

# **The Accompaniment for the Making of Antiseptic Soap, Hand Sanitizers using Natural Ingredients of Lemongrass, Cymbopogon Citratus, as an Effort to Prevent COVID-19 Virus at Taklim Assembly “Active Tamaddun Community” Palembang**

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## **Abstract.**

*During this pandemic, many people are looking for antiseptics to prevent the transmission and spread of Covid-19. WHO has issued guidelines for the producing Hand-Sanitizers using ingredients, such as ethanol or isopropyl alcohol, however, the continuous use of hand sanitizers that contain alcohol and triclosan can cause irritation. Efforts that can be made to reduce the use of alcohol and triclosan in the production of hand sanitizers are to use natural ingredients. One of the natural ingredients that can be used is lemongrass (Cymbopogon citratus). The flavonoid content in lemongrass function as antibacterial by forming complex compounds with extracellular proteins. This community service activity aims to provide training on skills in making antiseptic soap and handsanitizer with lemongrass as an effort to prevent and maintain sanitation to stay healthy in the face of adaptations to new habits during the COVID-19 pandemic.*

**Keywords:** *Lemongrass, handsanitizer, soap*

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## **I. INTRODUCTION**

Coronavirus is a large family of virus that cause illness ranging from mild to severe. Based on scientific evidence, COVID-19 can be transmitted from person to person through close contact and droplets. This disease is easily contagious, so the increase in the number of COVID-19 cases is happening quite quickly and there has been spread outside the Wuhan area and other countries, including in Indonesia [1]. Another way of transmitting the virus is through hand contact, or the environment affected by the virus such as doorknobs, tables and chairs. One of the things that can be done is to wash hands and face regularly. During this pandemic, many people are competing to get antiseptic and disinfectant to prevent the transmission and spread of Covid-19 [2]. If it is difficult to get antiseptic or disinfectant, can be made with simple ingredients. Disinfectant and antiseptic liquids can be made using acidic ingredients

such as vinegar mixed with other ingredients, this is because vinegar has a low pH but can kill viruses. WHO has also issued guidelines for the manufacture of Hand-Sanitizers using materials, namely ethanol or isopropyl alcohol, 3% hydrogen peroxide, 95% glycerol, and distilled water or water that has been boiled and cooled [3]. However, the use of hand sanitizers that contain alcohol and triclosan continuously can cause irritation [4].

Efforts that can be made to reduce the use of alcohol and triclosan in the manufacture of hand sanitizers are to use natural ingredients, besides that the effectiveness of bacterial inhibition will be better. One of the natural ingredients that can be used is lemongrass (*Cymbopogon citratus*). Based on research, it shows that there are phytochemicals in lemongrass, namely alkaloids, flavonoids, saponins, tannins, quinones, and terpenoids obtained from simplisa extraction of roots, stems, and leaves. lemongrass. Lemongrass also contains geraniol and citral which function as antibacterials contained in its essential oil. The flavonoid content in lemongrass can function as an antibacterial by forming complex compounds with extracellular proteins Lemongrass also contains geraniol and citral which function as antibacterials contained in its essential oil. The flavonoid content in lemongrass can function as an antibacterial by forming complex compounds with extracellular proteins This community service activity aims to provide training on abilities and skills in making antiseptic soap and hand sanitizer with lemongrass ingredients as an effort to prevent and maintain sanitation in order to stay healthy in the face of adaptation to new habits during the COVID-19 pandemic.

## II. METHODS

This research was conducted at the Active Tammadun Community Assembly, with 100 respondents involved. Members of the Active Tammadun Community assembly will be gathered while still implementing health protocols using masks, maintaining distance, providing hand sanitizer. Delivery of educational materials using lecture methods, questions and answers, discussions, practice skills regarding the use of lemongrass plants for making hand soap and hand sanitizer. Before delivering the material, participants will be asked to fill out a pretest to assess the knowledge and attitudes of the community towards self-medication of making soap and hand sanitizer from lemongrass. A questionnaire containing true-false statements regarding the procedure for making soap and hand sanitizer from lemongrass. Counseling, giving questionnaires, involving the community and students of the Faculty of Medicine who are conducting clerical education conducted at the IKM-IKK Section of the Faculty of Medicine, Sriwijaya University.

### III. RESULT AND DISCUSSION

Activities in the form of delivering educational materials with the lecture method, question and answer, discussions, practice skills regarding the use of lemongrass plants for the manufacture of hand soap and hand sanitizer. Before delivering the material, participants will be asked to fill out a pretest to assess the knowledge and attitudes of the community towards self-medication of making soap and hand sanitizer from lemongrass and after the event is over, participants are asked to fill out a post-test questionnaire. Counseling, giving questionnaires, involving the community and students of the Faculty of Medicine who are conducting clerical education conducted at the IKM-IKK Section of the Faculty of Medicine, Sriwijaya University.



**Fig. 1.** Counseling and demonstration to participants.

#### *Sociodemographic Characteristics*

Sociodemographic characteristics that will be examined in this study include age, gender, occupation, education. An overview of the distribution of respondents' sociodemographic characteristics can be seen in table 1.

**Table 1.** Sociodemographic characteristics of respondents

Sociodemographic Characteristics	Sum (n = 100)	Percentage (%)
<b>Age</b>		
21 – 30 years old	49	46.6
31 – 40 years	42	40.0
41 – 50 years	7	6.7
>50 years	7	6.7
<b>Gender</b>		
Man	21	20
Girl	84	80
<b>Last education</b>		
High School/Equivalent	14	13
College	91	87
<b>Profession</b>		
Government employees	28	26.7
Private employees	42	40
Housewife	14	13.3
Others	21	20

***Knowledge of Participants Before and After Counseling***

The following is a frequency distribution based on participants' knowledge before and after the counseling. Knowledge is assessed using questions in the form of a google form questionnaire. Knowledge in the group becomes Poor: 0-55, Enough: 56-75, and Good: 76-100.

**Table 2.** Frequency Distribution of Participants' Knowledge Before and After Extension

Knowledge	Total (n)	Percent (%)
Pre Knowledge		
- Not good	70	66.7
- Enough	21	20.0
- Good	14	13.3
Knowledge Post		
- Not good	0	0
- Enough	21	20.0
- Good	84	80.0

Based on the Table of Knowledge Frequency Distribution of Participants Before, 66.% of participants' knowledge was in the poor category, 20% was in the sufficient category and 14% was in the good category and after counseling the participants' knowledge increased to 20% sufficient and 80% good.

***Knowledge Normality Test Before and After***

**Table 3.** Knowledge Normality Test Before and After

Knowledge	Shapiro-Wilk		
	Statistics	df	Sig.
Pre	,663	15	,000
Post	,499	15	,000

Based on the SPSS analysis, the normality test was not normally distributed, then the test was continued with the Wilcoxon test to assess the differences in participants' knowledge before and after counseling.

**Table 4.** Differences in Participants' Knowledge Before and After Counseling

Knowledge	Average±SD	Min-Mak	p value
Pre	51.33±15.5 2	30.00-80.0	0.001
Post	85.33±10.6 0	70.00-100.00	

There is a significant mean difference between knowledge before and after counseling. This shows good enthusiasm between the resource persons and activity participants as evidenced by the increase in the participants' post test scores. Similar community service activities in the form of soap making training have been carried out in Surakarta by involving PKK women. As a result, participants were quite enthusiastic in participating in the event and participants gained new skills and knowledge about

the process of making soap from natural ingredients [10]. This is what we are trying to achieve in the implementation of our community service program.

According to Notoatmodjo (2007), the provision of health education in an effort to increase knowledge can be done by using health promotion aids in the form of visual aids (visual aids), audio aids (audio aids) and audiovisual aids (audio visual aids). which is very large in changing people's behavior, especially in the aspect of information and persuasion. This tool provides a stimulus for hearing and vision, so that the results obtained are maximized [11]. In this activity, the presentation of the material followed by a demonstration proved effective in increasing public knowledge about the use of lemongrass as soap and hand sanitizer.

The evaluation of the participants was carried out through a question and answer process regarding all the materials that had been presented, including the techniques or procedures for making solid soap and hand sanitizer. Questions were asked during the soap making practice process. There are several things that participants need to pay attention to during practice, namely for safety it is better to use gloves and masks during the manufacturing process, use tools made of stainless steel, pyrex glass or plastic-polypropylene for dealing with NaOH/KOH, make sure the water NaOH mixture solution is in at room temperature when mixed with oil so that the saponification process takes place perfectly.

#### **IV. CONCLUSION**

The results of the training and counseling activities on making simple herbal soap and its marketing, it can be concluded that the participants of this training and counseling were quite enthusiastic and actively participated in the activity because this training provided new knowledge about how to make soap and hand sanitizer from lemongrass and how to make it easy. The enthusiasm of the participants was shown by an interactive question and answer session and the increase in participants' knowledge after the counseling process was proven by an increase in the post test scores.

#### **V. ACKNOWLEDGMENTS**

Thank you to the students and colleagues who have helped in the activities. Thank you to Sriwijaya University for funding this activity in the 2020 University Community Service Activity Grant.

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