

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 o No adverse effects.

Keywords: - Herbal hand wash , Herbal extract ,*Ocimum Santum* , *Oleifera* , Hygiene , cleaning.

1. 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 tenuiflorumOsimum

CHEMICAL CONSTITUENTS-

Antilipidemic activity Hyper lipidaemia, atherosclerosis and related diseases are becoming a major health problem now days. Aqueous extract of *O. basilicum* reduces the level of total cholesterol, triglycerides and LDL cholesterol levels in acute hyper lipidaemia induced by triton WR1339 in rats ^[16]. In a study conducted on rabbits a diet supplemented with 1-2 % fresh leaves of Tulsi for 28 days lowered the total lipid.

MEDICINAL USE-

Tulsi is also used to treat heart disease and fever. Tulsi is also used to treat respiratory problems. Tulsi is used to cure fever, common cold and sore throat, headaches and kidney stones. Tulsi helps in treating Asthma.

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 filtrate.

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 : Sapindales
- Family : Meliaceae
- Genus : Azadirachta
- Species : A. indica

CHEMICAL CONSTITUENTS –

Azadirachta indica L. (neem) shows therapeutic role in health management due to rich source of various types of ingredients. The most important active constituent is azadirachtin and the others are nimbolinin, nimbin, nimbidin, nimbidol, sodium nimbinate, gedunin, salannin, and quercetin.

MEDICINAL USE OF NEEM –

Neem preparations are reportedly efficacious against a variety of skin diseases, septic sores, and infected burns. The leaves, applied in the form of poultices or decoctions, are also recommended for boils, ulcers, and eczema. The oil is used for skin diseases such as scrofula, indolent ulcers, and ringworm.

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-

Brown explains that the active ingredient in turmeric is a natural compound (polyphenol) called curcumin, which has both antioxidant and anti-inflammatory properties. “Curcumin has many biological activities, not all of which are understood ,”says.

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 β -caryophyllene is the main sesquiterpene (1.6–1.8%)

MEDICINAL USE -

What are the benefits of Pudina leaves? Mint leaf has man-effective properties; it may aid in gas relief from the stomach. It has shown benefits in diabetes, inflammation, and cancer in several animal trials. It may also help in enhancing memory and mood improvement.

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 -

- Ease of availability.
- Cheap Cost of herbal plants is less as compared to chemicaly used in synthetic hand washes.
- Increased efficiency.
- Herbal hand washes are more efficient in promoting hand hygiene.
- Less side effects.
- Herbal hand washes have fewer side effects than other hand washes.
- Provides triple herbal benefits of sandal , turmeric and vettiver.
- Effectively cleans hands, leaving the skin moist, soft and smooth.
- Provides Protection From infections And Diseases.
- Kills 99.9% germs.
- Gives pleasant odour after washing hands.

AIM AND OBJECTIVES –

Aim- The aim of herbal hand wash is to provide effective cleansing while friendly and eco-friendly hygiene. Herbal hand washes may aim to offer antimicrobial properties, moisturize the skin, and avoid harsh chemicals commonly found in conventional hand washes.

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.

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) **Spreadability 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.

Conclusion-

Due to various diseases and germs, bar soap can become contaminated, which may lead to the spread of germs. In today's sophisticated world, liquid 'hand washes are used much more frequently than bar soap. The additional advantages of liquid hand washes include the fact that the soap in the liquid hand wash is uncontaminated and hand wash with each new pump. In the market, various types of hand washes are available, claiming to kill harmful germs at a significant rate in a short amount of time. In order to ascertain this, it is necessary to ascertain the handwash's efficiency—the average percentage reduction and log reduction of the organisms found during the viable count performed by hand.

REFERENCES-

- 1) Therapeutic uses of *Ocimum sanctum* Linn (Tulsi) with a note on eugenol and its Pharmacological actions: a short review PAGN Prakash, Neelu Gupta Indian Journal of physiology and pharmacology 49 (2), 125, 2005
- 2) Sandeep DS, et al , Formulation of antimicrobial polyherbal hand wash RJPT,9(7)2016 ,page no.1

- 3) Jumaa, P.A. (2004). Hand hygiene: simple and complex. *International Journal of Infectious Diseases*. 9, 3-14
- 4) Pawar SP and Pal SC, Antimicrobial activity of Terminalia catappa root, *Indian J Med Sci*, 2002, 56(6), 276-278.
- 5) Megha Bahuguna ,etal, formulation and Evaluation of hand wash ,world journal of Pharmaceutical research (WJPR), 5(7),2016,page no. 1567
- 6) Black JG, *Microbiology: Principles and Applications*, 3rd Edn, Prentice Hall, New Jersey, 1996, pp. 436-443
- 7) Siva M, eta l, Osmium Sanctum : A review on the pharmacological properties *IJBCP*,5(3)2016 , page no.559
- 8) Ansari, S. A., Sattar, S. A., Springthorpe, V. S., Wells, G.A., & Tostowaryk, W. (1989). In vivo protocol for testing efficacy of hand-washing agents against viruses and bacteria: experiments with rotavirus and Escherichia coli. *Journal of Applied and Environmental Microbiology*, 55, 3113-3118.
- (9) Aman Shukla ,etal , Formulation & evaluation of herbal hand wash using Ginger Rhizomes *Ijppr.Human* 2020 ,19(1) ,page no.124
- (10) Mali Kamlesh D,etal, Formulation &evaluation of alcohol free herbal hand wash containing osmium santum *IJPBS*,10(2) 2020,page no.114
- (11) P.A.Jumma, Hand Hygiene:Simple&complex *International Journal Of Infectious Disease* ,9,2005 page no.4
- (12) Dr. Mohan Lal ,Hand hygiene –Effective way to prevent infections ,*International Journal of current Research* ,7(3)2015, page no.13449
- (13) Siva M, etal,Osmium Sanctum : A review on the pharmacological properties *IJBCP*,5(3)2016 , page no.559.
- (14) Rakesh kumar Joshi, Phytoconstituents ,traditional , medicinal & bioactive uses of Tulsi (osmium sanctum linn) : A Review ,*journal of pharmacognocny and phytochemistry*,6(2) ,2017, page no.263
Sanjit Kumar Kar etal, phytochmeical constituents of aloe vera &their multifunctional properties: A comprehensive Review *IJPSR* ,9(4), 2018, page no. 1417.
- (15) Priyanka Sharma , etal, A review on pharmacological properties of alovera, *International Journal of pharmaceutical Science Review & Research* ,29(2),2014 article no.7,page no. 34-35.
- (16) Shakib Uzzaman pharmacological activites of neem (Azadirchita indica) : A review *International Journal of pharmacognocny and life science* (1) ,2020,page no.38.
- (17) Rohit JaysingBhor , etal, Formulation and evaluation by phytochemical analysis of herbal handwash *AJPER*,7(1), 2018, page no.(111-121) .
- (18) Sayantani Chanda ,etal phytochemical and pharmacological importance of turmeric (curcuma longa) : A Review , *RRJoP*,9(1),2016 page no.1
- (19) Mr. bhise Akash Bhgwan ,Formulation & Evaluation of Herbal Hand wash By using Natural Ingedient By simpal Method ,*IGCRT* ,9 (12), 2021 Page no, b627.\

- (20) Bloomfield, SF et. Al. "The effectiveness of hand hygiene procedures including handwashing and alcohol-based hand sanitizers in reducing the risks of infections in home and community settings," American Journal of Infection Control, 2007; 35(1): 1-64.
- (21) Scott E., "Microbial Risk Reduction: The Benefits of Effective Cleaning In Preparation", American Journal of Infection Control, 2010; 4: 435-436.
- (22) O. M. David, "Assessment of soap skin-substantively and other hygiene regimens for skin disinfection," Int J Biosci., vol 4, no. 2, (2009), pp. 89-94.

