

Training in Dishwasher Soap Making As an Effort to Open Up Opportunities in The Home Industry

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Abstract

Dish washing soap is an interesting type of soap and has sales value. Service activities this community aims to provide training in making dishwashing soap which has antibacterial activity addition of lime extract. Activities were carried out at the Ajung Jember Community Health Center. The target audience is mothers and young women, totaling 30 people. Activities are carried out in three stages, namely (i) counseling about the importance of maintaining cleanliness, (ii) training in making antibacterial dishwashing soap and (iii) evaluating the results of activities. The results of the activities show most of the target audience admitted that they were very enthusiastic about participating in the entire series of activities for making dishwashing soap at the UPTD Ajung Jember Community Health Center.

Keywords: dish washing soap, antibacterial activity, lime extract

Introduction

Food and drink have a very important role in the spread of various diseases. Diseases caused by food contamination are known as foodborne diseases. This disease occurs as a result of consuming food or drinks contaminated with pathogenic microorganisms or other dangerous substances. Contamination can occur at the stage of washing food plates and drink glasses. One of them is that on the dishwashing sponge, the microbes that grow are *Escherichia coli*, *Pseudomonas* and *Staphylococcus* which are pathogenic bacteria (Nurmawati et al., 2019).

Staphylococcus aureus bacteria are normal flora bacteria on the skin and mucous membranes in humans. *Staphylococcus aureus* bacteria is a gram-positive bacteria that can be found living on the skin of the nose, throat, armpits, between the toes and the perineum (Rodhie, 2024). *Staphylococcus aureus* can become pathogenic if they enter the tissue under the skin and into the bloodstream so that they can spread to other organs and cause infection. These infections vary from poisoning, mild skin infections such as acne and boils, to serious infections such as meningitis, osteomyelitis, pneumonia and mastitis (Aldo et al., 2020).

Pathogenic bacteria can be treated with antibacterials or antibiotics. Antibacterials are substances that can inhibit or kill pathogenic bacteria. Antibacterials can be used to treat pathogenic bacterial infections. Antibacterials can come from natural ingredients, such as

plants. The use of medicinal plants in Indonesia has increased in the development of the agroindustry. One of them is the medicinal lime plant (*Citrus aurantifolia*). Lime (*Citrus aurantifolia*) contains limonene compounds which are useful as antibacterials (Bawekes et al., 2023).

Using lime (*Citrus aurantifolia*) as an antibacterial, one of which is formulating lime (*Citrus aurantifolia*) into liquid dishwashing soap. Based on the important use of liquid dishwashing soap in people's lives, producing liquid soap is seen as a profitable economic activity, in the form of a home industry (Mulyani et al., 2024). The greater the concentration of lime juice given, the greater the reduction percentage produced. That matter This is because the content of citric acid, flavonoids and saponins increases with increasing concentration of the juice given, so its ability to inhibit bacterial growth becomes greater (Nikmatul et al., 2017).

However, making your own herbal plant-based liquid soap as an antiseptic cannot be said to be easy, especially in designing liquid soap that meets consumer expectations. Therefore, efforts are made to accompany and develop the women of UPTD Ajung Public Health Center, Jember Regency in developing home industry businesses and consumer desires or market segmentation. To strengthen them, it is necessary to provide community service activities related to mentoring and training in the home industry-based community creative economy (Elwardah, 2020). Apart from that, the technique of making liquid dishwashing soap based on lime herbal plants as an antiseptic is also a main program. Based on this background, partner groups really need to be given knowledge and skills through training in managing.

Identification of Problems

In connection with this, the training activity for making dishwashing soap as an effort to open up opportunities for home industries is focused on efforts to answer the following problems:.

1. What are the benefits of lime?
2. How do you make dishwashing soap containing lime herbal plants?.

Implementation Methodology

The approach and method of activity in delivering dishwashing soap making is a direct meeting between the presenter and participants in the UPTD Meeting Room of the Ajung Jember Community Health Center. The activities carried out consisted of delivering material and direct

practice in making brewed herbal medicine powder. Participants were divided into 2 groups. Each group carried out direct practice after being given an explanation by the activity implementation team. The method of implementing the activity is by means of presentations and training in making laundry soap tests (Arhipen et al., 2023).

Results and Discussion

The data resulting from activities for the community is in the form of descriptive data, namely data in the form of written descriptions that can be observed. This data uses the observation method to determine the effectiveness of the process aspects obtained from delivering the use of lime and training in making dishwashing soap. This service is accompanied by direct practice, the data that has been obtained is analyzed and presented in narrative form. As seen in figure 1 and table 1.



Figure 1. Making Lime (*Citrus aurantifolia*) Washing Soap (Muhammad et al., 2024)

Komposisi	Formulation				Function
	F0	F1	F2	F3	
Composition	0ml	10 ml	20 ml	30 ml	active ingredients
Stearic acid	3g	3g	3g	3g	emulsifier
NaCl	1g	1g	1g	1g	thickener
NaOH	1,5g	1,5g	1,5g	1,5g	emulsifier
Glycerin	10g	10g	10g	10g	moisture guard
EDTA	0,5g	0,5g	0,5g	0,5g	preservative
Aquades	Ad 150ml	Ad 150ml	Ad 150ml	Ad 150ml	solvent
Essential oil	q.s	q.s	q.s	q.s	solvents

Table 1. Dish Washing Liquid Soap Formulation

Based on interviews, questions and answers and practice/workshops during the activity, this community service activity provided the following results:

1. Observation Results

- a) Increased knowledge and understanding of participants at the Ajung Jember Community Health Center UPTD regarding the benefits of lime. Participants can also understand well about making lime dish soap.
- b) Most of the targets of this service activity participated in the entire series of service activities with full enthusiasm. The indication: they listened carefully to the explanation about the benefits of lime with discussions, questions and answers and were very active in direct practice. During the activity, all participants enthusiastically asked questions, submitted opinions, and provided feedback both to fellow participants and to the material presenters.

2. Results of interviews and practice

- a) Most of the program targets admitted that they were very enthusiastic about participating in the entire series of activities for making lime dish soap.
- b) After participating in the entire series of community service activities, most of the target audience admitted that they had gained a lot of information and knowledge about making dishwashing soap and that it was easy to apply.

Conclusion

Based on the analysis of descriptive data on the results of community service activities as stated in chapter IV of the results of the activities, several conclusions can be drawn as follows:

1. The participants in the lime dish soap making activity at the UPTD of the Ajung Jember Community Health Center were very appreciative of the implementation of this activity. The proof, as shown by the results of observations, is that the target audience participated in the entire series of community service activities with full discipline and enthusiasm.
2. The participants in the Ajung Jember Health Center UPTD activities were enthusiastic, as evidence was shown by direct interviews:
 - a) Most of the target audience admitted that they were very enthusiastic about participating in the entire series of activities for making dishwashing soap at the UPTD Ajung Jember Community Health Center.

- b) After participating in the entire series of community service activities, most of the target audience admitted that they gained a lot of information and knowledge about dishwashing soap in a simple way.
- c) Most of the target audience admits that now they understand more about the process of making, uses and benefits of lime either in household use or its use as dish soap as well as its economic benefits for daily use or to be used as a commodity to increase income in entrepreneurship.

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