



ANALYSIS OF THE ADVANTAGE OF RESPONDENTS FORMULATION OF LINIMENT AROMATHERAPY OF ESSENTIAL OIL SYZYGIUM AROMATICUM L

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ABSTRACT

Syzygium aromaticum L.'s essential oil aromatherapy liniment formula is one of the external medicinal preparations used to relieve rubbing, massage and massage as well as relieving muscle and joint pain. Utilization of Syzygium aromaticum L. essential oil as a provider of active ingredients that can provide natural fragrance, sedative and analgesic effects in the liniment formula. This study aims to obtain the aromatherapy liniment formulation of Syzygium aromaticum L. essential oil so that the wind oil formula that is preferred by respondents and meets the requirements of traditional medicine is obtained. The experimental research the post test only controlled group design. The study was divided into 2 groups, namely the control group and the treatment group, namely the aromatherapy liniment formulation of Syzygium aromaticum L. essential oil with a concentration of 2.5% v / v, 5% v / v, 7.5% v / v, and control. Testing, organoleptic test, irritation test, pH stability test and respondent preference test. The results showed that the overall results of the Respoden's Preference test on the aromatherapy liniment of Syzygium aromaticum L. essential oil showed that consumers preferred the product at a concentration of 7.5% v / v.

Keyword: aromatherapy essential oil; liniment syzygium aromaticum L.

INTRODUCTION

The aromatherapy liniment formula of Syzygium aromaticum L. essential oil is one way of applying the use of volatile substances from plants, essential oils in clove plants. The usefulness of Syzygium aromaticum L. essential oil in everyday life is to improve mood, cognitive function, mind and human health. The application of the aromatherapy liniment formula is intended to reduce a number of discomfort when applied to the human body (Revika Rachmaniar, Haruman Kartamihardja, Nitta Nurlita Sari 2015) and (Opeyemi Avoseh, Opeoluwa Oyedeji , Pamela Rungqu 2015). This is because the content of various organic compounds in the essential oil Syzygium aromaticum L provides properties and physical characteristics such as natural fragrance in Syzygium aromaticum L. essential oil. aromaticum L (Sari 2018).

The liniment formula is an external medicinal preparation that is used to relieve rubbing, massage and massage as well as relieving muscle and joint pain. Utilization of Syzygium aromaticum L. essential oil as a provider of active ingredients that can provide natural fragrance, sedative and analgesic effects in the liniment formula. This study aims to obtain the aromatherapy liniment formulation of Syzygium aromaticum L. essential oil in order to obtain the liniment formula that is preferred by respondents and meets the requirements of traditional medicine (Yulianita 2019).

METHOD

Material

The materials used in this study were: essential oil Syzygium aromaticum L, camphor, crystal menthol, Methyl salicylate, eucalyptus oil and based.

Tool

The research tools used were: dropper pipette, beaker glass, measuring cup, stirring rod, funnel, electronic scale, beaker bath, sample bottle, pH meter, pan, thermometer, incubator, and stopwatch.

Research procedure

Making the essential oil Aromatherapy liniment formula *Syzygium aromaticum* L.

Table 1.

Aromatherapy essential oil liniment formula *Syzygium aromaticum* L

No	Compositions	Formula (%)			
		F1	F2	F3	control
1	<i>Syzygium aromaticum</i> L.	2,5	5	7,5	0
2	Methyl salisilat	28	28	28	28
3	Camphor	9	9	9	9
4	Eucalyptus oil	2,5	2,5	2,5	2,5
5	Based ad	100	100	100	100

Preparation of Essential Oil Aromatherapy Liniment Formula *Syzygium Aromaticum* L.

This study is an experimental study with the experimental design used was the posttest only controlled group. The research object was divided into two groups of treatment and control. The Aromatherapy liniment method of *Syzygium aromaticum* L essential oil used the modified research method. The product manufacture begins by mixing menthol crystals, white oil and methyl salisilat oil at a temperature of 60-70⁰C. After the mixture is homogeneous, the heating is stopped. After that, the mixture is allowed to stand until it reaches room temperature, then the essential oil is added according to the formula, the mixture is stirred until it is homogeneous (Vivek Chauhan 2016).

Testing the Formula Liniment Formula Aromatherapy Essential Oil *Syzygium Aromaticum* L.

Organoleptic Test

Enter the essential oil Aromatherapy liniment ingredient *Syzygium aromaticum* L into each pot that has been labeled. After it was ready, each formula was tested for its physico-chemical characteristics including pH, viscosity, density and organoleptic parameters, namely natural color and fragrance (Sihombing 2017) and (Sutiah, K Sofjan Firdausi 2008).

Irritation Test

Aromatherapy liniment irritation test for *Syzygium aromaticum* L essential oil was carried out using the Klingman method on 10 respondents. This is done by applying ± 2 drops of the product to the arm and then covering it with a plaster. Plaster is opened after 5 hours of plastering. An indication of irritation is when a reddish color indicates irritation.

Stability Test

The stability test of *Syzygium aromaticum* L essential oil liniment was carried out to determine the chemical / physical / sensory changes during product storage. The stability test of the essential oil Aromatherapy *Syzygium aromaticum* L liniment was carried out at room temperature, namely $30 \pm 2^{\circ}\text{C}$ and $40 \pm 2^{\circ}\text{C}$. This testing phase is carried out every 7 days for

1 month with pH and sensory parameters, namely color and natural fragrance (Sihombing 2017).

Favorite Test

The preference test for *Syzygium aromaticum* L essential oil liniment was assessed using a 1-5 hedonic scale. A scale of 5 states very much like it. Scale of 4 expresses liking. Scale 3 says normal. A scale of 2 expresses dislike. A scale of 1 indicates very much dislike. Analysis of data. Liniment preference test. Aromatherapy essential oil *Syzygium aromaticum* L was performed using analysis of variance to determine whether or not there were differences between treatments between formulas. The analysis of preference. The preference test of the essential oil Aromatherapy liniment *Syzygium aromaticum* L for each of the sensory test parameters was carried out by calculating the average value of the panelists who chose a particular preference scale (Daswi et al. 2018) and (Dwi Setyaningsih 2010).

RESULTS AND DISCUSSION

Organoleptic Test Results

Table 2.
Organoleptic Test Results Liniment Formula Aromatherapy Essential Oil *Syzygium Aromaticum* L

Formula	Colour	Smell
F1	Clear Yellow	typical
F2	Yellow	More typical
F3	Yellow dark	More typical
control	Clear yellow	Not typical

Table 2 shows that the results of the Organoleptic Test for the liniment formula. Aromatherapy essential oil *Syzygium aromaticum* L in Formula F1 has the clearest yellow color. Formula F3 contains *Syzygium aromaticum* L essential oil with the largest composition so that the result is dark yellow. The strongest natural fragrance is in F3, because the composition of *Syzygium aromaticum* L essential oil is the largest so that it produces a distinctive smell of *Syzygium aromaticum* L essential oil compared to other formulas.

Irritation Test Results

The irritation test on the essential oil Aromatherapy liniment formula *Syzygium aromaticum* L showed that the entire formula, F1, F2, F3 and control did not cause irritation to the skin of 10 respondents, which was indicated by the absence of redness on the skin of the respondents smeared with liniment. Aromatherapy essential oil *Syzygium aromaticum* L According to (Kligman A 1966), when there are no signs of redness after 5 hours of application to the skin, it is safe to use.

Stability Test Results

The stability test of the essential oil Aromatherapy liniment formula *Syzygium aromaticum* L was carried out by testing the pH and color sensory attributes and natural fragrance every week for one month (Nadhif 2016) and (Sihombing 2017).

Table 3.
Results of pH Stability Liniment Formula Aromatherapy Essential Oil *Syzygium Aromaticum* L.

Formula	pH every week			
	1	2	3	4
F1	5,21	5,20	5,20	5,20
F2	5,19	5,19	5,18	5,17
F3	5,32	5,30	5,30	5,30
control	4,86	4,85	4,85	4,85

Table 3 shows the results of the pH stability test for 1 month. It is necessary to know that the whole product is stable at room temperature $30 \pm 20^{\circ}\text{C}$ to $40 \pm 20^{\circ}\text{C}$, there is no significant change in pH after 1 month of storage. The results of these studies show no significant changes in pH during storage. These results can occur if there are no interactions between molecules present in the product.

The Result of the Liking Test for the Whole Product

Respondents' assessment of the entire liniment formula of the essential oil *Aromatherapy Syzygium aromaticum* L ranged from 3.43 to 5.41 with the highest score at F3 and the lowest score at F1. Formula F1 contains *Syzygium aromaticum* L essential oil with a concentration of 2.5% v / v. The essential oil in F3 contains the highest concentration of *Syzygium aromaticum* L essential oil, 7.5%. *Syzygium aromaticum* L essential oil is often used to add to aromatherapy, the addition of *Syzygium aromaticum* L essential oil in F3 is thought to increase consumer preference. This is because the fragrance of the preparation is influenced by the concentration of the fragrance that is added. According to research conducted by (Dahlia 2017), namely the more concentrated essential oils.

CONCLUSION

Responden's overall preference for the aromatherapy liniment of *Syzygium aromaticum* L. essential oil showed that consumers preferred the product at a concentration of 7.5% v / v.

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