



## TRAINING IN MAKING NATURAL HAND SANITIZER FROM BETEL LEAF AND LIME IN THE COMMUNITY OF BREBES KETANGGUNGAN VILLAGE

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### ABSTRACT

*Kegiatan pengabdian kepada masyarakat yang dilaksanakan oleh kelompok KKN BMC-19 UNNES 2020 di Desa Ketanggungan bertujuan untuk memberikan pengetahuan tentang pelatihan pembuatan hand sanitizer alami dari daun sirih dan jeruk nipis di tengah pandemi covid-19. Manfaat langsung dari kegiatan pengabdian kepada masyarakat ini ialah sebagai tambahan pengetahuan, keterampilan dan pengalaman kepada masyarakat Desa Ketanggungan dengan pemanfaatan bahan dasar alami untuk membuat hand sanitizer. Kegiatan pengabdian kepada masyarakat ini dilaksanakan dalam bentuk pelatihan dengan pemberian materi dan praktik pemanfaatan bahan dasar alami sebagai bentuk upaya pembuatan hand sanitizer alami. Khalayak sasaran dari kegiatan pengabdian kepada masyarakat ini adalah masyarakat Desa Ketanggungan RT 01 RW 05. Metode kegiatan yang digunakan dalam pengabdian kepada masyarakat ini adalah metode ceramah, tanya jawab, diskusi dan praktik melalui media sosial. Evaluasi kegiatan yang digunakan dalam pengabdian masyarakat ini adalah aspek pengetahuan dan keterampilan.*

Community service activities carried out by the KKN BMC-19 UNNES 2020 group in Ketanggungan Village aim to provide knowledge about training in making natural hand sanitizer from betel leaves and lime in the midst of the covid-19 pandemic. The direct benefit of this community service activity is in addition to knowledge, skills and experience to the community of Ketanggungan Village with the use of natural basic materials to make hand sanitizer. This community service activity is carried out in the form of training with the provision of materials and practices of utilizing natural basic materials as a form of efforts to make natural hand sanitizer. The target audience of this community service activity is the community of Ketanggungan Village RT 01 RW 05. The method of activity used in community service is the method of lectures, Q&A, discussion and practice through social media. Evaluation of activities used in community service is an aspect of knowledge and skills.

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## INTRODUCTION

According to WHO and the Chairman of the Indonesian Association of Infection Control Nurses, hands are one of the entrances of disease germs into the body. Maintaining hand hygiene is one of the initial defenses to maintain health. WHO data shows that the hands contain bacteria that amount to 39,000 – 460,000 CFU/cm<sup>2</sup> which has the potential to cause infectious diseases and contributes to 3.5% of the total deaths in Indonesia. Prevention of the spread of bacteria, viruses and fungi is most appropriate is to wash your hands using soap and running water. However, the development of modern society requires people to always move quickly and use time as efficiently as possible. Antiseptic hand sanitizer gel preparations or hand sanitizer is the product of choice of today's society, because it is easy to carry everywhere and easy to get or available in the market. The use of hand sanitizer is very easy by dripping gel on the palm then leveling on the surface of the hand.

Antiseptic hand sanitizer gel preparations or hand sanitizer is the product of choice of today's society, because it is easy to carry everywhere and easy to get or available in the market. The use of hand sanitizer is very easy by dripping gel on the palm then leveling to the surface of the palm. Hand sanitizer that is often used is alcohol active ingredients 40-80%. Alcohol has been widely used as an antiseptic skin remedy because it has the effect of inhibiting the growth of bacteria. The use of hand sanitizer in bottle packaging in the community is usually not immediately exhausted, repeated use of hand sanitizer with uneened volume conditions and constantly reduced will affect the quality of hand sanitizer in killing germs, because alcohol as the active ingredient is volatile. Therefore, the author wants to make another alternative to make a natural hand sanitizer that is from betel leaves and Lime juice.

There are many plants that can be used as natural ingredients for making hand sanitizer, one of which is betel leaf and Lime juice. Piper betle Linn or betel is one of the plants known to be efficacious as an antiseptic. Traditional use is usually by boiling betel leaves then boiling water used to gargle or clean other parts of the body, or betel leaves crushed and then affixed to wounds (Mardiswojo, 1985, Anonim, 1981). Known content of betel leaf is essential oil consisting of hydroxy of kavikol, kavibetol, estargiol, eugenol, metileugenol, carvakrol, terpen, seskuioterpen, phenylpropan and tannins (Anonim, 1980). Betel leaf extract has been developed in several dosage forms such as toothpaste, soap, mouthwash because of its antiseptic power. Preparations of juices, infusions, water-alcohol extracts, hexan extracts, chloroform extracts and ethanol extracts from betel leaves have antibacterial activity against gingivitis, plaque and caries (Suwondo

et.al., 1991). The development of antiseptic gel preparation formula of betel leaf extract that has been done is not yet known the effectiveness of antiseptic power of the preparation (Sari, 2004). Antiseptic power of an antiseptic preparation is influenced by, among others: the content of active ingredients and ingredients contained in the preparation formula.

Plants that can be used to make hand sanitizer there is also Lime (*Citrus aurantifolia* S.) is one of the plants that are easily obtained in the community and widely used as a traditional herb or mixture as a flavoring or aroma. In addition to being used as an aroma, lime also contains elements of chemical compounds that benefit, such as essential oils that have a function as an antibacterial flavonoid that can inhibit the growth of *Staphylococcus aureus* (germs on the skin) and also has a distinctive aroma (Dewi, 2012). So that betel leaf extract mixed with lime extract is the right blend when used to make a natural hand sanitizer.

## PROBLEM

The problem raised is the low knowledge and skills of the people of Ketanggungan Village RT 01 RW 05 in the utilization of natural basic ingredients of betel leaf and lime to make hand sanitizer during the covid-19 pandemic. Related to this problem, community service activities are carried out in the form of training. Therefore, the methods used are lectures, Q&A, discussions and practices through social media.

People in Ketanggungan Village do not yet understand how to use betel leaves and lime to be used as hand sanitizer. During the Covid 19 pandemic the need for hand sanitizer is very high. Therefore, training is needed to make hand sanitizer from lime and betel leaf.

## METHOD

This method of community service activities through training is divided into three stages. Training is conducted online. The first stage of community service activities in Ketanggungan Village RT 01 RW 05 is the preparation stage. The preparation stage includes the preparation of training materials, the preparation of the training site, the timing of the implementation of the training as well as the preparation of facilities and infrastructure.

The second stage after preparation is the implementation stage. Community service activities are carried out in the form of training. The training was carried out in one stage in the form of providing material on the manufacture of natural hand sanitizer from betel leaves and lime and then practiced directly through video, namely the practice of making natural hand sanitizer from betel leaves and lime. The third stage of

evaluation is the last stage in this community service activity. At this stage, it is done by means of:

1. assessing the level of activity of participants in training activities.
2. assessing the level of attendance of participants during community service activities.



Figure 1. Material giving by KKN BMC-19 UNNES 2020 group

## RESULTS AND DISCUSSIONS

Community Service Activities conducted by KKN BMC-19 UNNES 2020 group to the community in Ketanggungan Village RT 01 RW 05 in the form of material giving through lectures and practice through video, followed by 20 people who joined the WA group RT 01 RW 05. This activity lasts for one day. On Wednesday, July 29, 2020, a training material was given to make natural hand sanitizer from betel leaves and lime to prevent the spread of the covid-19 virus. Participants of this community service activities are the majority of teenagers and other housewives. The social media used is WA group RT 01 RW 05. The frequency of attendance of the trainees at the time of the training based on the attendance list was 10 participants. The number does not match the number of members in wa group RT 01 RW 05. This means that the frequency of attendance of participants reaches 50%. For the community in Ketanggungan Village RT 01 RW 05 training activities to make natural hand sanitizer from betel leaves and lime is good enough to improve knowledge and skills in utilizing natural basic materials.

Based on the monitoring from the KKN BMC-19 UNNES 2020 group, the participants contributed quite well. This is based on the results of the response in providing education about the manufacture of Hand Sanitizer to social media, especially in WA group RT 01 RW 05. Participants warmly welcomed the activities of making Hand sanitizer. After being educated on hand sanitizer making, participants admitted that they have increased their knowledge and skills in the use of social media such as WA Group in order to know more about information about hand sanitizer making.

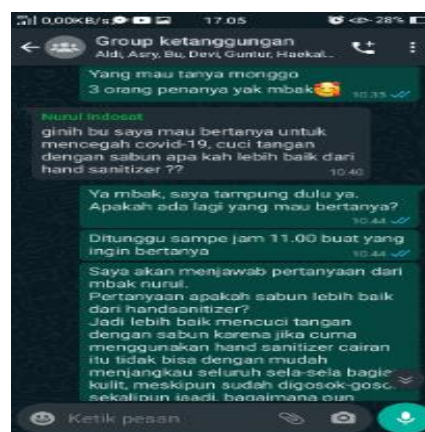


Figure 2. Participants' response during the training activities to make hand sanitizer

The results of the participants' practice in utilizing the natural ingredients of betel leaf and lime as a means of making hand sanitizer, which is based on the evaluation results of the GROUP KKN BMC-19 UNNES 2020 has been good. Hopefully with the ability in the utilization of natural basic ingredients betel leaf and lime to make hand sanitizer products that can prevent the spread of the covid-19 virus. The success of this service activity is supported by the following factors: 1) The support of the Ketanggungan Village device, 2) The support from the local community, especially teenagers and housewives, 3) All participants are fully aware of the importance and benefits of this training in order to improve their ability in utilizing natural ingredients of betel leaf and lime to make hand sanitizer, especially in The Village of Accountability RT 01 RW 05.

## CONCLUSION

Conclusion Problem solving model with training model of utilization of natural basic ingredients betel leaf and lime to make hand sanitizer is very effective in improving the knowledge and ability of participant's devotion. The training, which was held by KKN BMC-19 UNNES 2020 group, was able to achieve the expected goal, namely increasing the knowledge of community service participants, especially in utilizing the natural ingredients of betel leaf and lime to make hand sanitizer. Further activity suggestions need to be done as facilitation to the trainees so that they can improve the ability in the utilization of natural materials around the community.

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