
Handsanitizer Formulation 70% with the Addition of Natural Performance

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ABSTRACT

Background: The use of hand antiseptics in the form of gel preparations among the upper middle class has become a lifestyle. Several hand sanitizer preparations can be found in the market and usually contain a lot of alcohol. The purpose of this study was to formulate a hand sanitizer as an antiseptic.

Methods: Handsanitizer formulations were carried out in the pharmacy laboratory of the Afa Royhan University health faculty in Padangsidempuan City and then the preparations were tested with preference and allergy tests.

Results: Of the 50 panelists, 46 liked the hand sanitizer preparation 70%, while the allergy test carried out showed that 2 panelists did not dare to try because of a history of allergies and 2 people had moderate allergies.

Conclusion: 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 wearer.

INTRODUCTION

Various types of viruses, bacteria and fungi attach to hands every day through physical contact (1). To prevent the spread of viruses, bacteria and fungi, one of the most appropriate ways is to wash your hands with soap and clean water (2). Apart from washing your hands, you can also use alcohol-based hand sanitizer to clean your hands (3).

Cleaning hands with antiseptic materials has been known since the early 19th century. The development of modern society requires humans to move quickly and use time as efficiently as possible. The demands for health care are to avoid diseases that can hinder movement and reduce time efficiency (4).

The use of hand antiseptic in the form of gel preparations among the middle and upper classes has become a lifestyle. Several hand sanitizer preparations can be found in the market and usually contain a lot of alcohol. How to use it by dropping it on the palm of the hand, then flattening it on the surface of the hand (5).

Antiseptic materials used in this formula are from the alcohol group (ethanol, propanol, isopropanol) with a concentration of 50-70% and other types of disinfectants such as: chlorhexidine and triloxane. But not for wounds. The alcohol concentration in this study was 70%.

METHODOLOGY

The ingredients used in this study were Aquadest 5.74-6 ml., Carbopol 1.4 grams, Tea 2-5 drops, Alcohol 70%, Citrus fragrance 1-2 drops, and Glycerin 1.4 ml. The tools used are: Beaker glass 500ml, Stir rod., 100ml measuring cup, Mortar stamper, dropper and 100ml bottle.

Table 1. Formula and Weighing of Ingredients:

No	Material Name	Weighing	Function
1.	70% alcohol	92 ml	Solvent
2.	Carbopol 940	1.4 grams	Gel Base
3.	TEA	2-5 drops	<i>Alkalizing agent</i>
4.	Gliserin	1.4 grams	Emmolient
5.	Aquades	Sufficiently	Solvent
6.	Citrus Oil	1-2 drops	deodorizer

Preparation of gel preparations

Prepare mortar and stamper. Carbopol 940 was weighed as much as 1.4 g. After carbopol 940 was weighed, it was sprinkled over 5.74-6 ml of distilled water in a mortar. Carbopol 940 which has been sprinkled is stirred and added with two drops of TEA, then add 1.4 g of glycerin and stir until it forms a 70% alcohol gel mass of 92 ml. Drop perfume 1-2 drops. Add distilled water to 100 ml, stirring until homogeneous. The finished gel preparation is put in a container followed by evaluation of the preparation.

The tests carried out were the Preference Test and the Handsanitizer Allergy Test. The allergy test was carried out according to the Dominica & Handayani (2019) and Tarigan & Panggabean (2020) methods with slight modifications (6) (7). Panelists acceptance of the hand sanitizer. Then wait a few minutes for 5-10 minutes to see allergic reactions, such as itching, burning and irritation on the panelists' skin that has been determined.

RESULTS

Table 2. Likes and Allergy Tests to Handsanitizer Solutions with 50 panelists, namely:

Favorite test		Allergic Reaction		Information
Like	Do not like	Allergy	No Allergies	
46 people	4 people	4 people	46 people	In allergic reactions 2 people don't want to try because there is a history of allergies. Meanwhile, 2 other people have moderate allergic reactions.

DISCUSSION

Based on the results of this study that: Test of Preference and Test of Allergy to Handsanitizer Solution with 50 panelists resulted as many as 46 people liked the preparation of hand sanitizer 70%, this means that the panelists liked the color, smell and texture of the preparation. Meanwhile, the results of the allergic reaction test showed that 2 panelists did not try, because the panelists had a history of allergies. Allergies must still be considered in the wearer after using this antiseptic.

CONCLUSION

The conclusion of this study is that based on the results of acceptability tests and allergy tests, this product can.

SUGGESTION

Recommended as an antiseptic with a note still have to pay attention to allergic reactions in the wearer.

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