



## Review on Formulation and Evaluation of Herbal Hand Wash

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### Abstract:-

For many of the products that are offered as traditional herbal remedies, the term "herbal medicine" indicates a long history of use. The primary means of infection transmission to patients has been through the hands of healthcare professionals. As a result, it raises the issue of handwashing with antiseptic. Several conditions can be treated with herbal medication, including fever, diarrhoea, cough, influenza, etc. So, the current study concentrated on creating handwash using Neem (*Azadirachta indica*) and mint. The various factors used to evaluate hand washes include colour, odour, pH, viscosity, etc. Findings showed that a herbal hand wash formulation is more effective than a commercial antiseptic handwash at lowering the number of organisms on hands and may be used as a handwash without having any negative side effects.

### Objectives:-

- > To evaluate and prepare herbal hand wash
- > To study the evaluation parameters of herbal hand wash
- > To study the antimicrobial study of herbal hand wash
- > To achieve the best formula of herbal handwash using herbal ingredient

### Introduction:-

Hygiene is defined as the maintenance of cleanliness practices that carries utmost importance in the maintenance of health [ 1 ] . One of the primary modes of transmission of microorganisms is hands. To prevent the spreading of contagious diseases hand washing is an absolutely important precaution. Hand washing is critical in food service and food production operations. It is also important in homes and daycare operations [ 2 ] .

Many marketed hand washes are chemical-based their frequent use can lead to skin irritation and also resistance to pathogens [ 3. Plant extracts and products have been used for centuries in traditional medicine, functional food, etc, The main advantage of using natural sources is that they are easily available, cheap, and harmless compared to chemical products. Therefore research has been increased tremendously towards making natural products with improved quality yet less expensive and no side effects over chemical products [ 4 ] .

Herbal medication is also known as Botanical treatment or Phyto-medicine. An herbal drug treatment gives healthy life. The main medical purpose of washing hands is to protect the hand from infections like bacteria or viruses and chemicals which can cause harm disease. 5 {151659 pdf}

### Natural Ingredients used in Cosmetics:

Natural ingredient have been traditionally used for centuries for skin care purposes, they are becoming more prevalent in contemporary formulation. The term "natural "is defined as something or an ingredient that is produced by the nature or found in nature and is directly extracted from plants or animal products. Sources of natural ingredient can be include herbs, fruits, flower, leaves, minerals, water and land. The effect of natural ingredients in skin care products depends on their in vitro and in vivo efficacy and the type of dermatological base where they are incorporated.

### Antimicrobial Activity of plant extract:

Cosmetic and pharmaceutical industries have an increasing interest in replacing synthetic antimicrobials in topical products. Beside the growing consumer interest for natural agents, microbial resistance to conventional antimicrobials is increasing. Phenolic compound are synthesized by plants for defense mechanism. They can act by interacting with the microorganisms cell membrane or cell wall, leading to change in membrane permeability, and resulting in cell phenolic can also into bacterial cell and promote the coagulation of their content in another way, phenolic compounds an natural antimicrobials could improve the shelf life of different product, inhibiting the growth of pathogenic microorganisms.

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**LITERATURE REVIEW:-**

- 1) **Joshi Minakshi G, et.al.2008:** Skin being the most exposed part of our body requires protection from skin pathogens. Nosocomial infection has emerged as a critical issue in in-hospital care outcomes. resulting in extended ondergoestation and substantial morbidity and mortality. The hands of Health Care workers (HCWs) are the primary routes of transmission of multidrug-resistant pathogens and infection to patients. Hence, it brings up the use of antiseptic for hand washing purposes. Many the chemicals antiseptic are now available on market as alcohol-based sanitizers, chlorohexidine products, etc. These soaps or solution helps reduce the healthcare-associated transmission of contagious disease more effectively, but they have some shortcomings or adverse effects.
- 2) **Shah Mashood Ahmed, et.al.2014:** Hand-washing is critical in food production, and food services and also important in healthcare settings, homes, and daycare preparation. Hands are the primary mode of transmission of microbes and infections. Hand hygiene is therefore the most important measure to avoid the infection. Hand hygiene is the single most important, simplest, and least expensive means of preventing nosocomial infections. Contaminated hands can serve as vectors for the transmission of microorganisms. Pathogenic microorganisms responsible for outbreaks are spread from the hands of the food handler to others when the food handler contaminates her hands and then passes the microorganisms to consumers via hand contact with food or drinks.
- 3) **Jayant et.al.2015 :**Plants have medicinal, pharmaceutical and microbiology uses any innovative products can be prepared and useful for humans. Plant extracts and products have been used for centuries in traditional medicines, functional food, natural dyes, and cosmetics, as a detergent, and in the treatment of disease. The main advantage of using natural sources is that they are easily available. cheap and harmless compared to chemical products. Therefore research has been increased tremendously towards making natural products with improved quality yet less expensive and no side effects over chemical products.
- 4) **Abhishek Sharma, et.al.2016:** Microbial infection has emerged as a critical issue in children and hospital care outcomes, which can lead to substantial morbidity and mortality. There are several commercial antiseptics available on markets having chemical sanitizer as a base which has some disadvantages. adverse side effects and skin irritation. Unhygienic hands of health care workers are the primary routes of transmission of infection directly to patients and children, n it can lead to several serious health issues. So, it brings up the use of antiseptic for hand washing purposes. There are several commercial antiseptics available on market having chemical sanitizers as a base which has some disadvantages, adverse and side effects.
- 5) **Merve Deniz Kose 2016:** The optimization of extraction conditions for *Sapindus mukorossi* was investigated. The antimicrobial properties of extract for different organism were

**Hand wash:-**

Hand washing refers to washing hands with plain or antimicrobial soap or water. [ 11] In actual practice, it can vary considerably from a brief rinse of hands to extensive scrubbing. The purpose of hand washing in the health care setting is to remove pathogenic microorganisms ("germs") and avoid transmitting them. It has been reported that lack of hand washing remains at g unacceptable levels in most medical environments, with large numbers of doctors and nurses routinely forgetting to wash their hands before touching patients. [ 12] One study showed that proper hand washing and other simple procedures can decrease the rate of catheter-related Bloodstream infections by 66 percent. [ 13]

Skin is one of the most exposed parts of the body that requires protection from pathogens. To protect the skin from harmful microorganisms and to prevent the spreading of many contagious diseases hand washing is absolutely an important precaution. Correct use of a fingernail brush to wash hands and fingertips is the best way to assure the removal of transient microorganisms. [ 14] Hand washing removes visible dirt from hands and reduces the number of harmful microorganisms. Harmful bacteria and viruses such as *E. Coli* and *Salmonella* can be carried by people, animals, or equipment and transmitted to food.

**Hygiene:-**

It is defined as a branch of science that is involved in knowledge and practices related to the promotion of health. The spread of infections (bacterial and viral) can be prevented by following hygiene practices. Since cleaning processes (e.g hand washing, taking bath) removes dirt and soil as well as infectious microbes they are commonly used to achieve hygiene. Hygiene is defined as the maintenance of cleanliness practices that carries utmost importance in the maintenance of health. Keeping bodily hygiene and usage of cleansers are requisites of healthy living. These concepts highlight the need of maintaining hygiene in the prevention of diseases.

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**COMPOSITION OF HERBAL HAND WASH**

1. PLANT EXTRACT
2. SOLVENT HUMECTANT
3. FLAVOURING AGENT

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4. *PRESERVATIVE*
  5. *THICKENING AGENT*
  6. *EMULSIFIERS*
  7. *SURFACTANTS*
  8. *DETERGENTS*

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## **AYURVEDIC APPROACH TO HAND HYGIENE**

*Ayurveda is the traditional medicinal system of India and is believed to have originated over 6000 years ago. It describes the ways to remain healthy as well as methods to treat disease. The name itself means "Knowledge (Veda) of life (Ayu)"*

*Ayurveda is not only a curative medical science but also a comprehensive way of healthy living. Guidelines related to healthy or „swastha“ individuals are termed as "Swastha vritta".*