

Formulation and Evaluation of Herbal Hand Wash

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ABSTRACT

The main aim to present work is to formulate and evaluate poly-herbal hand wash by using aloe-vera, Sandalwood. 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. The formulated hand wash hence found to be good in physical parameter with good cleaning of hands. Therefore, it brings up the use of antiseptic for hand washing purpose. The prepared Handwash evaluated by the different parameter namely as colour, Odour, pH, viscosity and stability. 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.

KEYWORDS

- Herbal hand wash,
- Formulation,
- Evaluation,
- Chamomile Extracts, skin pathogen,
- essential oil,
- Tulsi

I. INTRODUCTION

The aim of Magic hand washing is to remove microorganisms from the hands, preventing their potential transfer. It is known that organisms survive and multiply on human hands, creating the opportunity to infect others or the host.⁶ Hand washing reduces the number of transient organisms on the skin surface. Although hands cannot be sterilized, most transient organisms can be removed by 30 seconds of proper scrubbing with soap and water. Magic Hand washing or hand

hygiene is the act of dealing one's hands with or without the use of water or another liquid, or with the use of soap for the purpose of removing soil, dirt, and/or microorganisms. Skin being the most exposed part of our body requires protection from skin pathogens. The hands of Health Care workers (HCWs) are the primary routes of transmission of multidrug resistant pathogens and infection to the patients. Hence, it brings up the use of antiseptic for Handwash purpose. Many of the chemical antiseptics are now available in market as alcohol based sanitizers, chlorhexidine product etc. Their frequent use can lead to skin irritation and also resistant among pathogens. Organisms such as Staphylococcus aureus, Pseudomonas spp., Klebsiella pneumonia & Proteus vulgaris are some of the skin pathogens. Hand washing is an important way to help fight the spread of disease. Hand washing removes visible dirt from hands and reduce 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.³ Antimicrobial properties of certain Indian medicinal plants were reported based on folk lore information and only few reports are available on inhibitory activity against certain pathogenic bacteria and fungi. Use of plants as source of medicine has been inherited and is an important component of the health care system in India. In these systems of Indian medicine, most practitioners formulate and dispense their own recipes; hence this requires proper documentation and research. 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. Hygiene in prevention of disease. Spread of infection (bacterial or viral) can be

prevented hygiene practices. an herbal drug treatment gives a healthy life. it was generally used to furnish first line and common health provider. since ancient time in India herbal medicine have been the basis

4) Zeeshan Afsaret et al (2016)

of treatment and cure for various diseases. Herbal medicine having various therapeutic uses like healing, wound, treating inflammation due

5) Rudra prasad giri et al] (2019)

to infection, skin lesion, leprosy, diarrhea, scabies, venereal disease like, snake bite and ulcer. Plant have provided good source of antimicrobial activity and plant extract have potential as antimicrobial compound against several pathogenic microorganisms which cause infections disease and resistance toward synthetic drug. Herbal cosmetic has been using for beauty from the ancient times. it is considered best for the skin and hair care because of their lack of side effects.

2. Literature review

formulation and evaluation of polyherbal hand wash. The

1) Rina maskare et al (2019)

objective of this project was to prepare herbal hand wash and to invest

2) Handwashing and health outcomes

gate whether the formulation show an antimicrobial activity against the common organisms which cause nosocomial infections

In Kenyan primary schools, improvements in WASH reduced reinfection of some soil transmitted helminths

in primary school children after deworming though the magnitude of effect may be sex specific. A review of published evidence from schools worldwide showed that incorporating a WASH educational component in interventions was very effective in improving absenteeism. The benefits of handwashing appeared more pronounced in female students who had the highest absence rates and socioeconomic status (SES) was an important barrier to access of handwashing materials (Joshi and Amadi). Furthermore, providing sanitizer to

Kenyan primary schools with limited access to water improved hand cleansing after using the toilet among

3) Mounika et al (2017)

students and reduced rhinorrhea but had no effect on diarrhea or respiratory prevalence

Formulation and evaluation of polyherbal hand wash gel containing essential oils. The objective seen in this research project was to evaluate the antibacterial efficiency of various herbal oils such as eucalyptus oil, cinnamon oil, geranium oil, peppermint oil, rosemary oil, clove oil and orange oil.

formulation and evaluation of polyherbal Hand wash The objective seen in this research project was to prepare.

antioxidant Activity of natural product neem is used in many hindu rituals. Neem is known for its antidiabetic anti-inflammatory anticancer effect.

2. AIM AND OBJECTIVES

Aim: Formulation And Evaluation Of Herbal Handwash

Objective: Handwashing is a simple act that saves lives

- From many life-threatening diseases. Handwash prevent germs from entering
- Into our body. It prevents us from diseases like diarrhea
- and influenza. It also prevents from communicable diseases and bacterial infections. It has reduced infant mortality rate by upto
- 50% in developing countries. It is very helpful in preventing people from
- a weakened immune system from getting
- infected. It keeps the children stay out of diseases
- and concentrate on their studies. It saves a lot of money and resources on being spent over health concerns
- To clean contaminated hands.
- To remove dirt.
- minimize number of microorganism.

4. Plan Of Work

- a. selection of topic
- b. Literature review
- c. Collection of raw material
- d. formulation
- e. Evaluation
- f. Packaging
- g. Labeling

h. Conclusion

5. Material used in herbal handwash:

TULSI

Ocimum sanctum commonly known as Holy Basil or Tulsi. Tulsi consists of fresh and dried leaves of Ocimum sanctum

belonging to family Lamiaceae. Tulsi is an aromatic perennial plant. Tulsi is known for its detoxifying, purifying, and antimicrobial properties.



Fig. 1 Tulsi

Aloe Vera



Fig. 2 Aloe vera

The Species is frequently cited as being used in herbal medicine since the beginning of the first century. Extract from the Aloe vera widely used in cosmetic and alternative medicine industries, being marketed as variously having regenerating, healing, or smoothing properties.

Nagar Motha



Fig. 3 – Nagar Motha

Nagar motha (Cyperus rotundus) commonly known as Nagarmotha is found throughout India. It belongs to the family Cyperaceae. The genus name Cyperus is derived from Cypeiros, which was the ancient Greek name for the genus, rotundus is Latin word for round and refers to the tuber.

Sandal Wood



Fig. 5 – Sandal Wood

Sandalwood oil is obtained by distillation of sandalwood, Santalum album Linn., belonging to family Santalaceae. The main odorous and medicinal constituent of Sandal-wood is santalol.

Guar gum



Fig. 6 – Guar gum

Guar gum is a seed gum produced from the powdered endosperm of the seeds of Cyamopsis tetragonoloba Linn. belonging to family Leguminosae. The water-soluble part of guar gum contains mainly of a high molecular weight hydrocolloidal polysaccharide, that is, galactomannan, which is commonly known as Guar.

Ritha Powder



Ritha powder

The major constituents present in Reetha are saponins, sugars and mucilage. The seed kernel of Reetha is a rich source of proteins and shows a balanced amino acid composition as per the World Health Organization.

Neem Powder



Fig. 8 – Neem powder

Neem consists of almost all the part of the plant which are used as drug of Azadirachta indica. It is belonging to family Meliaceae. It is also known as margosa, Indian Lilac and Azadirachta indica. Various parts of the plant are used for various therapeutic and commercial purposes due to presence of different type of chemical in different parts of this plant. Neem is a rich source of Vitamin E which help repair damaged skin cells.

Acacia:

Indian gum is the dried gummy exudation obtained from the stem and branches of Acacia Arabica wild, belonging to the family Leguminosae.



Neem 9 – Acacia

It is used as demulcent, intravenously in hemolysis; suspending agent; emulsifying agent for fixed oil; volatile oil; liquid paraffin and binding agent in the preparation of lozenges, Pastilles, compressed tablets. In combination with gelatin, it is used to form coacervates for microencapsulation of drugs. As astringent and styptic.

6. Procedure used for Formulation :

Formulation of herbal hand wash

Step-1: All the required herbal powder for herbal hand wash preparation were accurately weighed individually by using digital balance.

Step-2: Then all the ingredients were mixed geometrically by dilution method for uniform mixing .

Step-3: Then prepared herbal hand wash as packed into bottle ,labelled and use for further studies.

Material	F1	F2	F3
Sodium Lauryl sulphate	3gm	5gm	8gm
Neem Powder	1.5gm	2gm	1gm
Aloe Vera Powder	2gm	1.5gm	2gm
Ritha Shikakai	3gm	2gm	1gm
Nagar Motha Powder	1gm	0.5gm	0.5gm
Sandal Wood Powder	2gm	1gm	1gm
Tulsi Powder	0.5gm	2.5gm	1gm
Acacia	2gm	1.5gm	1gm

7. Evaluation

Evaluation test; organoleptic evaluation for parameters like colour, Odour, taste and texture was carried out. Colour and texture was evaluated by vision and touch sensation respectively. For taste and Odour evaluation a team of five taste and Odour sensitive persons were selected.

Angle Of Repose: affects the flow properties of a powder. It was determined by fix glass funnel method, a distance of 2 cm is maintained between the graph paper and the bottom of powder. Flowing was continued till the top of the heap touches the bottom tip of funnel.



Bulk Density: Bulk density depends on particle size, particle size distribution and cohesiveness of particle. For measuring bulk density, a weighed amount of powder was introduced in 100 ml graduated cylinder. The cylinder is fixed on bulk density apparatus and bulk.

Tapped Density: The tapped density is an increased bulk density attained after mechanically tapping a container containing the powder sample. After observing the initial powder volume or mass, the measuring cylinder or vessel is mechanically tapped for 1 min and volume or mass readings are taken until little further volume or mass change was observed. It was expressed in grams per cubic centimeter (g/cm^3).



Determination of Acid Soluble Ash : Total ash obtained was boiled for 5 minutes with 25 ml of dilute hydrochloric acid and filtered the insoluble

matter in a Gooch crucible, or on an ash less filter paper, washed with hot water and ignited to constant weight. The percentage of acid-insoluble ash was calculated for each sample.

Moisture Content Determination: 10 g of each Herbal Handwash powder was weighed in a tare evaporating dish and kept in hot air oven at 105°C . Repeated drying until the constant weight loss was observed after the interval of 30 minutes. The moisture content was calculated for each sample.

Determination Of Ph: The pH of 10% hand wash solution in distilled water was determined at room temperature 25°C . The pH was measured by using pH paper.



Foaming Capacity: Although foam generation has little to do with the cleansing ability of Herbal Handwash, it is of paramount importance to the consumer and is therefore an important criterion in evaluating Handwash. Cylinder shake method was used for determining foaming ability.

Advantages of Herbal Hand Wash :

- Safe to use
- No side Effects
- Animal testing not required
- Inexpensive
- Compatible with skin type

II. CONCLUSION

Magichand wash is germs fighter. Hand wash is good option if you are looking multiple purpose hand wash, magichand wash is liquid medication. Its magic to bottle with powder. This preliminary in-vitro study demonstrated that "Herbal Hand Wash" was as effective against pathogenic bacteria. It is an attempt made to establish the herbal gel based hand wash containing Sacred basil extract. From the result we

can say that the gel formulation is good in appearance, stable and acceptable. Finally, it is concluded that this herbal hand wash provides an effective and safe alternative to existing marketed hand wash.

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