



## Efficacy of Herbs and Spices in Preparation of Herbal Hand Sanitizers

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Received : March 2021

Accepted : July 2021

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**Abstract :** Hand washing has become a prime way for maintaining hand hygiene in the present times of COVID-19 pandemic and when diseases are very much prevalent. Among all the options available, hand sanitizers have become an indispensable part of our lives. To reduce the dependency on alcohol and other harmful chemicals and to promote a much better alternative to them, naturally occurring substances have been used to prepare an herbal hand sanitizer. The sanitizer has shown commendable antimicrobial properties. Swabs from the hands of volunteers after application of herbal hand sanitizers showed reduced microbial colony. The final plate of the first volunteer showed  $22 \pm 0.47$  colonies, plates from hands of the second volunteer showed  $18 \pm 0.79$  colonies and  $04 \pm 0.52$  colonies were observed from the plate of the third volunteer. Moreover, the other physicochemical parameter values were

found to be of set standard limits. Antioxidant activity of the herbal hand sanitizer was also found to be notable. It was calculated by the DPPH assay method. The overall value estimated by the DPPH assay of the herbal hand sanitizer was 8.2%, highest among the individual values of the extracts of herbs and spices. Even after storage of a few days there were no changes in the appearance or other features of the sanitizer. The results obtained were found to be very encouraging.

**Keywords:** Herbal hand sanitizers, Alcohol-based sanitizers, Herbs and spices, Antimicrobial activity, DPPH Assay.

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### **Introduction:**

The prevailing times of the COVID-19 pandemic has helped the people become more conscious of their personal hygiene especially about their hands, which have been stated to be of a major source of spread of infections. The major hand cleansing items include soaps, hand washes and hand sanitizers. Out of these, hand sanitizers have gained much popularity among the population due to numerous advantages that they behold. They are convenient to carry, take less time than conventional hand washing techniques, are easy to use and quick in slowing down the redevelopment of microbial colonies. Hand sanitizers containing alcohol can include ethanol, isopropyl alcohol, n-propanol, or a combination of these (Mcdonnell and