The tonic was evaluated for organoleptic properties, pH, specific gravity, stability, and microbial load. Results indicated that the formulation is stable, non-toxic, and potentially effective as a natural blood purifier. This study supports the traditional claims of these herbs and suggests further *in vivo* studies to validate therapeutic efficacy.

**Key words:** Polyherbal formulation, Blood purifier, Neem, Bhumi Amla, Papaya, Lemon juice, Honey

## Introduction:

In today's fast-paced world, our bodies are constantly exposed to various toxins whether through pollution, processed foods, unhealthy lifestyle choices, or stress. These toxins accumulate in the blood and may lead to a number of health concerns, including skin disorders, sluggish digestion, weakened immunity, and overall fatigue. A blood purifier tonic is a natural, supportive remedy designed to help the body eliminate these harmful substances, cleanse the bloodstream, and promote general well-being. A blood purifier tonic is typically a liquid herbal preparation made from time-tested natural ingredients known for their detoxifying and healing properties. Common herbs used in such tonics include neem, manjistha, guduchi (giloy), turmeric, sarsaparilla, triphala, and bhringraj. These herbs have been used in traditional systems of medicine like

Ayurveda, Siddha, and Unani for centuries due to their potent blood-cleansing and liver-supporting effects. The primary function of a blood purifier tonic is to assist the body's natural detoxification processes. By promoting better liver function, stimulating the lymphatic system, and improving kidney performance, these tonics help in flushing out accumulated waste and impurities from the bloodstream. A cleaner bloodstream leads to healthier organs, radiant skin, improved digestion, and a stronger immune response. One of the most visible benefits of blood purification is healthier skin. Skin conditions like acne, pimples, rashes, eczema, and boils are often linked to impurities in the blood. By cleansing the blood, the tonic helps clear up the skin from within, rather than just treating the surface symptoms. This internal approach often results in a long-lasting glow and clearer complexion. In addition to skin health, blood purifier tonics may contribute to better metabolism and energy levels. Toxins in the blood can slow down cellular function, making you feel tired or sluggish. By cleansing the blood, the body functions more efficiently, which can lead to improved energy, better mood, and enhanced focus. Most blood purifier tonics are safe for long-term use when taken in the recommended dosages. They are usually free from harmful chemicals and artificial additives, making them suitable for people looking for gentle and natural health support. However, it's important to remember that these tonics are not a cure for chronic illnesses or diseases. They work best as supportive therapy, complementing a healthy lifestyle that includes a balanced diet, regular exercise, proper hydration, and sufficient sleep.

## **Classification of Blood Purifier Tonic:**

### **1. Based on Source**

#### **a. Herbal / Natural Blood Purifiers**

Made from plant-based ingredients (e.g., neem, bhumi amla, papaya, turmeric, etc.)

#### **b. Synthetic / Pharmaceutical Blood Purifiers**

Prepared using chemical compounds (rare, mostly in allopathic formulations)

### **2. Based on System of Medicine**

#### **a. Ayurvedic Blood Purifier**

Use herbs like neem, manjistha, bhumi amla, and turmeric. Focus on balancing doshas and detoxifying the liver and blood.

#### **b. Unani Blood Purifiers**

Include ingredients like chiraita, sana makki, and burhantul. Emphasis on temperament and humor balance.

#### **c. Siddha / Homeopathic Blood Purifiers**

Use region-specific herbs and principles.

#### **d. Allopathic / Modern Medicine-Based**

May use supplements like antioxidants, iron chelators, or liver-support medicines.

### **3. Based on Function / Therapeutic Action**

#### **a. Hepatoprotective Tonics**

Support liver detox (e.g., bhumi amla, papaya)

#### **b. Antimicrobial / Antiseptic Tonics**

Fight infections in the blood (e.g., neem, turmeric)

#### **c. Antioxidant and Immunity-Boosting Tonics**

Enhance immune function and remove toxins (e.g., lemon, honey, papaya)

#### **d. Skin Purifying Tonics**

Target acne, eczema, and other skin issues by cleansing blood (e.g., neem, manjistha)

### **4. Based on Dosage Form**

- Syrup / Tonic (Liquid)
- Capsule / Tablet
- Powder / Churna
- Juice / Extract

### **Benefits of Blood Purifier tonic:**

Blood purifier tonics are herbal or Ayurvedic formulations that claim to "cleanse" the blood by removing toxins and improving overall health. While the term "blood purification" isn't a medically recognized process, these tonics can offer some potential benefits depending on their ingredients

#### **1. Clearer Skin:**

May help reduce acne, pimples, and other skin issues by addressing internal imbalances.

Common ingredients like neem, manjistha, and turmeric have anti-inflammatory and antibacterial properties.

#### **2. Improved Digestion:**

Many tonics support liver and digestive health, which can indirectly help the body eliminate waste more efficiently.

#### **3. Detoxification Support:**

Tonics often contain herbs that support liver function (like kutki, bhumi amalaki), aiding the body's natural detox processes.

#### **4. Improved Immunity:**

Some ingredients like amla and giloy help strengthen the immune system.

#### **5. Hormonal Balance:**

Certain formulations can help in balancing hormones, which may reduce issues like menstrual irregularities or hormonal acne.

#### **6. Reduced Allergic Reactions:**

Anti-inflammatory herbs might help reduce eczema, psoriasis, or other allergic skin conditions.

## 7. Better Blood Circulation:

Ingredients that support heart health may also improve blood flow and oxygen delivery to cells.

### Material and Method:

#### 1. NEEM



**Fig. No.1. Neem**

**Family:** - Azadirachta indica

**Biological source:** - dried leaves of plant Azadirachta indica

**Chemical constituent:** - Azadirachtanimbin and salanin which have antifungal and anti-inflammatory.

**Uses:** - Anti-bacterial and Anti-microbial.

#### 2. Bhumi Amala:



**Fig. No. 2. Bhumi Amala**

**Family:** - Phyllanthaceae

**Biological source:** - dried powder of plant phyllanthaceae

**Chemical Constituent:** - Lignans (e.g., phyllanthin, hypophyllanthin)

**Uses:** -

**Liver Health:** Bhumi Amla is best known for its hepatoprotective properties.



It helps in managing liver disorders like jaundice, fatty liver, and hepatitis.

**Detoxification:** It purifies the blood and supports the body's natural detox system.

### 3. Papaya Pulp



**Fig. No.3. Papaya Pulp**

**Family:** - Caricaceae

**Biological source:** - The ripe fruit pulp of *Carica papaya* Linn.

**Chemical constituent:** - Papain Chymopapain Vitamin A (Beta-carotene)  
Vitamin C

**Uses:** - **Skin Care:** Rich in papain enzyme and vitamin C, papaya pulp gently exfoliates dead skin, brightens complexion, and promotes youthful skin.

**Anti-Acne:** Its anti-inflammatory properties help reduce acne and blemishes.

**Digestive Health:** Consumed internally, it improves digestion and helps relieve constipation.

**Wound Healing:** Applied topically, it can speed up wound healing and soothe burns.

**How to Use:** Can be applied directly to the face or body as a mask, or eaten fresh for internal benefits.

### 4. Honey:



**Fig. No. 4. Honey**

**Family:** - Apis mellifera

**Biological Source:** - A natural sweet substance produced by bees (Apis mellifera and other Apis species) from flower nectar.

**Chemical Constituents:** - Enzymes (glucose oxidase, catalase, invertase)  
Phenolic acids and Flavonoids

**Uses:** -

**Natural Moisturizer:** Hydrates and softens the skin when used in face masks.

**Antibacterial:** Helps in healing wounds, acne, and minor skin infections.

**Soothes Cough & Sore Throat:** Taken with warm water or lemon.

**Energy Booster:** Provides natural sugar for quick energy.

**How to Use:** Internally with warm water, teas, or as a natural sweetener; externally in skin and hair masks.

## 5. Lemon Juice:



**Fig. No. 5. Lemon Juice**

<i>Sr. no.</i>	<i>Ingredient</i>	<i>Property</i>	<i>Quantity</i>
1.	Neem	Antibacterial, anti-inflammatory	10g
2.	Bhumi Amla	Antiviral, Anti-Inflammatory	10g
3.	Papaya Pulp	Antioxidant, Anticancer	50g
4.	Honey	Antioxidant, Antibacterial, Antimicrobial	10ml
5.	Lemon Juice	Antioxidant, Hepatoprotective Activity	10ml
6.	Distilled water	Vehicle	100ml

**Table No.1. Composition of Blood Purifier Tonic**

### **Formulation of Herbal Blood Purifier:**

1. Collection and Authentication: Collect fresh Neem leaves, Bhumi Amla, and Papaya. Authenticate botanically.
2. Washing and Drying: Clean Neem and Bhumi Amla to remove dirt.
3. Extraction: Crush Neem and Bhumi Amla and boil in 100 mL purified water for 15 minutes. Filter and concentrate the extract.
4. Papaya Pulp Preparation: Here's a basic outline for formulation and evaluation of an herbal blood purifier tonic using Neem leaves, Bhumi Amla, Papaya fruits, Honey, and Lemon juice:

#### **Method of Preparation:**

##### **Step 1: Collection and Washing**

Collect all the herbs and fruits fresh. Wash thoroughly with clean water to remove dust and impurities.

##### **Step 2: Extraction**

Neem & Bhumi Amla: Crush and grind 100g of neem leaves and 100g Bhumi Amla in a blender with 200ml distilled water. Filter using muslin cloth to collect the juice. Papaya Fruit: Peel and deseed papaya. Blend 200g pulp with 100ml water. Filter to get the juice.

Lemon Juice: Squeeze fresh lemons to get 50ml juice.

##### **Step 3: Mixing**

Mix all the extracted juices together in a clean beaker:

Neem juice: 100ml

Bhumi Amla juice: 100ml

Papaya juice: 200ml

Lemon juice: 50ml

Add 100ml honey to the mixture

##### **Step 4: Homogenization**

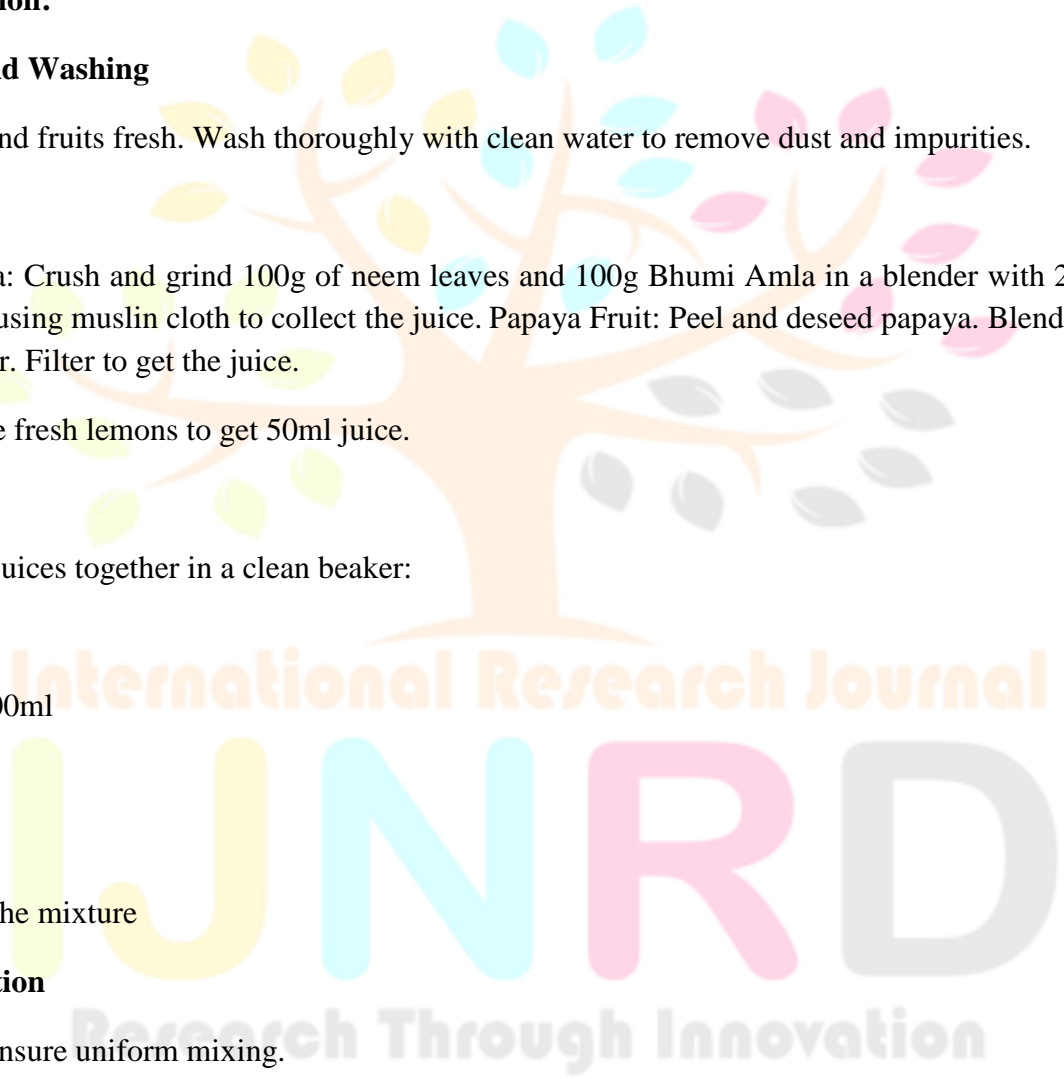
Stir or shake well to ensure uniform mixing.

##### **Step 5: Filtration & Bottling**

Filter again if needed.

Store in sterilized amber-colored glass bottles.

Label with name, batch no., date of manufacture, expiry, and storage instructions.



## Evaluation Parameter:

### 1. Organoleptic Evaluation:

Color: The tonic should have a pale greenish-brown color due to the neem and Bhumi Amla extracts.

Odour: A slightly bitter, herbal aroma with a hint of papaya and lemon.

Taste: A combination of bitterness (from neem and Bhumi Amla) and Sweetness (from honey or jaggery), with a tangy flavour (from lemon juice).

### 2. Physicochemical Analysis:

PH Level: The pH of the tonic should be measured. Ideally, it should be Slightly acidic (pH 5.5 - 6.5).

Viscosity: The viscosity of the tonic should be thin to medium, Depending on the water content and papaya pulp used.

Specific Gravity: This can be measured to determine the concentration of active ingredients.

Microbial Analysis: Ensure that the tonic is free from microbial Contamination, which can be tested using microbiological culture methods.

### 3. Therapeutic Efficacy:

Antioxidant Activity: A study on the antioxidant properties can be done using DPPH (2,2-diphenyl-1-picrylhydrazyl) free radical scavenging method. Antioxidants from neem, Bhumi Amla, and papaya may help in reducing oxidative stress.

Antimicrobial Activity: Test the antimicrobial effects of the tonic by culturing bacteria or fungi and applying the tonic to see if it inhibits growth. Neem, in particular, is known for its antimicrobial properties.

### 4. Stability Studies:

Shelf Life: Conduct stability studies to ensure that the tonic remains effective over time. This involves storing the tonic under different conditions (temperature, light, humidity) and periodically testing its potency.

Packaging: The tonic should be stored in a clean, airtight container, preferably dark glass, to prevent the degradation of active ingredients, especially antioxidants.

### 5. Clinical Trials (if required):

Conduct a small-scale clinical trial with volunteers to assess the health benefits, including improvement in skin condition, reduction in toxins, and general wellbeing.

## Results:

The formulation showed acceptable sensory properties, stability, and low microbial load.

It exhibited blood-purifying potential due to the synergistic effect of its ingredients, particularly in removing toxins, supporting liver function, and enhancing immunity.

Organoleptic: Pleasant sweet-sour taste due to honey and lemon, with herbal aroma.

pH: Slightly acidic (approx. 4–5) – suitable for oral intake.

Viscosity: Moderate due to honey and papaya pulp.

Microbial Load: Should be within permissible limits due to the antimicrobial properties of neem, lemon, and honey.

Phytochemical Screening: Positive for flavonoids, tannins, alkaloids, and saponins – contributing to detoxification and antioxidant effects.

Antioxidant Activity: Significant, primarily due to vitamin C (lemon), flavonoids (neem, bhumi amla), and papain (papaya).



**Discussion:**

Herbal remedies have been used for centuries to treat a variety of ailments, including skin conditions, digestive issues, and detoxification. One popular type of herbal remedy is blood purifiers, which are believed to help cleanse the blood and promote overall health. This discussion will explore the formulation of a blood purifier tonic made from neem leaves, bhumi amla, papaya fruits, honey, and lemon juice, focusing on their individual benefits and how they synergistically work to detoxify the body.

**Summary:**

The study involves the formulation of a herbal blood purifier tonic using natural ingredients known for their detoxifying and therapeutic properties. The main components include Neem leaves (*Azadirachta indica*), Bhumi Amla (*Phyllanthus niruri*), Papaya fruits (*Carica papaya*), Honey, and Lemon juice.

**Conclusion:**

The herbal tonic shows promise as a natural blood purifier with antioxidant, hepatoprotective, and mild laxative effects. Further clinical evaluation is needed to confirm efficacy and establish dosage.

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