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HERBAL HAND WASH: A NATURAL ALTERNATIVE FOR EFFECTIVE HAND HYGIENE

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ABSTRACT

The numerous of antiseptic hand wash available in the market are alcohol based sanitizers which have some adverse effects. To avoid these adverse effects like itching, drying, irritation, dermatitis etc., of the synthetic handwash formulations an attempt has been made to formulate a polyherbal hand wash using extracts of ginger rhizomes extracts. The anti-microbial activity of prepared poly-herbal hand wash was tested against skin pathogens collected from volunteers, and its efficiency was verified using Cup Plate Method. The main aim to present work is to formulate and evaluate poly-herbal hand wash by using Aloe-Vera, lemon juice. In order to make formulation has less side effects and better cleaning of hands. The hands are primary sites for the infection Microbial infection is critical Issue in children and employer in pharmaceutical industry. So the use of hand wash is more in industrial site. Medicinal purposes is known as herbal medicine. Since the skin is the most exposed part of the body, it needs to be protected from skin pathogens. Herbal Medicine has been used to treat and care for many diseases. Numerous chemical antiseptics, such as alcohol-based sanitizers and chlorhexidine products, are now available on the market. These soaps or solutions help prevent contagious disease transmission in healthcare settings more effectively, But they have some drawbacks or side effects. They can irritate the skin and make pathogens resistant if used frequently. This herbal hand wash contains many natural herbs that are very effective against certain microorganisms. Herbal hand soap is beneficial for both economic and medical purposes. Microbes enter our bodies through our hands, which are the primary source. Using hand soap to wash your hands can stop some bacteria from getting in. Protecting one's hands is just as important as stopping bacteria from getting in. The scent of the herbal hand wash keeps the skin looking and feeling fresh. The gentle frothing activity causes no aggravation while utilizing natural hand wash. Additionally, it aids in the effective removal of oil and dirt from the skin. Additionally, it aids in the removal of antiseptic and fungal skin issues. Thus, hand washing aids in the prevention of diarrhoea, respiratory infections, and even skin and eye infections. Tulsi extract has antimicrobial properties in vitro. Taking this ultimatum into consideration, a literature review of herbs with antimicrobial properties revealed that Osmium sanctum (Tulsi) extract possesses this property. As a result, the goal of this study was to create and assess a herbal hand wash made from alcoholic extracts and other suitable excipients that can be used as herbal hand washes. Hand Hygiene for Workers In Laboratory.

KEYWORDS: Herbal hand wash, herbal extract, ocumum santum, glycerine, hygiene, cleaning, evaluation parameters, conclusion.

INTRODUCTION

The herbal medicine is also known as botanical treatment or phyto-medicine. Herbal medication refers to the uses of any plant seeds, root, leaves, bark, flower and aerial part for medicinal purpose. Herbal medicine has been the treatment and care of numerous disease. Skin being the most exposed part of our body requires protection from skin pathogen. Hand hygiene refers to the practice of washing hands with water, soap, or another liquid. The benefit of washing hands is that it rids them of infections

and dangerous substances (bacteria and virus). People who work in the medical industry, restaurants, or who prepare and serve food to the general public should practice good hand hygiene. It is well known that good hand hygiene can reduce the spread of cold viruses and other germs. The greatest technique to maintain personal hygiene and safeguard oneself against infections is to wash one's hands frequently. The WHO standard requires people to wash their hands with no antibacterial soap and water. hand hygiene is the most important means of transferring bacteria and infections, it is the most important means of avoiding harmful bacteria and preventing infections. Hand hygiene is the only mostimportant, easiest and expensive way to prevent nosocomial infection1. Infected hands can be a vector of microorganism transmission. When food processors contaminate their hands, the pathogenic microorganisms responsible for the outbreak spread from the food processors to others, and these microorganisms come into contact with foods or beverages by hand. Consumers may be exposed to these microorganisms after intake and cause gastrointestinal diseases. Hand contact with food ready for consumption is a very important mechanism by which pathogens enter food supply. In the case of food handlers who are used to touching raw or uncooked raw or other forms of raw foods, they are identified as a specific risk group, and according to folklore, the antimicrobial properties of some Indian medicinal plants have been reported, with few reports available on the inhibitory effects of certain pathogens and fungi. Plants are inherited as a source of medicine and are an important part of India's health system. Industrial and hand cleansing formulations typically contain a surfactant that solubilizes or emulsifies the oils, debris, and soil present on a substrate. These formulations inherently have oil-cleansing limitations when oil-emulsifiability or solvency alone is used as a cleaning mechanism. When only surfactants in combination with non-aggressive solvent cleansers are used in the cleansing compositions, the cleaning power of the composition may be inadequate when stubborn or embedded oils are present.

ADVANTAGES

1. No side effects.
2. Bacteria on our hands can be minimized.
3. It also helps to clear antiseptic a 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.
8. Cheap Cost of herbal plants is less as compared to chemicaly used in synthetic hand washes.
9. Increased efficiency.
10. Herbal hand washes are more efficient in promoting hand hygiene.
11. Provides triple herbal benefits of sandal, turmeric and vettiver.
12. Effectively cleans hands, leaving the skin moist, soft and smooth.
13. Provides Protection From infections And Diseases.
14. Kills 99.9% germs.
15. Gives pleasant odour after washing hands.

DISADVANTAGES

1. Chronic skin disesase
2. Irritant contact dermatitis and eczema.
3. Causes drying
4. Allergic reactions
5. Lack of standardization

FORMULATION

S No:	NAME OF THE DRUG	Formulation	Properties
1	Neem extract	4.5ml	Anti bacterial and anti inflamatary
2	Aloe vera gel	5gm	Soothing properties
3	Carbopol 934	2gm	Gelling agents
4	glycerin	3gm	Moisturizing agents
5	rose oil	2-3 drops	Flavouring agents
6	Sodium lauryl sulphate	2gm	Foaming agents
7	propyl paraben	0.3 gm	preservatives
8	Distilled water	q.s	vehicle

METHOD OF PREPARATION

Take a beaker add methanolic neem extracts and aloe vera gel in glycerin with continuous stirring.

In second beaker take Carbopol 934, add sufficient amount of distilled water, and stir it continuously to form gel. Add carbopol gel in extract beaker, then sodium lauryl sulphate, propyl paraben, flavoring agents was added as per the requirement of standard procedure for preparation of hand wash. The hand wash was made homogenous using homogenizer under room temperature.

EVALUATION PARAMETERS

- **FOAM TEST**

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.

- **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.

- **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.

- **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 measure in cm and were taken as comparative values for spread ability. The results obtained are average of three determinations.

- **FOAM RETENTION TEST**

10 ml herbal hand wash was taken into 100 ml graduated cylinder and shaken 10 times. The volume of foam at 1min. Interval for 1 min was recorded foam retention should be stable at least 5 min.

- **SKIN IRRITATION TEST**

The herbal hand wash was tested for skin irritability by applying on hand and washed off with water.

- **Viscosity test**

Viscosity was determined using a Brookfield digital viscometer.

CONCLUSION

The neem extract herbal handwash was successfully developed with antibacterial properties and enhanced quality with aloevera juice as soothing agent, carbopol 934 as gelling agent. Sodium lurylsulphate as surfactant, glycerine as moisturizing agent, Rose oil for fragrance. The formulated hand wash was evaluated for different parameters like pH, color, foaming efficiency, viscosity and stability. The hand wash was found to be stable in terms of physical parameters with good cleansing property. Natural remedies are regarded to be more suitable than synthetic therapies since they are safer & have lesser adverse effect. The zone of inhibition shows that the herbal hand wash protect against the skin pathogen. As per observation of many researchers herbs are highly beneficial agents that may be used as hand wash wish reduced adverse effect & longer lasing Benefit. It's composition was prepared according to delicateness of skin so that it cannot cause any type of imitation, it concluded that the herbal band wash are much better than plain soaps & synthetic hand wash.

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