

Role of Polyherbal in Formulation of Hand Wash

Mr. Siddharth Gajanan Wankhade¹, Mr. Pruthviraj Ashok Chavhan², Mr. Sumit Santosh Mule³

Mr. Abhishek Kumar Sen⁴, Dr. K. Raja Rajeshwari Reddy⁵

Students, Vardhaman College of Pharmacy, Koli, Karanja (Lad), Maharashtra, India^{1,2,3}

Associate Professor, Vardhaman College of Pharmacy, Koli, Karanja (Lad), Maharashtra, India⁴

Principal, Vardhaman College of Pharmacy, Koli, Karanja (Lad), Maharashtra, India⁵

Abstract: Hands are the primary source of transmission of germs in healthcare, so hand cleanliness is the most vital measure to avoid the spread of harmful germs and avoid healthcare-related contamination. Numerous irresistible diseases can be transmitted from one individual to another through sullied hands. These maladies incorporate gastrointestinal diseases, such as salmonella, and respiratory contamination, such as the flu. Appropriate hand washing can offer assistance to anticipate the spread of germs (such as microscopic organisms and infections) that cause these maladies. So an attempt is made to get ready home-grown hand wash utilizing drugs like neem, tulsi, reetha, Aloevera, and glycerin, which are having antibacterial, antiviral, anti-fungal exercises and skin hydration properties. Home grown hand wash was prepared as per standard strategy utilizing home grown fixings and swab tests streaked on Blood and Mac-conkey agar, hatched at 37°C for 24 hrs in oxygen consuming condition for microbial stack evaluation consider. The results propose that hand-washing herbs can make great concealment zones to ensure against skin pathogens. This seem to be the reason for utilizing herbs in arrangement for handwashing and utilizing these compounds in the generation of disinfectant salves or cleansers instep of chemicals.

The increasing demand for natural and safe personal hygiene products has prompted research into herbal formulations for antibacterial hand wash. This review explores the formulation and evaluation of an antibacterial herbal hand wash utilizing the synergistic properties of Tulsi, Neem, Reetha, Glycerin, and Aloe Vera. The antibacterial efficacy of these herbal ingredients against common pathogens is discussed, along with their potential for skin-friendly formulations. Various formulation techniques and parameters for optimizing the efficacy, stability, and sensory attributes of the hand wash are highlighted. Additionally, different evaluation methods including antimicrobial activity testing, physical stability assessment, and consumer acceptability studies are reviewed. The integration of these natural ingredients into a hand wash formulation offers a promising alternative to synthetic antibacterial agents, catering to the growing consumer preference for herbal-based personal care products.[1]

Keywords: herbal hand wash, Tulsi, Neem, Reetha, Glycerin, Aloe vera

REFERENCES

- [1]. Nameera H. A., Development and Anti-Microbial Study of Herbal Hand Wash Using Nimba, Tulsi, Sourabhanimba, Kumari. Hassan-573201-2023
- [2]. Chauhan V. In vitro assessment of indigenous herbal and commercial antiseptic soaps for their antimicrobial activity. Patiala, India; 2006.
- [3]. Cowan MM. Plant products as anti-microbial agents. Clinical Microbiology Reviews. 1999;12(4):564–82.
- [4]. Elhag H, Jaber S, El-Olemy M, M M. Anti-microbial and cytotoxic activity of the extracts of khat callus cultures. Janick J, editor; 1999.
- [5]. Kulkarni, K. V., & Adavirao, B. V. (2018). A review on: Indian traditional shrub Tulsi (Ocimum sanctum): the unique medicinal plant. Journal of Medicinal Plants Studies, 6(2), 106-110.
- [6]. Patil, U. (2018). Studies on antiviral activity of tulsi (Ocimum sanctum) crude extracts on selected viruses of veterinary importance. International Journal of Ayurveda And Pharma Research.

- [7]. Islas, J. F., Acosta, E., Zuca, G., Delgado-Gallegos, J. L., Moreno-Treviño, M. G., Escalante, B., & Moreno-Cuevas, J. E. (2020). An overview of Neem (*Azadirachta indica*) and its potential impact on health. *Journal of Functional Foods*, 74, 104171.
- [8]. Maragathavalli, S., Brindha, S., Kaviyarasi, N. S., & Gangwar, S. K. (2012). Antimicrobial activity in leaf extract of neem (*Azadirachta indica* Linn.). *International journal of science and nature*, 3(1), 110-113.
- [9]. Alzohairy, M. A. (2016). Therapeutics role of *Azadirachta indica* (Neem) and their active constituents in diseases prevention and treatment. *Evidence-Based Complementary and Alternative Medicine*, 2016.
- [10]. Upadhyay, A., & Singh, D. K. (2012). Efeitos farmacológicos do *Sapindus mukorossi*. *Revista do Instituto de Medicina Tropical de São Paulo*, 54(5), 273-280.
- [11]. Sharma, A., Sati, S. C., Sati, O. P., Sati, M. D., & Kothiyal, S. K. (2013). Triterpenoid saponins from the pericarps of *Sapindus mukorossi*. *Journal of Chemistry*, 2013.
- [12]. Alzyood, M., Jackson, D., Aveyard, H., & Brooke, J. (2020). COVID-19 reinforces the importance of handwashing. *Journal of clinical nursing*.
- [13]. Sandeep, D. S., Charyulu, R. N., Nayak, P., Maharjan, A., & Ghalan, I. (2016). Formulations of antimicrobial polyherbal hand wash. *Research Journal of Pharmacy and Technology*, 9(7), 864-866.
- [14]. Kusarkar, P., Kupkar, M., & Dudhgaonkar, T. (2022). A Study on Formulation and Evaluation of Herbal Hand Sanitizer and Herbal Handwash. *Asian Journal of Pharmaceutical Research*, 12(3), 199-202.
- [15]. Kamat DV, Kamat SD, Joshi MG. Evaluation of Herbal Handwash Formulation. *Nat. Prod. Radiance*. 2008; 7:413-415.
- [16]. Johny JM, Saravanakumari P. Evaluation of antifungal activity of gel based hand wash using *Camellia sinensis* (Green tea) and *Myristica fragrans* (Nutmeg). *J. Pharm. Biol. Sci.* 2013; 6:41-45.
- [17]. Ahmad H, Sehgal S, Mishra A, Gupta R. *Mimosa pudica* L. (Laajvanti): An overview. *Pharmacogn. Rev.* 2012; 6:115-124.
- [18]. Mounika A, Vijayanand P, Jyothi V. Formulation and evaluation of poly herbal hand wash gel containing essential oils. *Int. J. Pharm. Anal. Res.* 2017; 6:645-653.
- [19]. Kalaivani R, Bakiyalakshmi SV, Arulmozhi P. A Study on Evaluation and Effectiveness of Herbal Hand Sanitizer and its Anti-Bacterial Activity. *Int. J. Trend Res. Dev.* 2018; 2:325-330.
- [20]. Minakshi G Joshi, D V Kamat, S D Kamat. Evaluation of herbal hand washes formulation. *Journal of Natural product radiance*, 2008; 7(5): 423-25.
- [21]. Shah MA, Natarajan SB, Gousuddin M. Formulation, evaluation, and antibacterial efficiency of herbal hand wash Gel. *Int J Pharm Sci.*, 2014; 25(2): 120-124.
- [22]. Pritam V. Chindarkar, Formulation and Evaluation of Herbal Hand wash Gel from *Hyptissuaveolens* Flowering-tops. *Am. J. PharmTech Res.* 2020; 10(02) ISSN: 2249-3387 RESEARCH ARTICLE.
- [23]. Prabir Barman, 2*Sujit Das and 3Sourabh Deb, FORMULATION AND EVALUATION OF HERBAL HAND WASH | Junior Project Fellow, 2Research Scholar, 3Assistant Professor, | Department of Forestry and Biodiversity, Tripura University, (A central University) Suryamaninagar, 799022, Tripura, India
- [24]. Minakshi G Joshi, D V Kamat* and S D Kamat, Evaluation of herbal handwash formulation *Natural Product Radiance*, Vol. 7(5), 2008, pp.413-414.
- [25]. Mashood Ahmed Shah*, Satheesh Babu Natrajan, Mohd. Gousuddin. Formulation, evaluation and antibacterial efficacy of herbal hand wash. *Int. J. Pharm. sci. Rev. Res.* 25(2), Mar-Apr-2014 : Article No. 23, pages: 120-124 IJN 976.
- [26]. Heyam Saad -1, shehab Naglaa Gamil, 2Rassol. Bazigha kadhim 1* and Rana Samour, 1 Formulation and evaluation of herbal hand wash from *MATRICARIA CHAMUMILLA* FLOWERS EXTRACT. *Rasool Bazigha kadhim et al. JRAP* 2011, 2(6), 1811-1813 ISSN 2229-3566