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## COVID-19 COUNSELING AND TRAINING ON PRODUCE PERSONAL HAND SANITIZER SPRAY AT KWADUNGAN GUNUNG VILLAGE, TEMANGGUNG

Oleh

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### Article History:

Received: 03-11-20201

Revised: 14-12-2021

Accepted: 22-12-2021

### Keywords:

counseling; covid-19; village community development; hand sanitizer

**Abstract** *One of protocol to prevent the spread of covid-19 is to wash your hands with soap and running water or using hand sanitizer. The availability of hand sanitizers in rural areas is still very limited, especially for people who are not used to using hand sanitizers and do not know their functions and uses. In this activity, training and education was carried out to rural communities about the functions, uses, and making of hand sanitizers spray. The method used is counseling and training to 17 peoples from the leaders of Kwadungan Gunung Village, Temanggung. Evaluating the results of participant understanding is done by conducting a pre-test and post-test. From the results of the tests, it was found that there was an increase in the average score of the participants, which means that this education was successful in increasing the participants' knowledge.*

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## INTRODUCTION

The covid-19 pandemic, which originated in Wuhan, China, is becoming more and more widespread. In February 2021, the number of positive cases of covid-19 in Indonesia has exceeded 1 million cases<sup>1</sup>. This virus is very easy to spread through droplets so a community movement is needed to prevent the further spread of covid-19. Since February 2021, the government has implemented PPKM or Enforcement of Restrictions on Community Activities which focuses on preventing the spread of covid-19 in every areas<sup>2</sup>.

The Indonesian government is promoting the 5M movement to prevent the transmission of COVID-19; one of them is washing hands with soap and running water or hand sanitizer<sup>3</sup>. Hands are one of the parts of the body that are easily exposed to viruses

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<sup>1</sup> WHO Coronavirus (COVID-19) Dashboard. Accessed October 8, 2021. <https://covid19.who.int>

<sup>2</sup> webmaster. Inpres No. 6 Tahun 2020 Tentang Peningkatan Disiplin dan Penegakan Hukum Protokol Kesehatan dalam Pencegahan dan Pengendalian Covid-19. Direktorat Promosi Kesehatan Kementerian Kesehatan RI. Accessed October 8, 2021. <https://promkes.kemkes.go.id/inpres-no-6-tahun-2020-tentang-peningkatan-disiplin-dan-penegakan-hukum-protokol-kesehatan-dalam-pencegahan-dan-pengendalian-covid19>

<sup>3</sup> Hukumonline. Akses Mudah Informasi Hukum Covid-19. Covid-19 Hukumonline.com. Published February 4,



because almost every activity uses hands, so maintaining hand hygiene is very important so that covid-19 does not enter the body<sup>456</sup>.

Hand sanitizer has an alcohol-based ingredient which is an antiseptic so it can inhibit the growth of viruses and bacteria. Alcohol can act as an antiseptic because it has the ability to denature proteins and destroy the cytoplasm of bacteria. Alcohol can denature protein optimally at a concentration of 60-80%<sup>7</sup>. The advantage of hand sanitizer compared to soap is that it is more practical and efficient<sup>8</sup>.

From the description above, it can be concluded that the availability of hand sanitizers is important to prevent the transmission of covid-19. Therefore, education on the produce personal hand sanitizers, especially for rural communities, is very useful in reducing the spread of covid-19 in rural areas while supporting Indonesian government programs.

The purpose of this activity is to provide education to rural communities so that they can produce hand sanitizers independently.

## METHODS

The implementation of this community service activity is broadly divided into 4 stages.

Coordination step on December 20, 2020 at Kwadungan Gunung Village, Temanggung to planning activities with church leaders and asking for permission from the head of the village. To maintain the protocol, it was agreed that the number of participants was maximum 17 people from leaders of the village so as not to cause a crowd. The implementation time is agreed to be carried out on Friday, January 15, 2021.

Preparation step on December 21, 2020 to January 14, 2021 at the Department of Pharmacy, Immanuel Christian University, to getting the tools and materials used to. Alcohol, glycerin, and sodium benzoate are obtained at CV Oralarang Chemindo, Bantul, Yogyakarta and water using demineralized drinking bottled water. The tools are prepared as follows: basins for mixing ingredients, bottles to hold ingredients, funnel to help pour hand sanitizer. The ingredients are packaged in a one liter hand sanitizer package so that participants have the ingredients to make hand sanitizer at their home.

2020. Accessed October 8, 2021. <https://covid19.hukumonline.com/2020/02/04/keputusan-menteri-kesehatan-nomor-hk-01-07-menkes-104-2020-tahun-2020/>

<sup>4</sup> Larasati AL, Haribowo C. Penggunaan Desinfektan dan Antiseptik Pada Pencegahan Penularan Covid-19 di Masyarakat. *Majalah Farmasetika*. 2020;5(3):137-145. doi:10.24198/mfarmasetika.v5i3.27066

<sup>5</sup> Lubis AW, Maulina J. Pemanfaatan Ekstrak Kulit Nanas (*Ananas comosus* L.) Dalam Pembuatan Hand Wash Sebagai Antibakteri. *BEST Journal (Biology Education, Sains and Technology)*. 2020;3(1):70-75. doi:10.30743/best.v3i1.2438

<sup>6</sup> Santhi M, Triasswari NPM, Made RFN, Wrasati LP. Pelatihan Pembuatan Sabun Cuci Tangan Dan Hand Sanitizer Dengan Memanfaatkan Aloe Vera Sebagai Pengganti Gliserin. *PROSIDING SEMINAR NASIONAL PERTANIAN*. 2020;1(1):16-24

<sup>7</sup> Desiyanto FA, Djannah SN. Efektivitas Mencuci Tangan Menggunakan Cairan Pembersih Tangan Antiseptik (Hand Sanitizer) terhadap Jumlah Angka Kuman. *Kes Mas: Jurnal Fakultas Kesehatan Masyarakat*. 2013;7(2):75-82. doi:10.12928/kesmas.v7i2.1041

<sup>8</sup> Susilo J, Erwiyani AR, Hati AK. Pembekalan Hand Hygiene dan Pelatihan Pembuatan Haand Sanitizer Lidah Buaya (*Aloe vera* L.) di SMA Negeri 1 Ungaran Kabupaten Semarang. *INDONESIAN JOURNAL OF COMMUNITY EMPOWERMENT (IJCE)*. 2020;2(1). Accessed October 8, 2021. <http://jurnal.unw.ac.id:1254/index.php/IJCE/article/view/517>



Implementation step on January 15, 2021 at the Kwadungan Gunung Village, Temanggung. with details at 11.00-11.30 a meeting was held with leaders and pre-test, then at 11.30-13.30 carried out education and at 13.30-14.00 do the closing and post-test. This activity also explained the benefits of each component of the hand sanitizer. Hand sanitizer was made by mixing 833 ml of 96% alcohol, 10 ml of glycerin, 2 grams of sodium benzoate, and 155 ml of water. The alcohol used is 96% alcohol so that the total alcohol percentage becomes 80% so that it meets the requirements for 60%-80% alcohol percentage<sup>9</sup>

Evaluation step on January 15-31 2021 at Kwadungan Gunung village and at the Department of Pharmacy, Immanuel Christian University. The evaluation step is carried out after the activities are completed. The purpose of the evaluation is to find out how this activity can benefit the community and whether participants can understand the general understanding of preventing covid-19, the benefits of hand sanitizers, and how to make hand sanitizers. If the participants know this, it can be said that this educational activity was successful. In order to know the participants' understanding of the things mentioned above, the participants were given a questionnaire before and after education (pre and post test). Data collection for the questionnaire was carried out on January 15, 2021, after the completion of education and counseling at Kwadungan Gunung Village. The results obtained are then averaged and then compared. The parameters for the success of this community development are the participants' ability to understand the benefits and uses of hand sanitizers as well as the participants' ability to make their own hand sanitizers as indicated in the pre and post test questionnaires regarding: using hand sanitizer, using a medical mask when leaving the house, keeping distance when meeting other people, and do not touch the face area.

## **RESULT**

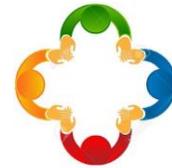
Coordination was carried out by gathering students who were assigned to assist in community development activity the produce of personal hand sanitizers at Kwadungan Gunung Village Temanggung. The communication to the church leaders and village leaders was carried out to determine the time of the activity, it was decided that the activity would be carried out on Friday, January 15, 2021.

Preparation of tools and materials is carried out so that activities can run well and without obstacles. The number of hand sanitizers made is sufficient for 20 people so that all participants get hand sanitizer, even leftovers.

Implementation of this community development on Friday, January 15, 2021 attended by 17 village leaders. Village leaders selected to participate in this training are those who are considered capable of continuing the training to other village members. This activity is carried out offline in the large meeting room in the one of church there due to limited internet access and lack of technological fluency, especially video conferencing technology by rural communities.

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<sup>9</sup> Desiyanto FA, Djannah SN. Efektivitas Mencuci Tangan Menggunakan Cairan Pembersih Tangan Antiseptik (Hand Sanitizer) terhadap Jumlah Angka Kuman. Kes Mas: Jurnal Fakultas Kesehatan Masyarakat. 2013;7(2):75-82. doi:10.12928/kesmas.v7i2.1041



*Figure 1. Counseling and Education about Covid-19*

*Table 1. Scoring from Questionnaire*

Bagian Kuesioner	Pre-Test	Post-Test
Produce personal hand sanitizer	31	86
Using hand sanitizer	42	89
Using medical face	56	67
Keeping the distance from the other	48	75
Do not touch face area	47	65

## DISCUSSION

This community development program began with filling out the pre-test questionnaires, then continued with counseling on handling the covid-19, then it was further explained the topic of hand sanitizers, and closed with a question and answer session and post-test. The participants carried out the activities enthusiastically. The questions asked varied from alternatives to glycerin, to entrepreneurial opportunities from homemade hand sanitizers.

The evaluation analysis of the results of the average knowledge of participants about covid-19 is written in the average value of knowledge on a scale of 0-100 divided into 4 parts, namely knowledge about using hand sanitizers, using medical face masks, keeping a distance when meeting with other people and not touching face areas.

From table 1, it is known that there was an increase in participants' knowledge before and after the education was carried out. The most significant increase occurred in the first part, namely knowledge about produce personal hand sanitizers. This is because the educational topic focuses on producing personal hand sanitizer.



**FIGURE 2. TRAINING TO PRODUCE HAND SANITIZER**

## CONCLUSION

Based on the evaluation analysis from this community development activity, it can be concluded that this program succeeded in increasing the knowledge and skills of participants to prevent the spread of covid-19, especially in terms of producing personal hand sanitizer and using hand sanitizers. Participants were able to make their own hand sanitizer which was more economical.

## ACKNOWLEDGEMENTS

This community development program it would not have been possible without the exceptional support of the leader of Kwadungan Village and students of Pharmacy Immanuel Christian University.

## REFERENCES

- [1] Andajani SJ, Wijiastuti A, Purbaningrum E, Yuliati Y. Pelatihan Produk Hand Sanitizer Berbahan Baku Minyak Esensial Serai Sebagai Upaya Menghambat Penyebaran Covid 19 Bagi Guru-Guru Sekolah Inklusif. JPM. 2021;1(1). Accessed October 12, 2021. <https://journal.unesa.ac.id/index.php/jpm/article/view/11511>
- [2] Budd A, Lukas S, Hogan U, et al. A Case Study and the Lessons Learned from In-House Alcohol Based Hand Sanitizer Production in a District Hospital in Rwanda. Journal of Service Science and Management. 2016;09(02):150. doi:10.4236/jssm.2016.92019
- [3] Desiyanto FA, Djannah SN. Efektivitas Mencuci Tangan Menggunakan Cairan Pembersih Tangan Antiseptik (Hand Sanitizer) terhadap Jumlah Angka Kuman. Kes Mas: Jurnal Fakultas Kesehatan Masyarakat. 2013;7(2):75-82. doi:10.12928/kesmas.v7i2.1041
- [4] Fatmawati F. Edukasi Penggunaan Hand Sanitizer an Pembagian Hand Sanitizer Disaat Pandemi Covid-19. JCES (Journal of Character Education Society). 2020;3(2):432-438. doi:10.31764/jces.v3i2.2401
- [5] Ginting R, Huda M, Drifanda V, Affandi AR. Pemberdayaan Masyarakat Desa Jungsemi di Masa Pandemi Covid 19 Melalui Pelatihan Pembuatan Hand Sanitizer dan Pelindung Wajah. IJECS: Indonesian Journal of Empowerment and Community Services. 2020;1(1):20-27. doi:10.32585/ijecs.v1i1.780
- [6] Hukumonline. Akses Mudah Informasi Hukum Covid-19. Covid-19 Hukumonline.com.



- Published February 4, 2020. Accessed October 8, 2021.  
<https://covid19.hukumonline.com/2020/02/04/keputusan-menteri-kesehatan-nomor-hk-01-07-menkes-104-2020-tahun-2020/>
- [7] Kiswandono AA, Nurhasanah N, Nauli P, Prabowo R. Pendampingan Pembuatan Produk Handsanitizer Berbasis Alkohol Pada Kelompok Pkk Desa Fajar Baru. 1. 2020;3:446-451. doi:10.37695/pkmcsr.v3i0.1009
- [8] Larasati AL, Haribowo C. Penggunaan Desinfektan dan Antiseptik Pada Pencegahan Penularan Covid-19 di Masyarakat. *Majalah Farmasetika*. 2020;5(3):137-145. doi:10.24198/mfarmasetika.v5i3.27066
- [9] Lubis AW, Maulina J. Pemanfaatan Ekstrak Kulit Nanas (*Ananas comosus* L.) Dalam Pembuatan Hand Wash Sebagai Antibakteri. *BEST Journal (Biology Education, Sains and Technology)*. 2020;3(1):70-75. doi:10.30743/best.v3i1.2438
- [10] Ma'arif IB, Meishanti OPY, Zuhria SA, Anisa A. Pelatihan Pembuatan Hand Sanitizer pada Pemuda Karang Taruna Desa Mojokambang Kabupaten Jombang. 1. 2021;2(2):59-63.
- [11] Santhi M, Triasswari NPM, Made RFN, Wrasiasi LP. Pelatihan Pembuatan Sabun Cuci Tangan Dan Hand Sanitizer Dengan Memanfaatkan Aloe Vera Sebagai Pengganti Gliserin. *PROSIDING SEMINAR NASIONAL PERTANIAN*. 2020;1(1):16-24.
- [12] Susilo J, Erwiyani AR, Hati AK. Pembekalan Hand Hygiene dan Pelatihan Pembuatan Haand Sanitizer Lidah Buaya (*Aloe vera* L.) di SMA Negeri 1 Ungaran Kabupaten Semarang. *INDONESIAN JOURNAL OF COMMUNITY EMPOWERMENT (IJCE)*. 2020;2(1). Accessed October 8, 2021. <http://jurnal.unw.ac.id:1254/index.php/IJCE/article/view/517>
- [13] webmaster. Inpres No. 6 Tahun 2020 Tentang Peningkatan Disiplin dan Penegakan Hukum Protokol Kesehatan dalam Pencegahan dan Pengendalian Covid-19. Direktorat Promosi Kesehatan Kementerian Kesehatan RI. Accessed October 8, 2021. <https://promkes.kemkes.go.id/inpres-no-6-tahun-2020-tentang-peningkatan-disiplin-dan-penegakan-hukum-protokol-kesehatan-dalam-pencegahan-dan-pengendalian-covid19>
- [14] Wirjosentono B, Tamrin, Siregar AH, Gustanto, Nasution DA. Counseling on health and cleaning protocols, training and demonstration on preparation of hand sanitizer using betel leaf extract and carboxhymetil cellulose of rice straw as antibacterial and moisturising agents for worshipers and community around Nurul Hasanah mosque in Dusun-XI, Sei Rotan, Percut Sei Tuan, Deli Serdang Regency. *AIP Conference Proceedings*. 2021;2342(1):080014. doi:10.1063/5.0046398
- [15] :: Selamat Datang di Website Kabupaten Temanggung :: Accessed October 12, 2021. <https://laman.temanggungkab.go.id/info/detail/89/297/kledung5.html>
- [16] WHO Coronavirus (COVID-19) Dashboard. Accessed October 8, 2021. <https://covid19.who.int>