Review on Herbal Hand Wash

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Abstract

Alcohol-based sanitizers make up many of the antiseptic hand washes on the market, and they can cause some problems. To avoid these negative effects like dermatitis, itching, drying, irritation, One attempt has been made to create a polyherbal hand wash using extracts from the synthetic handwashes. The Cup Plate Method was used to test the effectiveness of the prepared poly-herbal hand wash against skin pathogens collected from volunteers. Due to the combined activity of phytoconstituents present in extracts, the Cup Plate Method revealed that hand wash prepared from alcoholic extract and aqueous extract of ginger rhizomes is effective. The outcomes from the current work support the fuse and use of spices in definitions to give an improved impact. Herbal hand wash was evaluated using tested parameters like color, fragrance, and chemical parameters like pH, viscosity, foam height, foam retention, antimicrobial activity, and skin irritation test, among other things. and the results that were obtained were within the acceptable limits and had little or no side effects. The appearance, pH, and viscosity of two handwash formulations were examined for their physical characteristics. The agar diffusion method was used to test the antimicrobial activity of prepared hand wash formulations against skin pathogens such as Staphylococcus, Pseudomonas aeruginosa, and Escherichia coli.[1,2,3,4]

Keywords: Aloe vera, Antimicrobial activity, Herbal handwash, Hygiene, Organic handwash, Tulsi.polyherbal hand wash, hand hygiene, evaluation test, ingredients

INTRODUCITION

Since ancient times, washing hands with soap and water has been considered a vital component of personal cleanliness and is frequently ingrained in religious and cultural practices (Ravi et al., 2005). Although the connection between washing hands and the transmission of the disease was established only two centuries ago, this can be viewed as remarkably early compared to the findings made by Pasteur and Lister, who passed away decades later. Since the skin is considered among the body's most exposed parts, the skin needs to be protected from a spectrum of microorganisms. Moreover, various mammals are also susceptible to such infections. Hand washing is unquestionably an essential safety measure to safeguard the skin from hazardous microorganisms and stop spreading numerous contagious diseases .The main method of spreading diseases and germs is through the hands. Therefore, maintaining good hand hygiene is crucial to restrict the spread of dangerous bacteria and nosocomial illnesses. Numerous medicinal herbs are frequently used to treat skin conditions and also have antibacterial properties. However, due to the complexity of their chemical makeup, plants' medicinal properties depend on specific active chemical components .[5,6,7,8,]

Hand Hygiene for Workers in Laboratory

The Greek goddess of healing Hygeia is the source of the word "hygiene." In modern usage, the term "hygiene" typically refers to cleanliness, and inparticular to any practice that reduces or eliminates harmful infectious agents. In the medical literature, the various spellings of terms like "handwashing," hand washing," and "hand-washing" demonstrate the wide range in terminology used in hand hygiene. Article archiving may become inconsistent as a result of such variations. Because valid comparisons between studies depend on the standardization of definitions, the terms' definitions are crucial. Handwashing is the single most important procedure for infection prevention, and there is evidence that precise definitions of the terms are important for facilitating the effective use of hand hygiene guidelines.Use soap and water to thoroughly wash your hand. The contaminants will be washed awaythis. Hand washing reduces the number

of organisms that can cause infections by a significant amount. Additionally, it should be used when diarrhealpatients come into contact with other patients; Alcohol-based hand rubs will not work here. Standard operating procedure should be followed whenwashing one's hands with soap and water. [9,10,11,12]

- **Advantages of Herbal Handwash :**

Fig-Advantages of hand wash

- **Benefits**

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.[12,13]

Ingredients

1) **Tulsi Leveas**

Fig : 1 Tulsi

• **Kingdom:**Plantea

• **Division** -Magnoliophyta

• **Class** - :Magnoliopsida

• **Order:** -Lamiales

• **Family:** -Lamiaceae

• **Genus:** -Ocimum

• **Species** -O.Tenuiflorum

• **Binomial name:** - Osmium tenuiflorumOsimum

Chemical constituents:linalol, eugenol ,linolen , pinene, cineol, anethol, estragol, thymol, citral, and camphor.

Medicinal use : Medicinal use of tulsito treat ring worm and other skin diseases like leucoderma, a paste made from tulsi leaves is applied to theaffected area. Saffron and tulsi leaves are combinedwith chickenpox to investigate the condition. In cases of normal glucose, the ethanolic extract of tulsi leaves results in a significant drop inblood sugar. [13,14,15,16,17]

2) Rose oil

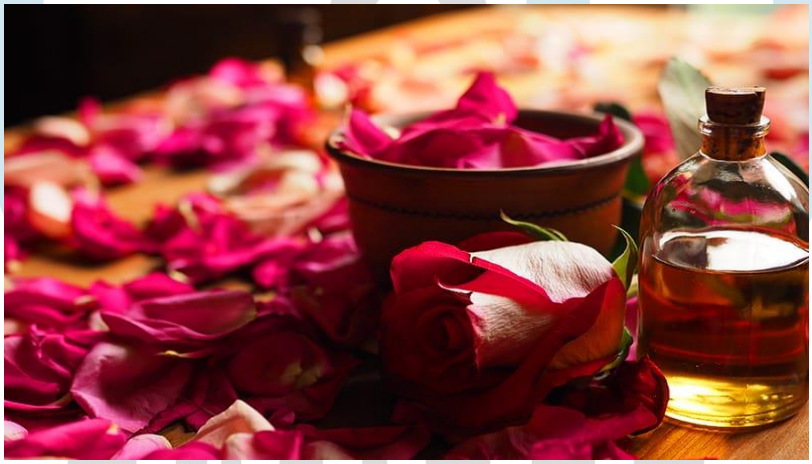

Fig : 2Rose oil

• **Kingdom** – Plantae

• **Division –**Magnoliophyta

• **Class –** Magnoliopsida

• **Order –** Rosales

• **Family –** Rosaceae

• **Genus** - Rosa

• **Species** -Centifolia

Chemical constituent : - citronellol , nerol , geraniol and phenyl ethyl alcohol

Medicinal uses of rose Rose oil may be used effectively to reduce anxiety, stress, depression and pain. It has healing property, Moisturizes the skin. ,It improves skin tone andbrightness , It helps to reduce blemishes, acne scars and dark spot.[18,19,20,21,22]

3)Aloe vera

Fig : 3 Aloe vera

- **Kingdom :** Plantae
- **Order :** Asparagales
- **Division :** Spermatophyta
- **Subdivision :** Angiospermae
- **Class :**Monocotyledonous
- **Family :** Liliaceae
- **Genus :** Aloe
- **Species :**barbadesis Mill

Chemical constituent :flavonoids, phenylpropanoids, coumarins, phytosterols, naphthalene analogs, lipids, and vitamins.

Medicinal use of aloe vera: Aloe vera gel's anti-inflammatory properties help wounds heal faster due to its antibacterial properties. Aloe gel inhibits Streptococcus pyogenes andStreptococcus faecalis, two types of bacteria. It kills Pseudomonas aeruginosa by killing bacteria. Aloe vera's liquid and leaf pulp combat pathogenicfungi in plants. Additionally, the preparation of aloe gel inhibits Candida albicans. By interfering with the synthesis of proteins, the lectin-rich fractionbof aloe gel directly inhibits the growth of cytomegalovirus. Aloe leaf anthraquinone derivatives have been shown to kill enveloped viruses. The majorityof viruses, including Varicella zoster, influenza, the pseudorabies virus, and herpes simplex viruses, are inactivated by aloe emodin. [23,24,25]

4)Neem :

Fig : 4 Neem

- **Kingdom:** Plantae

• **Subkingdom:**Tracheobionta

• **Division:**Magnoliophyta

• **Class:** Eudicot

• **Subclass:**Rosidae

• **Order :** Sapindales

• **Family:**Meliaceae

• **Genus:**Azadirachta

• **Species :** A . indica

Chemical constituent:azadirachtin and the others are nimbolinin, nimbin, nimbidin, nimbidol, sodium nimbinate, gedunin, salannin, and quercetin**.**

Medicinal use of neem : Azadirachta indica is a member of the meliaceae family of plants. Neem is its common name. It is a source of many therapeutic agents in traditionalmedicine. It is known that the leaves of neem have antimicrobial and antifungal properties against a variety of pathogenic bacteria, including E. coli,Staphylococcus aureus, and Pseudomonas aeruginosa. Neem is a versatile tree that has numerous health benefits. Moreover, Neem leaves might be utilized for the therapy of differentsicknesses including dermatitis, ringworm, skin break out, irritation, constant injury contamination, hyperglycemia, diabetic foot and gas gangrene.[26,27,28]

5)Turmeric

Fig : 5 Turmeric

• **Kingdom:** Plantae

• **Subkingdom :**Tracheobionta

• **Superdivision :** Spermatophyta

• **Division:**Magnoliophyta

• **Subclass :**Zingiberidae

• **Order:**Zingiberales

• **Family:**Zingiberaceae

• **Genus:** Curcuma

• **Species :** longa

• **Scientific name:** Curcuma longa.

Chemical constituent :curcumin (CUR) and two related compounds demethoxy curcumin (DMC) and bisdemethoxycurcumin (BDMC).

Medicinal use of turmeric –It is strongly associated with Indian social customs and is regarded as an effective medicine for wound healing. Only turmeric powder is used to healwounds thatoccur as part of rituals. Numerous skin conditions may benefit from the anti-parasitic properties of fresh turmeric juice. In cases of prurigoand eczema, turmeric powder containing cow's urine is also taken internally. [29,30]

Preparation of herbal hand wash :

Extraction method of Tulsi:-

1) Sample of tulsi leaves were separated and washed with water and dried properly dried leaves were separated.

2) Methanolic extract was prepared from the tulsi powder. A total 20gm of finely powder of tulsi was diluted with 80ml of methanol for 4 to 6 days. the alcoholic decoction was subjected to filtration to obtain a clear filterate.

Procedure

1)Methonolic extract of tulsi leaves is mixed with 4ml citrus neem juice in 20ml.of water.

2)Then add aloe vera twice and add extract of sodium layrul sulphate to produce sufficient foaming capacity.

3)Then add desired quantity of glycerin and rose oil with moderate stirring.

4)At the end add preservative in sufficient quantity .

5)The solution is mixed, made homogeneous under room and further utilized for screening activity[31,32]

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.(21)

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 metere.(22)

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.(23)

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 threediamension.

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.[33,34]

Conclusion :

Skin, respiratory, gastrointestinal, and other diseases are primarily spread through the hands. Due to numerous illnesses and bacteria, the bar soap becomes contaminated, which could cause germs to spread. Soaps are typically used to clean and remove dirt and microorganisms from the skin's surface. Each person has a different preference for soap, but the soap must not irritate skin that is already sensitive and must be effective in removing skin-infecting germs. Compared to available commercially manufactured hand washes, this formulated hand wash is more efficient. As a result, these substances can be isolated and added to bases to create superb antibacterial hand soap with little to no negative effects. Thus, a novel approach for overcoming antibiotic resistance in pathogenic organisms can be developed, allowing for the provision of safe and healthy living through germ-free hand techniques.

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