

# A Review on Herbal Hand Wash

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**Abstract**—The Water based herbal hand wash was specifically designed to encourage "personal hygiene". One of the most important steps in food preparation, feeding, housekeeping, and other areas of shelter care is hand hygiene. Current market availability. Synthetic, antibacterial hand sanitizers have drawbacks. To prevent Adverse effects of synthetic hand sanitizers, such as irritation, dryness, irritation, and skin irritation, as well as to avoid rashes and any other side effects, consumers should look for products that they have always been made of natural materials. It would be worthwhile to do more research before doing a hand wash that has other skin benefits. The cup plate method was used to test hand wash prepared with several herbal extracts against skin bacteria collected from volunteers. Due to the overall activity of the phytoconstituents in the extracts, hand washing using a mixture of handheld ginger rhizome and water by cup plate method was found to be effective. An herbal hand wash was made using *A. indica*, *Ocimum Sanctum* Leaves & *Moringa Oleifera* Leaves extract. After curing, physical and chemical properties such as pH, colour, odour, appearance, texture, spread ability, grittiness, skin disease, foam surface, foam retention, cleaning action, consistency, and other products and tested with Evaluate herbal hand wash, and the rebellion was found to be within reasonable range with at least 0 No adverse effects.

**Index Terms**—Herbal hand wash, Herbal extract, *Ocimum Santum*, *Oleifera*, Hygiene, cleaning

## I. INTRODUCTION

What is Hand wash?Regular handwashing is one of the best ways to remove germs, avoid getting sick, and prevent the spread of germs to others.

What is herbal hand wash ?

Herbal medicines are also known as Phyto medicines or plant medicines. The use of seeds, roots, leaves, stems, flowers or air parts of a plant for medicinal purpose is called Herbal medicines. Herbal hand wash

contains many natural herbs that are effective against certain microorganisms. (23)

Hygiene

It is basically defined as branch of science which is involved in knowledge and practices related to promotion of health (12) Hygiene is defined as maintenance of cleanliness practices which carries utmost importance in maintenance of health. Keeping bodily hygiene and usage of cleansers are requisites of healthy living. These concepts highlight the need of maintaining hygiene in prevention of diseases. (22)

Skin is the most exposed part of our body, it needs protection from skin infection. Hand hygiene is a key principle and exercise in the prevention, control and reduction of infections. The sanitizer contains extracts of herbs, ethanol, isopropyl alcohol, hydrogen peroxide, camphor, distilled water and glycerol to provide soothing effect in sanitizer. Plants are rich in vast variety of secondary metabolites such as tannins, terpenoids, alkaloids and flavanoids etc. which have been found to possess in vitro antimicrobial properties, considering this demand, an attempt has been made to screen the classical literature for the herbs with antimicrobial properties. Due to its antimicrobial activities these herbs are used in formulation in number of herb based hand sanitizers (22)

Herbal Drugs (Ingredients)

TULSI LEAVES



- Kingdom : Plantae
- Division : Magnoliophyta
- Class : Magnoliopsida
- Order : Lamiales
- Family : Lamiaceae
- Genus : Ocimum
- Species : *O. Tenuiflorum*
- Biological Name : *Osmium tenuiflorum* *Osimum*

#### CHEMICAL CONSTITUENTS

Anti-lipidemic action These days, hyperlipidemia, atherosclerosis, and associated conditions are becoming serious health issues. Rats with acute hyperlipidemia brought on by triton WR1339 have lower levels of total cholesterol, triglycerides, and LDL cholesterol when given an aqueous extract of *O. basilicum* [16]. A diet supplemented with 1-2 percent fresh Tulsi leaves for 28 days decreased the total lipid in a rabbit research.

#### MEDICINAL USE

Fever and heart problems are also treated with tulsi. Respiratory issues are often treated with tulsi. Tulsi is used to treat kidney stones, headaches, sore throats, fevers, and colds. Tulsi aids in the treatment of asthma.

Extraction method of Tulsi –

- 1) A sample of Tulsi leaves was separated, thoroughly cleaned with water, and then dried.
- 2) Tulsi powder was turned into a methanolic extract. For four to six days, 20 grams of finely ground Tulsi powder was diluted with 80 milliliters of methanol. A clean filtrate was obtained by filtering the alcoholic decoction.

#### ALOEVERA –



- Kingdom : Plantae

- Division : Spermatophyta
- Class : Monocotyledonous
- Order : Asparaguses
- Family : Liliaceae
- Genus : Aloe
- Species : *Barbadesis* Mill

#### CHEMICAL CONSTITUENT:

Active components with its properties: Aloe vera contains 75 potentially active constituents: vitamins, enzymes, minerals, sugars, lignin, saponins, salicylic acids and amino acids. Vitamins: It contains vitamins A (beta-carotene), C and E, which are antioxidants. It also contains vitamin B12, folic acid, and choline.

#### MEDICINAL USES :

- Improve skin integrity.
- Anti-inflammatory
- Skin protection
- Anti-bacterial
- Anti-viral
- Antiseptic
- Wound healing properties

#### NEEM-



- Kingdom : Plantae
- Division : Magnoliophyte
- Class : Eudicot
- Order : Saoindales
- Family : Meliaceae
- Genus : *Azadirachta*
- Species : *A. indica*

#### CHEMICAL CONSTITUENTS –

Because *Azadirachta indica* L. (neem) is a rich source of many different kinds of substances, it has a medicinal role in managing health. Azadirachtin is the primary active ingredient, followed by sodium

nimbinate, gedunin, salannin, quercetin, nimbolinin, nimbin, nimbidin, nimbidol, and nimbin.

#### MEDICINAL USE OF NEEM –

Preparations containing neem are said to be effective in treating septic sores, infected burns, and a number of skin conditions. The leaves are also suggested for eczema, boils, and ulcers when administered as poultices or decoctions. Skin conditions like ringworm, indolent ulcers, and scrofula are treated with the oil.

#### TURMERIC-



- Kingdom : Plantae
- Subkingdom : Tracheobionta
- Division : Magnoliophyta
- Subclass : Zingiberidae
- Order : Zingiberales
- Family : Zingiberaceae
- Genus : Curcuma
- Species : longa
- Scientific name : Curcuma longa

#### MEDICINAL USE OF TURMERIC-

- Inflammation.
- Degenerative eye conditions
- Metabolic syndrome.
- Arthritis.
- Hyperlipidemia (cholesterol in the blood)
- Anxiety.
- Muscle soreness after exercise.
- Kidney health.

#### CHEMICAL CONSTITUENTS-

According to Brown, curcumin, a naturally occurring polyphenol with anti-inflammatory and antioxidant qualities, is the active component of turmeric. "There are a lot of biological activities that curcumin has, but not all of them are known."

#### PUDINA –



- Kingdom : Plantae
- Division : Magnoliophyta
- class : Magnoliopsida
- Order : Lamiales
- Family : Mint
- Genus : Menta
- Scientific name: Mentha spicata

#### Chemical Constituents

Among monoterpenes, menthol is the major constituent (35–60%), followed by menthone (2–44%), menthyl acetate (0.7–23%), 1,8-cineole (eucalyptol) (1–13%), menthofuran (0.3–14%), isomenthone (2–5%), neomenthol (3–4%), and limonene (0.1–6%), whereas  $\beta$ -caryophyllene is the main sesquiterpene (1.6–1.8%)

#### MEDICINAL USE –

What advantages do pudina leaves offer? Mint leaves have therapeutic qualities and can help relieve stomach gas. In numerous animal studies, it has demonstrated advantages in diabetes, inflammation, and cancer. Additionally, it might aid in improving mood and memory.

#### LEMON PEEL –



- Kingdom : Plantae
- Division : Tracheophyta
- Subclass : Rosidae
- Order : Sapindales
- Family : Rutaceae
- Genus : Citrus
- Scientific name: Citrus limon

#### ROSE WATER –



- Kingdom : Plantae
- Division : Magnoliophyta
- class : Magnoliopsida
- Order : Rosales
- Family : Rosaceae
- Genus : Rosa
- Species : Centifoli

#### ADVANTAGES AND DISADVANTAGES OF HERBAL HANDWASH –

##### Advantages of Herbal Hand Wash

- 1) No side effects.
- 2) Bacteria on our hands can be minimized
- 3) It also helps to clear antiseptic and fungal problem faced by the skin.
- 4) It also helps to remove dirt and oil effectively from the skin.
- 5) Easier access compared to using soap and water.
- 6) The easiest way to get rid of microorganism.
- 7) Hand wash prevent germs from entering into our body.

##### Disadvantages of Herbal Hand Wash

- 1) chronic skin damage.
- 2) irritant contact dermatitis and eczema.

#### BENEFITS OF HERBAL HAND WASH –

Availability ease.

- Herbal plants are less expensive than the chemicals used in synthetic hand soaps. Enhanced effectiveness.
- Hand hygiene is more effectively promoted by herbal hand washes. Reduced adverse effects.
- Compared to other hand washes, herbal hand washes have less adverse effects.
- Offers the triple herbal advantages of turmeric, sandal, and vetiver.  
Hands are effectively cleaned, leaving the skin smooth, supple, and moisturized.
- Offers defense against illnesses and infections. Eliminates 99.9% of microorganisms.
- Provides a nice scent after hand washing.

## II. AIM AND OBJECTIVES

Aim-The goal of herbal hand wash is to promote eco-friendly and pleasant hygiene while offering efficient cleaning. The goals of herbal hand washes can include moisturizing the skin, providing antibacterial qualities, and avoiding harsh chemicals that are frequently present in traditional hand washes.

## III. OBJECTIVES

- Gentle Cleansing: Herbal hand washes aim to clean hands effectively while being gentle on the skin, avoiding harsh chemicals that may cause irritation.
- Antimicrobial Action: Herbal ingredients with natural antimicrobial properties, like tea tree oil or neem, are often included to help combat germs and bacteria.
- Skin Nourishment: Some herbal hand wash formulations include ingredients that can nourish and moisturize the skin, preventing dryness and promoting overall hand health,
- Aromatherapy Benefits: Herbal hand washes often incorporate essential oils for aromatherapy benefits, providing a pleasant and soothing fragrance that can contribute to a sense of well-being.
- Environmental Sustainability: Many herbal hand washes focus on using sustainable and eco-friendly ingredients, contributing to environmental conservation.

#### IV. EVALUATION TEST FOR HERBAL HAND WASH

- 1) Foam Height - One gram of sample of hand wash gel was taken and dispersed in 50ml distilled water. Dispersion was transferred to 500ml measuring cylinder. Volume was made up to 100ml with water. 25 strokes were given and kept it aside. The foam height above the aqueous volume was noted.
- 2) PH test - In 100 millilitres of distilled water, 1 gm of gel-based herbal hand wash was mixed. The pH of the mixture was examined using a previously standardised digital pH meter.
- 3) Stability Test -The Stability studies were carried out for Polyherbal Hand wash Gel formulation by storing at different temperature conditions like 40°C, 25°C, and 37°C for 1 week. During the stability studies no change in colour and no phase separation were observed in the formulated hand wash.
- 4) Spreadibility test -A sample of 0.5 g of each formula was pressed between two slides and left for about 5 minutes where no more spreading was expected. Diameters of spreaded circles were measured in cm and were taken as comparative values for spread ability. The results obtained are average of three determinations.
- 5) Viscosity -The viscosity of hand wash was determined by using digital Brookfield viscometer. Measured quantity of herbal hand wash was taken into a beaker and the tip of viscometer was immersed into the hand wash gel and the viscosity was measured in triplicate.

#### V. CONCLUSION

Bar soap may become contaminated due to a variety of illnesses and bacteria, which could result in the spread of germs. Liquid hand washes are far more common than bar soap in today's advanced society. The fact that the soap in liquid hand washes is uncontaminated and that they hand wash with every fresh pump are two other benefits of using them. There are many different kinds of hand washes on the market that promise to quickly and significantly eradicate dangerous bacteria. The effectiveness of the handwash must be determined by calculating the average percentage and log reduction of the organisms discovered during the manual viable count.

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