Training For Making Handsanitizer From Betel Leaf Extract and Lime Oranges in Smp Negeri 2 Na Ix-X Sumberjo, Labuhanbatu Utara Regency

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Abstract.

The purpose of community service is to overcome the demand for hand sanitizers during the current covid-19 pandemic. To overcome the limited supply of Handsanitizer, the author took the initiative to make it from natural ingredients from betel leaf extract and lime. Choosing to use natural ingredients that are easily found such as betel leaf and lime, because these materials are very easy to find in the neighborhood so it can make it easier to carry out the training. The location of this community service is at SMP Negeri 2 Na IX-X Sumberjo. The target of PKM this time is class IX-1 students, totaling 27 students. The method used is the method of observation, discussion and training. The main purpose of this PKM is to provide information to students of SMP Negeri 2 NA XI-X Sumberjo how to make natural hand sanitizer. And use the materials around them to make a natural hand sanitizer without alcohol.

Keywords: *Handsanitizer, betel leaf, lime.*

I. INTRODUCTION

On December 31, 2019 *the World Health Organization* (WHO) has found one case that occurred in the city of Wuhan. Hubei Province, China. The case is called Covid-19 *(Coronavirus Disease)*. Many of these cases experienced deaths and imports outside China, including Indonesia. So far, no cure has been found for COVID-19. And the government must apply to the community to start a healthy life in order to protect themselves from the virus. As for the efforts that can be made by the government, namely by implementing the Indonesian people to maintain their health and start a new lifestyle by implementing a healthy lifestyle such as doing 3M, namely using masks, washing hands and keeping a distance. (Side, S., Putri, SE & Iiyas, NM 2021)

According to Miftah, et al (2020) Hand sanitizer is an instant hand sanitizer that really helps people to maintain health in avoiding bacteria on the hands. With the increase in Covid-19 cases, the demand for Hand Sanitizer has skyrocketed but the supply is very limited. To overcome the limited supply of Hand sanitizer, the author took the initiative to make a natural Handsantizer from betel leaf extract and lime. Choose to use betel leaf because betel leaf has an extraordinary natural antiseptic content. And the betel plant has been known to exist since 600 BC. This plant grows in tropical Asia, Madagascar, East Africa, and the West Indies.

Betel leaf is a type of creeping plant, usually growing in humid areas. And in ancient times all people in Eastern Indonesia had a hobby of consuming betel leaves. In the thirteenth century Marcopolo made a statement that was corroborated and found to be the same as that of Ibn Batutu and Vasco Da Gama. But often used as a medicinal herb, it turns out that betel leaf is also often used during traditional ceremonies as a symbol. Betel leaf has a philosophy that symbolizes humility, giving, and always glorifying others. This advantage can be understood from the growth of the betel leaf that spreads on the para-para, the sakat plant, and from the stem of the fire plant it likes, it does not have to damage the tree trunk or the place where the plant lives. Betel leaf has lush leaves that are beneficial for the surroundings.

In biology, betel is also known by the Latin name Piper Beetle Lynn. It belongs to the Piperaceae family. The height of the tree usually reaches 15 meters. Betel leaf is a kind of herbaceous plant, has a woody stem, and has a characteristic greenish-brown color. This type of leaf is single and has an elongated round shape and a pointed tip. There is a rough surface when touched, alternating during growth, and has a greenish-yellow to dark green color. Leaves up to 5-15 cm long and 2-10 cm wide, can be picked when they are half old. The flowers are compound in the form of grains and there are protective leaves of about 1 mm elliptical.

The type of fruit is like buni which has a round shape and has a grayish-green color. The roots are tapped, round and yellowish-brown in color. Betel plants will grow for about 1 year from the nursery. Betel plants consist of several types which are distinguished on the basis of shape and aroma, including Java betel, banda betel, red betel, and so on. This type of Javanese Siri has greenish leaves and has a very sharp taste. Besides being found in the Maluku area. Betel Banda has large leaves, has a strong taste and aroma, is dark green, yellow, and red in color. (Bangun Eko 2008)

According to Hassan Sadhily (2021), lime is a type of plant that belongs to the citrus-orange tribe. The height of the lime tree can reach a height of 3-5 meters, has the characteristics of a branched and thorny stem, oval-shaped leaves, small winged twigs. The inflorescences emerge from the axils of the leaves and the flowers are small, white and fragrant. The fruit is round like an egg, green to yellow in color and the skin is thin and contains a lot of essential oils. Flesh greenish-white, very sour. Lime is also a natural preservative so this Hand sanitizer can last longer and to neutralize the smell of betel leaves. Lime is also rich in vitamin C and flavonoids, other ingredients in lime are citric acid, iron, copper, potassium, calcium, fiber, and calories.

This PKM aims to teach Class IX-1 students of SMP Negeri 2 Na IX-X Sumberjo in utilizing materials that are around their living environment to be used as hand sanitizers. Due to the very limited need for hand sanitizer, this training is very appropriate for students of SMP Negeri 2Na IX-X Sumberjo to meet these needs. Because the method of manufacture is easy, practical, and does not require large costs.

II. **RESEARCH MATERIALS AND METHODS**

The implementation of this Community Service activity is a form of research to provide knowledge about the manufacture of hand sanitizers from natural materials that are easily found in the surrounding environment and at very affordable costs to students of SMP Negeri 2 Na IX-X Sumberjo using an approach that goes directly to the community. location. The methods and materials are

Research Methods:

1. So that class IX-1 students of SMP Negeri 2 Na IX-X Sumberjo know the content contained in betel leaf and lime as the basic ingredients for making hand sanitizer. Therefore, this training was made to know the stages of processing the betel leaf and lime extracts.
2. So that class IX-1 students of SMP Negeri 2 Na IX-X Sumberjo can utilize the materials that are around them into a material that is rich in benefits.
3. So that class IX-1 students of SMP Negeri 2 Na IX-X Sumberjo have knowledge in the manufacture or knowledge of hand sanitizer naturally without using alcohol.

To carry out Community Service, PKM ULB presenters use the necessary materials and tools, which are as follows:

Materials needed to make natural hand sanitizer:

1. Betel Leaf
2. Lime
3. Pure water

Tools used in the production process of making Hand sanitizer:

1. Hand Sanitizer Bottle
2. Pot
3. Container
4. Stove
5. Scissors

6. Knife
7. Sieve
8. Spoon
9. Glass

III. RESULTS AND DISCUSSION

Betel leaf is a plant that contains antiseptic substances and can kill bacteria and fungi and has antioxidant power. Betel leaf contains chemicals, including *methyl eugenol, eugenol, carvacrol, cervical, vitamin C, cineol, estragole, carotene, thiamine, allyl catechol, amino acids,* and *nicotinic acid.* (Ardiansah, F & Isnani, FN 2021) Betel has a spicy and warm taste. The spicy taste of betel leaf is caused by a type of oil (essential oil) that contains fly oil *(betlephenol), sesquiterpenes, starch, attaches,* sugar and substance Samak that has the power *to* kill germs, *antioxidants,* and *fungicides* (anti-fungal).

The betel leaf also has a wonderful natural antiseptic. The content of betel leaf is rich in polyphenols, especially chavicol which offers double protection from germs. Betel leaf is also one type of plant that contains a lot of water. The water contained in the betel leaf reaches 85-90%.

According to Nina Hertiwi Putri (2019), lime contains nutrients. In 60 grams or the equivalent of one fruit the size of an orange, lime also contains vitamin C which can meet 22% of the body's daily needs as well as other nutrients such as

1. Calories 20.
2. Carbohydrates 7 grams.
3. 0.5 grams of protein.
4. Fat 0.1 grams.
5. 1.9 grams of fiber.
6. Iron 2% of the daily needs of the body.
7. Calcium 2% of the daily requirement of the body.
8. Vitamin B6: 2% of the body's daily requirement.
9. Thiamin 2% of the daily requirement of the body.
10. Potassium 1% of the daily requirement of the body.

Lime calories are relatively low, so it is good for a diet program. Although lime has few calories, this fruit is classified as a high-fiber fruit. Lime also has health benefits, namely:

1. Helps lose weight.
2. Prevents cell damage.
3. Increase endurance.
4. Good for skin health.
5. Reduces the risk of heart disease.
6. Helps prevent kidney stones.
7. Increases iron absorption.
8. Reduce the risk of cancer.
9. Good for the brain.
10. Prevent gum disease.
11. Facilitate digestion.
12. Helps lower blood sugar.
13. Inhibits bacterial growth.
14. Reducing inflammation and natural acne remedy.

Lime is also a natural preservative so this Hand sanitizer can last longer and to neutralize the smell of betel leaves. According to Marfuah, LLA & Azidzah, DN (2021), Hand sanitizer is a hand sanitizer product that is not rinsed with water. Hand sanitizer is also a type of hand sanitizer that has the antibacterial ability to stop and kill bacteria that breed on the hands. According to Adlila et al

(2021), there are 2 types of hand sanitizers, namely in the form of gel and liquid. Both types have the same function as hand sanitizers to eradicate bacteria and germs.

How to make Hand sanitizer from Betel Leaf Extract and Lime:

1. Prepare 15 pieces of betel leaf, wash thoroughly.
2. Then enter the container and cut it into small pieces using scissors/knife.
3. Prepare a pot containing 300 ml of clean water, heat it until it boils.
4. Soak 15 betel leaves that have been prepared.
5. Do the steam process using low heat for 30 minutes.
6. When finished, strain the steam until there are no leaves left.
7. Then take a spray bottle, then wash it while waiting for the hot betel leaf extract to filter.
8. After the cold betel leaf water is then poured into the spray bottle and then mixed with lime juice so that the betel leaf smell is not too stinging.
9. Antiseptic liquid is ready to be used as a natural hand sanitizer that can irritate the skin of the hands.

The training on making Hand sanitizer from betel leaf and the lime extract is very easy to do because the materials needed can be obtained around the place of residence and the price of these materials is very cheap or affordable among students.

The evaluation of the socialization of the training on making Hand sanitizer from betel leaf extract and Lime in class IX-1 SMP Negeri 2 Na IX-X Sumberjo was carried out by testing the knowledge of the socialization participants. Of the 27 students who were interviewed using a questionnaire, the results obtained were 59.3% of students who understood the manufacture of natural hand sanitizer. And 40.7% of students do not understand how to make natural hand sanitizer. The results of the evaluation can be seen in Figure 6 below.

Fig 1. Presenting material to class IX-1 students of SMP Negeri 2 Na IX-X Sumberjo.

Fig 2. Tools and Materials for Making Handsanitizer.

Fig 3. Practicing how to make hand sanitizer with students.

Fig 4. Hand sanitizer Betel Leaf and Lime Extract.

Fig 5. Photo with Class IX-1 Students of SMP Negeri 2 Na IX-X Sumberj0

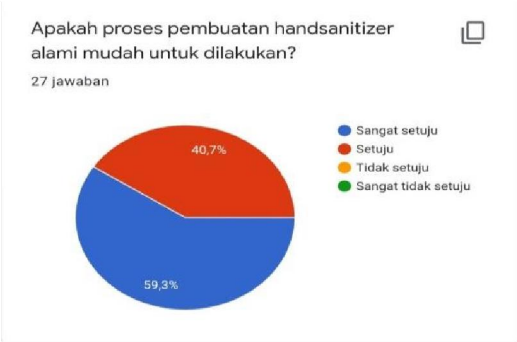

Fig 6. Evaluation of the training process for making natural hand sanitizer.

IV. CONCLUSIONS

The conclusions that can be drawn from the implementation of community service in training on making Hand sanitizer from betel leaf and lime extracts for students of SMP Negeri 2 Na IX-X Sumberjo are going well. Of the 27 students who were interviewed using a questionnaire, the results obtained were 59.3% of students who already understood the manufacture of Hand sanitizer. And 40.7% of students did not understand how to make Hand sanitizer from these natural ingredients. And the purpose of this socialization is to meet the huge demand for Hand sanitizer.

THANK YOU

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