
Formulation of Natural Handsanitizer From Red Belt (Piper Crocatum) Leaves and Aloe Vera (Aloe Vera)

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ABSTRACT

Introduction: The government continues to strive so that the Corona virus no longer takes victims due to the Corona virus, of course as Indonesian people support the government's program well. Wash hands with soap so that the Corona Virus that sticks to our bodies is gone and always provide handsanitizer wherever we go. The purpose of this research is that people can make their own hand sanitizer at home.

Methods: Materials for handsanitizer are 96% Alcohol, Red Betel Leaf (Piper Procatum), Aloe Vera (Aloe Vera) with preference test and allergy test.

Result: The preference test and allergy test were carried out on 50 panelists, 45 people liked natural hand sanitizer Conclusion: Natural hand sanitizer is used to prevent the covid 19 virus

INTRODUCTION

Currently all countries are being hit by the Covid-19 Pandemic, including the State of Indonesia which started from Wuhan, China then spread rapidly in various countries (1). Corona virus is a new type that attacks the human respiratory system, both children, adults and the elderly. Interfere with mild breathing in the respiratory system, severe lung infections that can cause death.

The government continues to make efforts so that the Corona virus will no longer take its toll due to this Corona virus, of course, as the Indonesian people, support the government's program well (2). Wash hands with soap so that the Corona Virus can spread. Sticks to our bodies is lost and always provides Handsanitizer wherever we go. There are still many people who are not aware of the importance of hand sanitizer which is used as an alternative to maintain cleanliness both inside and outside the house (3).

The advantages are easy to carry and easy to make without having to buy it. The purpose of this research a this is so that people can make their own hand sanitizer at home. Handsanitizer or antiseptic hand sanitizer that contains alcohol and trioxane, but the use of chemical hand sanitizer has a significant impact on health. In addition to being flammable, alcohol-based hand sanitizers can also increase the risk of viral infections that trigger inflammation of the digestive tract. Therefore, it is necessary to develop hand sanitizer products made from natural and safe to use (4).

Therefore, the purpose of this research is for people to be able to make their own hand sanitizer at home. The natural ingredients used are to make hand sanitizers, namely betel leaf and aloe vera, which are also used as basic ingredients for making hand sanitizers that contain flavonoid compounds children.

METHODOLOGY

Research Location: Making hand sanitizer at the Pharmacy Laboratory, Pharmacy Study Program, Undergraduate Program, Faculty of Health, Aufa Royhan University in Padangsidempuan City. Handsanitizer Making Materials are 96% Alcohol, Red Betel Leaf (Piper Procatum), Aloe Vera (Aloe Vera). The tests carried out were the Preference Test and the Handsanitizer Allergy Test. Allergy tests were carried out according to the Dominica & Handayani (2019) and Tarigan & Panggabean methods (2020) with a slight modification (5) (6). In this

study, 50 panelists were asked to use hand sanitizer on their hands, then the panelists' responses to the hand sanitizer were seen. Then waited for a few minutes for 5-10 minutes to see allergic reactions, such as itching, burning and irritation on the skin of the panelists who have been determined.

RESULTS

Making Handsanitizer with active ingredients Red Betel (*Piper Procatum*), Aloe Vera (*Aloe Vera*). The manufacture consists of several stages, namely: Making red betel leaf extract (*Piper Procatum*) which is as many as 30 fresh betel leaves taken, cut into small pieces and put into a frying pan, then 250 ml of water is added. For 15-30 minutes over medium heat. After that the extract is filtered and cooled.

Making Aloe Vera Gel, namely: Take fresh aloe vera and then peel the outer skin to obtain aloe vera leaf flesh. The fruit flesh is cut into squares and then washed until the mucus is gone. Then blended. When you blend it, you will see foam, let it sit for a while then transfer it to a storage container.

Making one liter of hand sanitizer, measuring 800 ml of 96% ethanol is put into a container (Erlenmeyer). Then as much as 190 ml consisting of a mixture of betel leaf extract and aloe vera in a ratio of 1 ;1. This mixture is added to ethanol, stirred until homogeneous using a spatula. Then the Hndsanitizer solution is filtered and packed into bottles that have been provided. Preference Test and Allergy Test to Handsanitizer Solution with 50 panelists, namely:

Test your liking		Allergic Reaction		Information
Like	Do not like	Allergy	No Allergies	
45 people	5 people	4 people	46 people	In Allergic Reaction 2 people do not want to try because there is a history of allergies. Meanwhile, 2 other people have moderate allergic reactions.

DISCUSSION

Betel leaf contains chemical compounds such as saponins, flavonoids, polyferols and essential oils. Saponin compounds can work as antimicrobials. These compounds will damage the cytoplasmic membrane and kill cells. cytoplasmic membrane and kills the cell. Flavonoid compounds have a mechanism of action to denature bacterial cell proteins and damage cell membranes beyond repair (7). The active ingredients of aloe vera that have been identified include saponins, sterols, acemannan, and anthraquinones. Ariyanti et al's research stated that aloe vera extract was able to inhibit the growth of *Psudomonas aeruginosa* in vitro. In addition, aloe vera can inhibit growth. Based on the results of the acceptability test and allergy test, a hand sanitizer with the active ingredients of Betel ((*Piper Procatum*), Aloe Vera (*A. vera*) is used as an antiseptic with a note that attention must be paid if an allergic reaction occurs in the wearer.

CONCLUSION

From the results of the research that has been done, it can be concluded that: 1. Based on the results of acceptability testing and allergy testing, this product can recommended as an antiseptic with a note still have to pay attention to allergic reactions in the user. 2. Natural hand sanitizer is used to prevent the spread of the covid-19 virus

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