

THE EFFECT OF ADDITIONAL ALOE VERA FLOUR ON THE PHYSICAL PROPERTIES OF THE ORGANOLEPTIC BODY SCRUB OF CUCUMBER

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Abstract.

Aloe vera is believed to be able to moisturize the skin and refresh the skin, for that many people use Aloe vera as a scrub or skin care mask. The scrub can gently remove dirt and dead skin cells and refresh the skin is the key to the formation of collagen, which is a protein compound that plays a role in the formation of skin cells, and gives strength to the skin. This study aimed to obtain the effect of adding Aloe vera flour on the organoleptic properties of the cucumber body scrub and to get the best results from the Aloe vera powder body scrub formula. The method used in this study is the variation of the concentration of the addition of Aloe vera flour, namely 0%, 2.5%, 5%, 7.5%, 10% and 12.5%. The ingredients used to make Aloe vera scrub are Aloe vera flour, rice flour, cucumber flour, glycerin, methyl paraben, sodium lauryl sulfate, triethanolamine, stearic acid, propyl paraben, alpha tocopherol and propyl ethylene glycol. The tests in this study were organoleptic tests (color, aroma, texture and adhesion) and pH tests. This study obtained the results of color, aroma, texture and adhesion at a concentration of 7.5% and a pH ranging from 5.80-7.60 with a weight of Aloe vera flour of 3.75 grams and cucumber powder of 1.8 grams

Keywords: *Scrub, Bath Scrub, Aloe vera, Cucumber, Cucumber Flour*

Introduction

Air pollution and UV rays are sources of free radicals that are harmful to the body. Free radicals are produced in the body and neutralized by antioxidants that come from within the body. Free radicals are produced in the body and can be neutralized by antioxidants from within the body. If free radicals are very high from outside influences such as cigarette smoke, air pollution, and strenuous physical activity, the antioxidants in the body are no longer able to neutralize the antioxidants from outside the body that are needed.

Having healthy skin is everyone's dream, especially women. For women, everything is done to get healthy skin, such as by maintaining a healthy diet, not consuming fatty foods and even becoming a vegetarian. Skin care can be done in two ways, namely internal treatments such as limiting the consumption of unhealthy foods and external treatments such as using traditional and modern cosmetics. Traditional cosmetics are made from natural ingredients from plants. Traditional cosmetics are believed to be safe and do not cause side effects in use.

Aloe vera (Aloe vera) is a plant native to Africa, which belongs to the Liliaceae family. The development of science and technology today, expands the use of the benefits of aloe vera. The use of aloe vera is now not only limited to ornamental plants but also as a medicine and raw material in the cosmetics industry. The specialty of this aloe vera lies in its gel which can make the skin not dry quickly and always looks moist. This condition is due to the nature of aloe vera gel which is able to seep into the skin, so it can withstand the loss of too much fluid from the skin. The saponins contained in aloe vera gel can clean dirt from the skin, soften, moisturize and add to the smoothness of the skin [1,2].

Aloe vera is known as a plant that has multi-efficacy content with various active substances. The content in the form of aloin, emodin, resin, lignin, saponins, anthraquinones, vitamins, minerals, and so forth. In addition, it is known that aloe vera has substances that do not cause poisoning, so it can be used in industry by being processed into gels, powders, extracts, animal feed, or various other products. In the manufacture of aloe vera powder, the main ingredient used is Aloe Vera leaf type Chinese Baker from Pontianak. In addition, the chemical used is maltodextrin. The analysis in the manufacture of aloe vera powder is pH, microbiology, color, solubility [1,3].

Methods

The process of this research using: Aloe vera flour, Rice flour, Cucumber flour, Glycerin, Methyl paraben, Sodium Lauryl Sulphate, Triethanolamine, Stearic acid, Propyl paraben, Alpha tocopherol, Propyl Ethylene Glycol and using tools: Spatula, Analytical Balance, measuring pipette 5 mL, Ph meter, Beaker glass 100 mL, Waterbath, Dropper,

Balp, Spray bottle and Stirring rod [4].

Research methods

The research method used is by varying the weight concentration of aloe vera flour (0%, 2.5%, 5%, 7.5%, 10%, 12.5%) this research will be carried out with 20 panelists so that the resulting data is more accurate.

Analysis Method

The method to be used is Organoleptic Test with tests covering color, texture, aroma, and pH [5,6].

Result

Colour

Based on the results of a survey of 20 panelists, the color assessment of the material that the panelists liked the most was a concentration of 7.5% with a green color because the sample had a higher ratio of Aloe vera flour compared to cucumber powder, namely 3.75 grams of Aloe vera flour and 1.8 grams of cucumber powder. The preferred color result image is shown in the Figure 1 image below.

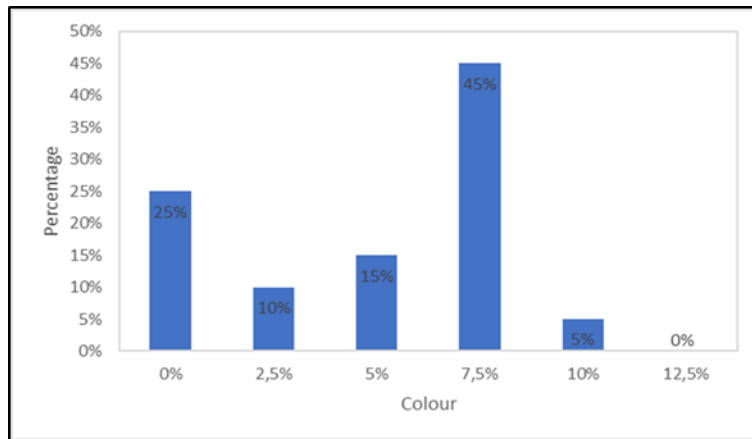


Figure 1. Colour assessment of the material that the panelists liked

Odor

Scent is important component for determining consumer acceptance and preference towards a product that describes the characteristics of the product [7]. Based on the results of a survey of 20 panelists, the assessment of the aroma of the material that the panelists liked the most was a concentration of 7.5% with sufficient Aloe vera aroma and quite cucumber-scented, because the sample had a higher ratio of Aloe vera flour compared to cucumber powder, which was 3.75 grams of aloe vera flour and 1.8 grams of cucumber powder. The preferred odor result image is shown in the Figure 2 image below.

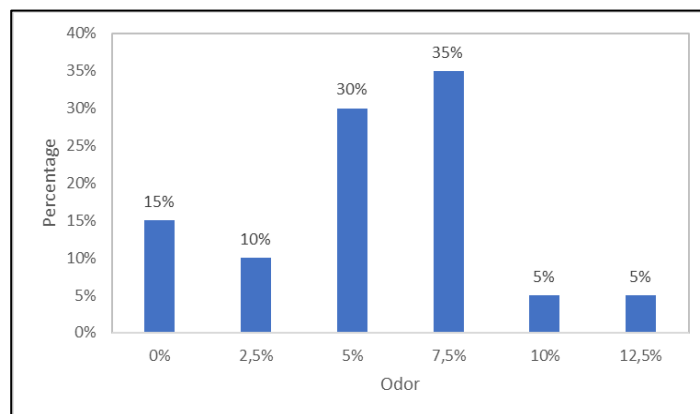


Figure 2. The preferred odor

Texture

The difference in the amount of Aloe vera flour affects the texture of the scrub after adding water. The 7.5% concentration sample was quite fine compared to the other samples. Because the texture is quite smooth, the sample has a higher ratio of Aloe vera flour compared to cucumber powder, namely 3.75 grams of Aloe vera flour and 1.8 grams of cucumber powder. The preferred texture result image is shown in the Figure 3 image below.

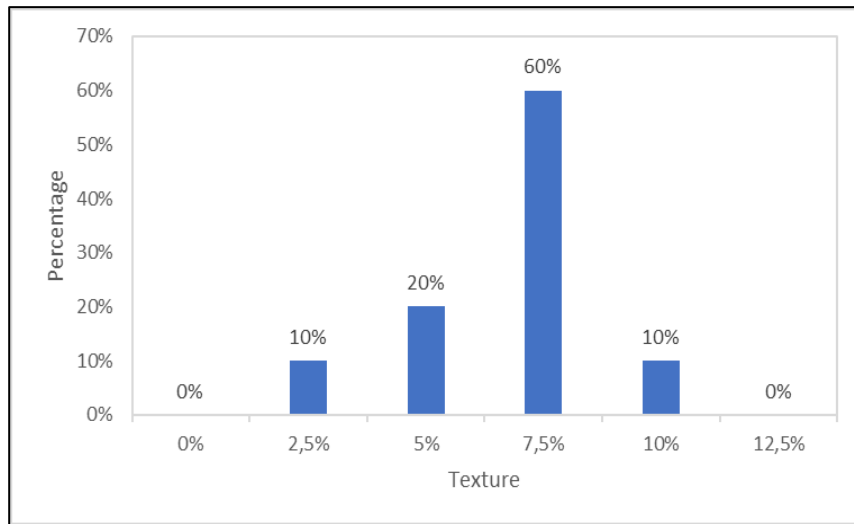


Figure 3. The preferred texture

Adhesion

So according to the panelists, the strongest adhesive power is a concentration of 7.5% with a waiting time of 10-15 minutes. The preferred adhesion result image is shown in the Figure 4 image below.

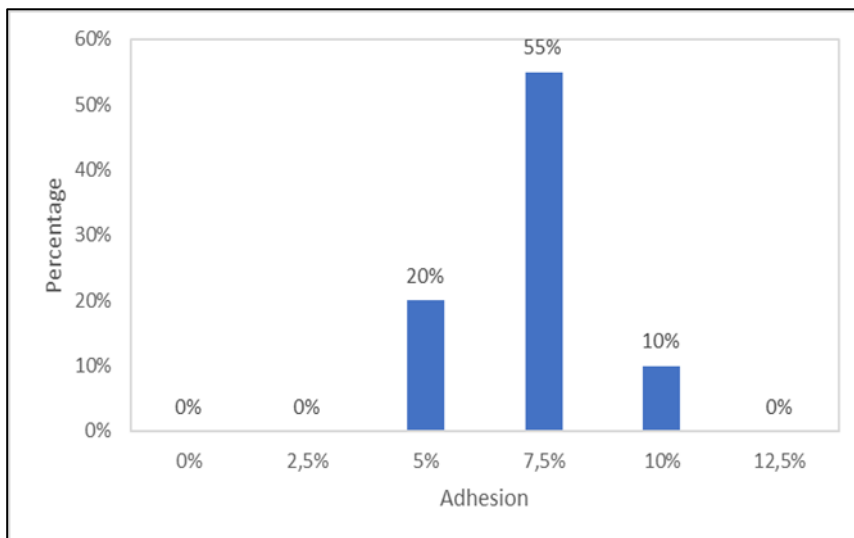


Figure 4. The Strongest adhesive power

pH

The standard pH criteria for skin are 4.5-6.5 [6,8]. The following are the pH results obtained from each concentration:

Table 1. pH Result

pH percentage	0%	2,5%	5%	7,5%	10%	12,5%
pH	7.60	7.04	6.58	6.17	5.89	5.83

Discussion

In this research, Aloe vera flour and cucumber powder were made by varying the Aloe vera flour 0%, 2.5%, 5%, 7.5%, 10%, and 12.5%. In the observations, organoleptic tests were carried out which included color, aroma, texture and adhesion as well as pH tests [8]. In color assessment with Aloe vera concentration 0% has a percentage of 25%, 2.5% has a percentage of 10%, 5% has a percentage of 15%, 7.5% has a percentage of 45%, 10% has a percentage of 5% and 12.5% has a percentage of 0%. Of the six results, the highest percentage of the color of the material is the percentage of 45% at a concentration of 7.5%. The concentration of the scrub that was most preferred by the panelists in the color test was 7.5% because the scrub has a higher ratio of Aloe vera flour than cucumber flour, which is 3.75 grams of Aloe vera flour and 3 grams of cucumber flour.

On the aroma assessment with Aloe vera concentration 0% has a percentage of 15%, 2.5% has a percentage of 10%, 5% has a percentage of 30%, 7.5% has a percentage of 35%, 10% has a percentage of 5% and 12.5% has a percentage of 5%. Of the six results, the highest percentage of aroma ingredients is the percentage of 35% at a concentration of 7.5%. The concentration of the scrub that was most preferred by the panelists in the aroma test was 7.5% because the scrub has a higher ratio of Aloe vera flour than cucumber flour, namely 3.75 grams of Aloe vera flour and 3 grams of cucumber flour.

In texture assessment with Aloe vera concentration 0% has a percentage of 0%, 2.5% has a percentage of 10%, 5% has a percentage of 20%, 7.5% has a percentage of 60%, 10% has a percentage of 10% and 12.5% has a percentage of 0%. Of the six results, the highest percentage of the texture of the material is the percentage of 60% at a concentration of 7.5%. The concentration of the scrub that was most preferred by the panelists in the texture test was 7.5% because the scrub has a higher ratio of Aloe vera flour than cucumber flour, namely 3.75 grams of Aloe vera flour and 3 grams of cucumber flour.

In the assessment of adhesion with Aloe vera concentration 0% has a percentage of 5%, 2.5% has a percentage of 5%, 5% has a percentage of 20%, 7.5% has a percentage of 55%, 10% has a percentage of 10% and 12.5% has a 5% percentage. Of the six results, the highest percentage of adhesion of these materials is the percentage of 55% at a concentration of 7.5%. The concentration of the scrub that was most favored by the panelists in the stickiness test was 7.5% because the scrub has a higher ratio of Aloe vera flour than cucumber flour, namely 3.75 grams of Aloe vera flour and 3 grams of cucumber flour.

The proportions of Aloe vera flour and cucumber powder which have organoleptic test results in the form of scrub color, aroma, texture and adhesion are the best at a concentration of 7.5% with a weight of Aloe vera flour of 3.75 grams and cucumber powder of 3 grams. In the pH test, the concentration of 0% was obtained with the result of 7.60; 2.5% the result is 7.04; 5%, the result is 6.58; 7.5% the result is 6.17; 10% got the result 5.89%; and 12.5% the result is 5.83. From these data, it can be seen that the higher the concentration of the pH results, the lower the pH because the raw material for Aloe vera flour is acidic with a pH of 5 [9, 10].

Conclusion

Based on the results of the study it can be concluded as follows:

1. In this study, Aloe vera flour and cucumber powder were made by varying the Aloe vera flour 0%, 2.5%, 5%, 7.5%, 10%, and 12.5%.
2. The best results from Aloe vera scrub in the organoleptic test was a concentration of 7.5% and a pH ranging from 5.80-7.60.
3. From the results of using the scrub, the skin becomes moist and bright.
4. This research can be developed by examining microbial tests and sensitivity test

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