Ann PUBLISHER
Journal of Community Services (Abdisci)
e-ISSN: 3047-2431
p-ISSN: xxxx-xxxx

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MAKING HAND SANITIZER FROM NATURAL MATERIALS AN EFFORT TO PREVENT THE SPREAD OF COVID-19 IN TEGALWANGI VILLAGE

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Abstract. The purpose of this PKM activity is to train in making natural hand sanitizers to overcome scarcity during the COVID-19 pandemic. Partners in high school students in Tegal Wangi Village, Cirebon Regency. The method of transferring knowledge and technology with the stages of activities: 1) material briefing, 2) manufacturing practices, and 3) evaluation. The results of this activity are 1) students can understand well the technique of making hand-sanitizers with natural ingredients, this can be seen from the indicator of increasing ability to reach 80%, 2) the skills to make natural hand-sanitizers from natural ingredients, and 3) the availability of natural hand-sanitizer products in the high school environment Tegal Wangi Village, Cirebon Regency. Hand sanitizer-making training activities need to be carried out regularly by utilizing available natural ingredients.

Keywords: natural hand sanitizer; Covud 19; Citrus; Betel leaf

DOI: https://doi.org/10.62885/abdisci.v1i6.257

INTRODUCTION

The COVID-19 pandemic has affected public health, the environment, and the economy. Public knowledge about COVID-19 has increased for a long time. This is due to the large amount of information and news that is easily accessible. According to Purnamasari and Raharyani (2020), 90% of the knowledge of the people of Wonosobo Regency about COVID-19 is in a good category, and only 10% is enough. However, high public awareness does not always correlate with implementing health protocols, especially hand washing and avoiding mobility. Wonsobo, only 30% of people comply with health protocols to wash their hands.

Community habituation lack of awareness in washing hands with soap and running water is still lacking. Therefore, the public must be trained. Continuous socialization is needed to increase public awareness of the implementation of health protocols (Syafrida, 2020). The training will make people more familiar with how to handle COVID-19. As this happened, it became clear how important students and the community played in getting through the pandemic. Activities are carried out through training with the community on making natural hand sanitizers. In dealing with society, get used to a healthy lifestyle.

Betel leaf was chosen because of the large number of raw materials chosen because of cheap production prices and the content of betel leaf bioactive compounds kill or stop the growth of microorganisms. One of the results of the study is as follows: 1) the formulation of green betel leaf extract (Piper et al.) as a hand antiseptic helps reduce germs on the hands (Hapsari et al.., 2015); 2) formulation of red betel leaf infusion (Piper scrotum) as a hand antiseptic gel (Prabowo et al., 2018); 3) formulation and antibacterial properties of hand antiseptic gel from red betel leaf water extract (Milala et al., 2016); and 4) formulation of essential oil leaves (Sari & Isadiartuti, 2006).

Early circulating hand sanitiser used a lot of alcohol. Alcohol serves as an antiseptic on clean skin surfaces, but its continued use as a hand sanitizer is not safe for the skin because it burns easily and causes dryness and irritation. To make the use of alcohol safer, natural additives such as basil, aloe vera, and basil are added. The results showed that Aloe vera L., or aloe vera, contains tannins, saponins, flavonoids, and polyphenols that have cleansing and antiseptic properties (Dewi et al., 2016). The plant is easily obtained and planted in yards and rice fields. That's why to make Handsanitiser at low cost, safe and easily available materials for this activity we combine the manufacture of Handsanitiser with betel leaves and aloe vera.

This activity's purpose is to train the people of Tegal Wangi Village on how to make natural hand softeners from betel leaves. It also aims to ensure that public concern for healthy lifestyles, such as maintaining cleanliness by washing hands, remains during the COVID-19 pandemic. Many communities that have yard land must be optimized. Thus, it is expected that awareness of the utilization of yard crops will increase.

METHOD

Time and Place of Activity Implementation

The activity, which took place on August 15 and 22, 2022, took place in Tegal Wangi Village, Weru District, Cirebon Regency.

Goal

The target of the activity in Tegal Wangi Village, Weru District, Cirebon Regency is for high school students and PKK mothers.

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Table 1. Education about making hand sanitizers from natural materials

activities	Description
Explanation	Provide knowledge to the community related to the use of natural material plants as hand sanitizer makers
Goal	Increase public knowledge related to the use of natural plants for the manufacture of hand sanitizers
Benefit	It is hoped that the public understands the use of natural plants for the manufacture of hand sanitizers
Method	Education is provided by making video tutorials on making hand sanitizers which are distributed to the local community through social media and WhatsApp Groups
Participant	High School and PKK Mothers

Preparation of Tools and Materials

A beaker glass, knife, balance sheet, boiling tools, sieve, aloe vera, betel leaf, and 96% alcohol are among the tools and materials that need to be prepared.

Making Betel Leaf Extract

Betel leaves are washed thoroughly and dried, then weighed approximately 50 grams. Furthermore, the betel leaves are boiled with equates to boil, and the boiled water is filtered using a sieve to obtain an extract from the betel leaves. Furthermore, the filtered betel leaf extract is given 8 ml of lime juice so that the color is not cloudy.

Making Aloe Vera Extract

First, the aloe is washed, cut, and soaked in water for 2 hours. Next, the aloe vera flesh is separated from the skin. Then, the aloe vera meat is boiled until cooked, mashed using a blender, and filtered to get the extract.

Manufacture of Hand sanitizer

Hand sanitizer made from aloe vera and betel leaf is made by mixing 90 ml of aloe vera gel, 180 ml of betel leaf extract, and 730 ml of 96% alcohol. This produces 70% hand sanitizer.

RESULT AND DISCUSSION

Based on the problems, programs, methods, and planning that have been determined, a definite target has been obtained: the community from Karangsari Village, both children, parents, and others. The object of these activity programs is the environment of Tegalwangi village. The indicators of the program's activities are racing on the words educate, counsel, and socialize.

The benchmark to declare the success of the activity program is if more people, including residents, participate and implement the program. The activity will begin to be carried out on August 10, 2021, according to the Institute for Research and Community Service, University of Muhammadiyah Cirebon (LPPM UMC).

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Table 2. Evaluation Plan for Hand Sanitizer-Making Activities

No.	Field of Evaluation	Activity Plan
1	Public Health	Educating about COVID-19 prevention to improve the community in Tegalwangi Village.
2	Public Health	Provide counseling on clean and healthy lifestyles, such as cleaning the surrounding environment. The environment in Tegalwangi Village will become cleaner and healthier, and the people of Tegalwangi can practice these lifestyles in their daily lives.
3	Public Health	Health Conduct counseling on the importance of implementing health protocols by washing hands properly and correctly. People in Tegalwangi Village can practice and apply this in their daily lives.

Comprehension test results, which collect high data on how participants perceive activities, can indicate high community response results. Almost all 16 participants answered the questionnaire questions correctly.

Furthermore, Tegal Wangi Village shared the procedure for making natural hand sanitizers through the Tegal Wangi Village WhatsApp group so that people can make them again at their homes when they need them as part of health protocols. After the training, products were distributed and socialized to Tegal Wangi village, which consisted of 20 people, and RT 06, which consisted of 14 people. Thus, the manufacturing procedures and steps as a whole are shared with the community through online groups so they can do it independently. Training activities to make hand sanitizer

CONCLUSION

From the beginning to the end of the training on making natural hand sanitizer from aloe vera, 16 out of 22 members of Tegal Wangi Village, Cirebon Regency, attended, showing positive responses from the community. In addition, this activity can be used as a useful educational method to encourage the people of Tegal Wangi Village to adopt a healthy lifestyle. The results of the activity showed that people better understand how to make natural hand softeners. The training results are distributed directly to the community for use in implementing health protocols. In order for the public to recreate, the procedure for making hand sanitizer is shared through an online chat application.

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