

ABSTRAK

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EFEKTIVITAS EKSTRAK BUNGA KECOMBRANG SEBAGAI BAHAN *HANDSANITIZER* DALAM MENURUNKAN ANGKA KUMAN PADA TANGAN

xv + 53 halaman + 8 tabel + 5 lampiran

Tangan merupakan salah satu bagian tubuh yang paling sering bersentuhan dengan benda sehingga rentan terkontaminasi berbagai jenis bakteri. Tangan yang terkontaminasi bakteri dapat menyebabkan berbagai penyakit. Penggunaan *handsanitizer* berbasis bahan kimia telah banyak diterapkan, namun dapat menimbulkan residu berbahaya serta efek iritasi. Penelitian ini bertujuan untuk mengkaji efektivitas ekstrak bunga kecombrang sebagai bahan *handsanitizer* dalam menurunkan angka kuman pada tangan.

Jenis penelitian ini menggunakan eksperimental dengan desain *One Grup Pre-test* dan *Post-test*, memiliki variasi konsentrasi 2,5%, 5%, dan 7,5% dengan setiap konsentrasi dilakukan 6 replikasi sehingga total sampel keseluruhan yaitu 36 sampel. Lokasi penelitian dilakukan di Laboratorium Mikrobiologi Jurusan Kesehatan Lingkungan Poltekkes Surabaya dan laboratorium Kimia FMIPA Universitas Surabaya untuk pembuatan ekstraksi dan uji fitokimia

Hasil Penelitian menggunakan *uji Paired Samples T-Test*, *uji One Way ANOVA*, dan *uji Least Significant Different (LSD)*. Hasil penelitian menunjukkan bahwa persentase penurunan jumlah kuman pada tangan setelah menggunakan *handsanitizer* ekstrak bunga kecombrang konsentrasi 2,5%, 5%, dan 7,5% masing-masing sebesar 59,3%, 78 %, dan 91,8%. *Uji Paired Samples T-Test* menghasilkan nilai *p-value* untuk masing-masing konsentrasi yaitu 0,000. *Uji One Way ANOVA* menghasilkan nilai *p-value* sebesar 0,000 (*p-value* < 0,05).

Kesimpulan penelitian ini terdapat penurunan angka kuman setelah penggunaan *handsanitizer* ekstrak bunga kecombrang dan diperoleh konsentrasi 7,5% yang paling efektif dalam menurunkan angka kuman. Disarankan kepada peneliti lain untuk memanfaatkan bagian tumbuhan kecombrang yang lain seperti akar dan batang untuk dijadikan *handsanitizer* alami

Kata Kunci: Bunga Kecombrang, *Handsanitizer*, Angka Kuman Tangan

ABSTRACT

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EFFECTIVENESS OF KECOMBRANG FLOWER EXTRACT AS A HANDSANITIZER INGREDIENT IN REDUCING THE NUMBER OF GERMS ON HANDS

xv + 53 Pages + 8 Tables + 5 Appendices

Hands are one of the body parts most frequently in contact with objects, making them vulnerable to contamination by various types of bacteria. Bacterial contamination on hands can lead to diseases. The use of chemical-based hand sanitizers has been widely applied; however, they may leave harmful residues and cause skin irritation. This study aimed to examine the effectiveness of torch ginger flower extract as a handsanitizer in reducing the number of bacteria on hands.

This type of research used an experimental method with a one-group pre-test and post-test design. It included variations in concentrations of 2.5%, 5%, and 7.5%, with each concentration replicated six times, resulting in a total of 36 samples. The study was conducted at the Microbiology Laboratory of the Environmental Health Department at Poltekkes Surabaya and at the Chemistry Laboratory of the Faculty of Mathematics and Natural Sciences, University of Surabaya, for extraction and phytochemical testing.

The research results were analyzed using the Paired Samples T-Test, One Way ANOVA, and Least Significant Difference (LSD) test. The results showed that the percentage reduction in the number of bacteria on hands after using torch ginger flower extract hand sanitizer at concentrations of 2.5%, 5%, and 7.5% was 59.3%, 78%, and 91.8%, respectively. The Paired Samples T-Test yielded a p-value of 0.000 for each concentration. The One Way ANOVA test also showed a p-value of 0.000 (p-value < 0.05).

The conclusion of this study was that there was a reduction in the number of bacteria after using the torch ginger flower extract hand sanitizer, and the 7.5% concentration was found to be the most effective in reducing bacterial counts. Future researchers will be encouraged to utilize other parts of the kecombrang plant, such as the roots and stems, to be developed into natural hand sanitizers.

Keywords: *Etlingera elatior, Handsanitizer, Hand Germ Numbers*